GREENOVATION HUB

From Carbon Market to Climate Finance: The Use of ETS Revenues

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Fellowship program and organization introduction

China-EU NGO Exchange Fellowship 2013: The EU and China are developing increasingly closer relations to lead the global transformation towards a low-carbon economy. Low-carbon urban development as a solution to climate change is an area for specific cooperation potential between organizations from the EU and China. To develop new partnerships for cooperation on the level of civil society, the China Association for NGO Cooperation (CANGO) and the China Civil Climate Action Network (CCAN), in cooperation with the Rhine Academic Forum, organise the China-EU NGO Exchange Fellowship 2013 on Climate Change & Low-carbon Urban Development. The exchange fellowship is financially supported by Stiftung Mercator.

Greenovation Hub: G:HUB is a grass-root environmental NGO with a global outlook. G:HUB believes development should be ecological, and only by collaborative effort can environmental problems be solved. We provide innovative tools to enable wider public participation in environmental protection and foster joint power of civil society, business and government to accelerate China's green transition. The Climate and Finance Policy Center of G:HUB seeks positive changes in climate and sustainable finance via high-quality research and analysis. We promote the development and

implementation of sound climate and financial policies, and encourage critical dialogue among different stakeholders.

Germanwatch: Following the motto "Observing, Analysing, Acting", Germanwatch has been actively promoting global equity and the preservation of livelihoods since 1991. In doing so, we focus on the politics and economics of the North with their worldwide consequences. The situation of marginalised people in the South is the starting point of our work. Together with our members and supporters as well as with other actors in civil society we intend to represent a strong lobby for sustainable development. We endeavour to approach our aims by advocating food security, responsible financial markets, compliance with human rights, and the prevention of dangerous climate change.
Germanwatch is funded by membership fees, donations, grants from the "Stiftung Zukunftsfähigkeit" (Foundation for Sustainability), and by grants from a number of other public and private donors.

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1. Introduction

China has set ambitious plans for reducing its carbon intensity. Under the 12th Five Year Plan, China is striving to reduce its carbon intensity by 17% by 2015, as compared to 2010 (State Council of China, 2011a and 2011b). And in mid-term China aims for achieving carbon intensity reduction of 40-45% by 2020, as compared to 2005. One of the crucial preconditions for meeting these targets is the availability of necessary financial support. It is estimated that in order to meet these climate targets, China will require annual financial investments of 1963.2 bn RMB (about 318bn USD[1]) by 2015, with an expected gap of 1221.9 bn RMB[2] (about 198bn USD) (1.88% of its expected GDP in 2015). Both the financial demand and the gap are estimated to increase by 2020 (TCG & RCCEF, 2013). Thus, in addition to public budgetary funding, China should consider using innovative mechanisms for generating additional financial resources.

The High Level Advisory Group on Climate Change Financing (AGF) (2010) suggested in 2010 that auctioning revenues from domestic emission trading schemes (ETS) could be a potential source for international climate finance. The AGF (2010, 27) report finds that if "between 2 and 10 per cent of total market size would be auctioned and allocated for international climate finance", this could generate 2-8bn USD under a low carbon price scenario or 14-70bn USD under a high carbon price scenario. Although this issue is so far not directly linked to China, since China is not yet involved in international climate finance, it is however important in the discussion to explore diverse and innovative channels for China to reach its necessary domestic climate finance goals. This issue raises questions related to China's carbon market that is currently being developed in order to curb increasing emissions. Such key questions include: if and how China could use the revenues from the current ETS pilots and whether such revenue schemes could also apply to a future national carbon market – for the financing of national climate action and in the mid- to long-term south-south climate cooperation?

[1] Calculations from RMB to USD are based on exchange rates at the point of writing the paper.

[2] The gap is calculated as the difference between the expected available budget and the expected value of the required investments (financial demand). Both the required investment and the gap are calculated in four categories: mitigation, adaptation, research & development and international cooperation (The Climate Group/Research Center for Climate and Energy Finance, 2013).

Inspired by international ETS experience and economic efficiency of market based measures in pollution prevention, the National Development and Reform Commission (NDRC) designated in 2010 two provinces and five cities, namely Guangdong, Hubei, Beijing, Shanghai, Tianjin, Chongqing and Shenzhen, as pilot programmes, to trial emissions trading schemes with a mandated period up to 2015 (NDRC, 2010). Meanwhile, a national ETS is also currently under preparation, with the World Bank and other institutions providing support in the development of market elements, rules and infrastructure e.g. MRV and registry (World Bank, 2013). The ETS pilots have gone through intensive preparation work in the past few years and through the release of the implementation plans from six out of the seven pilots (with Chongqing as exception), and first operationalization of the Shenzhen ETS, domestic carbon pilots in China are transforming from paper to reality. Analysts at Bloomberg New Energy Finance forecast that by 2015 China "will regulate 800 million to 1 billion metric tonnes of emissions", and would thereby constitute the largest ETS outside of Europe (International Business Times, 2013). Although most of the pilots will give free allowances in their initial pilot phase, some pilots (e.g. Shanghai, Guangdong, Hubei and Shenzhen) are considering auctioning in the future (World Bank, 2013).

This paper pursues the question of whether revenues from Chinese ETS pilots, and a future national carbon market, should be used for national climate action in China and what topics should be addressed. Firstly, it will discuss why carbon market revenues should be used for climate finance and how this may be accomplished in theory. The paper then describes the experience of other countries, particularly in the EU, in using ETS revenues for climate actions. Finally recommendations are provided for the Chinese pilot ETS.

2. Concept of using ETS revenues for climate finance

2.1. Defining the purpose (why)

For any one source of funding there is normally a broad range of policies with different foci seeking financial support. This also becomes true for the potential use of carbon market revenues. Yet, according to Enting/Reich (2012), "from a normative

perspective the polluter-pays-principle does indicate a specific purpose" – to address the negative external impacts of climate change (adaptation) and to reduce the cause of the problem (mitigation). [3] This is also ensured by "earmarking" ETS revenues for climate finance, which means that the revenues or the equivalent thereof (see below) will be used for climate action.

Additional benefits of earmarking have been identified by Mueller (2008), namely that it ensures "minimum financing" is available in this case for environmental purposes, and that it enhances the transparency of the spending of the revenue. Furthermore, according to Mueller (2008) the knowledge that the ETS revenues are being allocated to environmental purposes actually related to the object being taxed/priced, may increase the acceptance of such an instrument.

As has been shown above, in China there is a great need for financial resources to be able to shift towards low-carbon development and for adapting to climate change. Thus, diverse sources of financing for this shift need to be explored. One such feasible source is the use of ETS auctioning revenues, among other ETS related earnings. [4] This would not only apply the polluter pays principle and enable a reduction in carbon intensity, but it would also benefit the climate which is being harmed by the polluters' behavior (Esch et al., 2013).

2.2. Approaches: budgetary and political earmarking

If a country decides to use its ETS revenues for a specific purpose, in this case climate change action, it can do so either by directly earmarking the revenues in its national budget for these specific actions, or instead by using the equivalent value of the revenues for this purpose without directly but rather politically earmarking them (Esch et al., 2013). According to Mueller (2008, 6) some argue that direct earmarking is perceived as contradictory to "sound fiscal management" (including giving the Parliament the power to decide upon the budget periodically and also giving future governments the potential to change priorities in funding). Yet according to Mueller (2008) several examples for the direct earmarking of other instruments exist, for instance in the US and UK. If for some countries such direct earmarking is difficult for the above-mentioned reasons, using the equivalent amount of ETS revenues via

[3] Enting and Reich have outlined the reasons for using auctioning revenues for climate finance in detail (Enting/Reich, 2012).

[4] For example, national revenue from transaction fees for carbon offset projects, similar to what NDRC charges for Chinese CDM projects.

political earmarking could constitute a possibility to nevertheless clearly link these revenues with climate action.

2.3. Potential for China

Considering the Bloomberg New Energy Finance's large estimation of emissions to be covered by China's new ETS scheme (800 million to 1 billion metric tonnes estimated by Bloomberg (2013)), given even a moderate auctioning rate (e.g. 10%) and price (e.g. 30 RMB/ton, the average price of the trading transactions on the first day of Shenzhen ETS), there will be potentially large amount of revenues (2400 million to 3000 million RMB (about 398-486 million USD) that could be used for China's climate change adaptation and mitigation efforts.

However, in China, it is not yet clear how the institutional structure for managing carbon market revenues will be, as currently there are no clear provisions on auctions or selling of allowances. Once there is an agreement to raise such revenues (through auctioning or selling), decisions need to be made on where and how the auctioning/selling would take place, whether revenues will stay at regional level or go back to central government or some kind of sharing between the two. Similarly it is also needed to clarify which government body will handle it, whether it is the Ministry of Finance (MoF), or NDRC, or a jointly launched public institution such as the China CDM Fund that is to fiscally and financially support actions and capacity building in addressing climate change. These questions deserve particular attention while crafting a national ETS plan.

Congressional formal earmarking is related to the political decision making process of the budget that varies from country to country. In China it might not be fully clear what exactly it means to "earmark". In this paper we use it as a general norm of specifying a particular use, normally over multiple years, for a particular revenue source of the government. In the past, such measures have been taken in areas like education, culture and post disaster reconstruction (Xinhua English, 2006; CIOL, 2012; Xinhua, 2010). Another example in China is the Pollution Levy, imposed on companies discharging more wastewater than they are allowed, whereby 80% of the revenues are earmarked for environmental funds, which are then mainly being used to finance the reduction of pollution in the industry sector (Travers, 1999)[5]. In this case, the

[5] In this case, money is often actually flowing back to those companies who had to pay the fee to support them in complying with the law. This could also create perverse incentives (see Traver, 1999). Nevertheless, this shows a clear example of earmarking for environmental purposes.

central government is deciding that revenues should be used for these environmental funds, but it is the "lowest level that has an effective environmental protection bureau" which is actually collecting and managing the funds (Travers, 1999, 2). There are differences in the approaches taken for disbursing funds by the environmental protection bureaus in the different provinces (Travers, 1999, 2).

3. Experience from the EU and in particular Germany

3.1. The EU Emission Trading Scheme

The EU ETS was first introduced in 2005 and is currently in its third phase, which started in 2013. The changes in the system of the EU ETS between the first and the third phase are shown in Annex 1.

The EU ETS currently covers CO_2, N_2O and PFC emissions from electricity generation plants and production plants in the 28 EU member states, plus Iceland, Liechtenstein and Norway, as well as currently emissions from intra-EU flights[6] (EU Commission, 2013a). The emission cap is tightened annually by 1.74%, which should lead to a reduction in these sectors' emissions of 21% by 2020 in comparison to 2005 (EU Commission, 2013a).[7]

In the third trading period, most of the certificates are auctioned; however differences exist for the different sectors. For instance those sectors, where there is a great risk of carbon leakage, will not need to buy their certificates but receive them for free (CDC Climat Research, 2013). While in general power generators need to buy all their certificates from auctions, there is an exemption for several new member states that allows for the free allocation of some certificates to electricity producers in their countries (EU Commission, 2013a). Further, for the aviation sector only 15% of the certificates are to be auctioned until 2020, with the remainder being distributed for free (CDC Climat Research, 2013). For the remaining sectors, auctioning will start for

[6] While Directive 2008/101/EC includes all flights landing or departing in the EU, it was decided in fall 2012 to „stop the clock" for the international flights for one year in order to allow more time for states to develop a global mechanism under the International Civil Aviation Organization.

[7] For a more detailed description on the calculation of the cap, see EU Commission, 2010.

only 20% of their benchmark emissions in 2013, yet rising steadily to 70% by 2020 (CDC Climat research, 2013).

Currently the EU ETS faces serious problems. While the EU Commission calculated initially with a certificate price of 40€/t CO_2, the price has recently – amongst other reasons due to the economic crises and the use of the Clean Development Mechanism and Joint Implementation certificates – dropped to around 4€/t (Esch et al., 2013). As the AGF (2010, 12) puts it: "The higher or lower the carbon price, the larger or smaller the revenue and the stronger or weaker the price signal to reduce emissions." There are different measures under discussion that may be taken to repair the EU ETS. One small first step which has recently been agreed upon in the European Parliament (but still needs final agreement via a trialogue decision making process of the EU Council/Commission/Parliament) is the so-called backloading approach, where a certain amount of certificates would be temporarily removed from the market, to be re-inserted at a later date. A real change would need - as many scientists, governments and NGOs argue - an increase of the EU's overall emission reduction target for 2020 from -20% to -30% [8], and a target for 2030 of 50-55%. In this context the annual linear reduction factor in the ETS would have to be increased accordingly.

3.2. Links between the EU ETS cap, additional energy efficiency policies and the use of ETS revenues

The implications of a potential increase of the reduction target are described by a recent study by Sijm et al. (2013), in which well-developed economic modeling was used. While their numerical results should be taken with caution[9], their conclusions are nevertheless shortly described below, as they show the critical interrelation between the ETS cap, other energy efficiency policies and the potential size and use of the ETS revenues (Sijm et al., 2013).

According to the study, a tightening of the ETS cap from -21% to -34% by 2020 (plus the introduction of additional CDM credits) would reduce the covered sectors' allowed emissions by 165 Mio t CO_2 and lead to an increase of the auctioning

[8] Further there are overall discussions on a structural reform of the ETS.

[9] Their modeling was done in 2011 and is hence 1) based on higher carbon prices which are not mirrored by the current carbon price situation and 2) did not take into account member state policies on energy efficiency or the EU's Energy Efficiency Directive (Sijm et al., 2013).

revenues of the power sector of almost four times (from 19bn € to 88bn € by 2020[10]) (Sijm et al., 2013). Meanwhile it would also lead to an average increase of 61€[11] (Sijm et al., 2013) in the power bill of the average household (across the EU 27) Yet if the stricter ETS cap (-34%) was to be combined with a "1% p.a. energy efficiency obligation […] to the baseline"[12], this would actually lower some of the financial impacts caused by the stricter cap. For instance, the average increase of the power bill per household would then be lower (10€ instead of 61€ increase), because electricity use would decrease due to more energy efficiency (as the additional policy requires) and since power prices would be lower (Sijm et al., 2013)[13]. Further, with such a combination, the carbon price would be at about 65€/t CO_2 as compared to 80€/t CO_2 under the scenario with only a stricter cap (Sijm et al., 2013).[14] Meanwhile, the lower carbon price obviously reduces the revenues available for potentially funding energy efficiency measures.[15]

Overall, the paper by Sijm et al. (2013) shows that the largest energy savings can be achieved in a scenario where the ETS cap is tightened, additional energy efficiency obligation/policy is introduced and the ETS revenues are invested into improving energy efficiency [16]

3.3. Use of EU ETS revenues

3.3.1. The proposal of the EU ETS Directive and member states plans

The EU ETS Directive (Directive 2003/87/EC) suggests that at least 50% of the ETS revenues should be used for national or international climate action. Furthermore, all

[10] As said, the specific number has to be treated with caution, yet it shows the great impact, a stricter cap can have on ETS revenues.

[11] Again, the specific number has to be treated with caution.

[12] For a detailed description of this Energy Efficiency Obligation, see Sijm et al., 2013, 16.

[13] Again, the specific number has to be treated with caution. If revenues were to be further invested into energy efficiency measures, the electricity bill could actually decrease and not increase (see Sijm et al., 2013, 54, scenario 2Bv).

[14] Again, the specific number has to be treated with caution.

[15] In regard to where energy efficiency investments should be made, Sijm et al. (2013) are suggesting that – since if it was only given to the ETS-sector, this would reduce emissions, but would at the same time drive down the carbon price and hence the revenues – support should be given to both the non-ETS sectors as well as the ETS sectors.

[16] However, this could be even more enhanced, if "the resulting decline in the ETS carbon price – i.e. due to the additional EE investments – is nullified by setting aside a certain amount of emission allowances" (Sijm et al., 2013, 50).

revenues from the auctioning of aviation certificates should be used for national and international climate action. Yet in both cases, this is not an obligation but a suggestion. A recent study by Esch et al. (2013) analyzed whether seven EU member states were using EU ETS revenues for climate action, nationally or internationally. While all seven states used at least part of their ETS revenues for climate action, four states financed only national action (in Poland the final decision has at this point not been made), two states financed both national and international climate action and one state financed only international climate action (Esch et al., 2013). The only country found to have used all of its ETS revenues for climate finance – apart from those needed for administration of the ETS within the country – was Germany.

3.3.2. Case study: the use of EU ETS revenues in Germany

Germany has set up a separate budget structure, the so called Energy and Climate Fund (EKF), to which its EU ETS revenues are channeled – thereby providing "full budgetary earmarking" (Esch et al., 2013). However, even before this (between 2008- and 2009) earmarking of revenues was taking place in the budget of the Ministry for Environment, Nature Conservation and Nuclear Safety (BMU) where revenues were earmarked for the International Climate Initiative (Vieweg et al., 2012). The EKF has different budget lines, separately for international climate finance and for national climate actions, which identify how much of the money shall be spent on the different areas. Budget lines for national climate actions include for instance funding for energy efficiency in buildings, support for the market introduction of renewable energies as well as the National Climate Initiative (BMF, 2013a).

In 2012, ETS revenues were expected to be € 345 million (Esch/Kowalzig, 2012). For the fiscal year 2013, based on a certificate price of 4.5€, revenues are expected to be totaling € 888 million (BMF, 2013a) and for the fiscal year 2014 about € 900 million (BMF, 2013b). As mentioned above, the current certificate price is much lower than expected. Therefore, also in Germany the current revenues are much lower than initially anticipated and planned for in the expenditures of the EKF.[17]

[17] Therefore, in 2013, the German Development Bank KfW provided some funding to the EKF in order to fill the gap on the income side (Esch et al., 2013). Also for 2014, the problem remains: within the proposal for the budget of 2014, it is suggested that the expenditures for international climate finance will be moved back to the Ministry for Economic Cooperation and Development (BMZ) or to the BMU, and will no longer be met by the ETS revenues (Kowalzig, 2013). If this is decided so, there will be no earmarking of ETS revenues for international climate finance in 2014. After funding for international climate finance is moved

According to Esch/Kowalzig (2012) this separate budget structure increases transparency in the use of EU ETS revenues, because interested stakeholders can easily follow exactly how the revenues are being used by examining the relevant budget documents, which can normally be found online. Finally, it ensures that there is some specifically dedicated funding available for national and international climate action. Yet, considering the current situation of low certificate prices, more financial sources will be needed for such climate action.

3.4. Interim summary

The EU ETS is the main market-based instrument designed to tackle climate change. It covers a large share of the EU's emissions, with allowances being auctioned at an increasing rate. The EU ETS has served as example for other countries or regions to follow, in the development of their ETS. Due to this frontrunner role, it is crucial that the EU ETS can overcome its problems, such as the low certificate prices. However, the experience of the EU ETS offers valuable insights into how carbon market revenues could be used for climate finance.

As has been shown by the study of Sijm et al. (2013), increasing the reduction target could have a strong impact on the carbon price and hence the ETS revenues. Thus, setting an ambitious and reasonable target/ cap is of utmost importance. Furthermore, their study shows that at the same time re-investing the revenues into the same field of energy efficiency can potentially result in great energy savings. The study concludes that the largest energy savings can be achieved in a scenario where the ETS cap is tightened, an energy efficiency obligation is introduced and the ETS revenues are invested into energy efficiency (Sijm et al., 2013).

The EU ETS Directive already includes the recommendation to use part of the ETS revenues for international and national climate action. Several countries have already followed this recommendation in practice.[18] Germany, in particular, is currently using all of its ETS revenues for international and national climate actions.

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to the national budget of BMZ and BMU, there remains a gap of 1.1bn € between the planned expenditures and the expected income, based on a carbon price of 4.5€/t CO_2 (BMF, 2013b). Also for 2014, it is currently being investigated whether KfW would be able to fill (part of) the gap between the expected and actual revenues (BMF, 2013b). However, this transfer is only planned for international climate finance, not for the national climate actions currently financed by the EKF (BMF, 2013b), thus here a direct earmarking will remain.

[18] See for instance Esch et al., 2013.

Through practical experience, the EKF has demonstrated its value in several aspects. Firstly by forming a self-financing climate regime based on the polluter pays principle and secondly by enhancing transparency of financial flows, thereby supporting trust building in the international negotiation process (Esch et al., 2013). Trust building is improved by showing that revenues of this instrument are actually being committed also for international climate action and that there are hence ongoing flows for international climate finance.

4. Recommendations for the Chinese ETS pilots

Although Chinese ETS pilots are still in their learning-by-doing phase and the national ETS is still being developed, we believe that the experiences of the EU ETS may serve to illustrate some key learning points for China, which need to be considered during the ETS development and piloting phase.

Keep the cap stringent

The cap of the ETS not only regulates its environmental performance, but also has great impact on the carbon price and hence the signals it sends to investors for low-carbon technology. As such, a cap should be kept at a stringent emissions level, which is stricter than BAU (business-as-usual). There are also many difficulties in calculating and verifying the emission data (Wang, 2012). This issue, and the high uncertainty related to projections of GDP/sectoral growth rate, may lead to a similar over-allocation of emissions allowances as happened during the early stage of EU ETS. Cap-setting might therefore need to be enhanced once data have become more robust (via monitoring, reporting and verification processes), and with greater ambition at all levels for low-carbon development.

Gradually increase the auctioning rate in allowance allocation

During the initial phase most of the Chinese ETS pilots are giving away free allowances to their covered actors based on historical emissions. While this helps to create a greater acceptance of the ETS, it may lead to unfair treatment for the more energy efficient plants, incentives for rent seeking and corruption, and when combined with a non-stringent cap this may result in a very low carbon price. Another problem is that

free allocation of allowances in the beginning can lead to great windfall profits for industries, as the example in the EU has shown. In the experience of the EU and others such as Australia, auctioning is introduced over time to enhance market effectiveness and efficiency. Furthermore, auctioning could be specially customized for issuing allowances for new plants, for which it would be easier to deploy low-carbon technologies.

Combine ETS with additional targeted investment in energy efficiency

Based on the results of the study by Sijm et al. (2013) it would be advisable to combine ETS with additional energy efficiency measures for both the ETS and non-ETS sectors, to unleash the full mitigation potential. When doing so, the ETS cap should be calculated in the way that takes the effect of the additional energy efficiency policies into account. The interaction of policies needs careful assessment and monitoring.

Leverage carbon revenues for low-carbon and adaptation actions

As previously mentioned, there would be a large demand for financial investments in order to carry out climate mitigation and adaptation actions in China. Thus, revenues generated from the carbon market in China should be used as climate finance, to be invested in low-carbon actions and adaptation projects. This will not only enhance the polluter-pays principle, but also build a sustainable and transparent national climate finance mechanism. This could be done via a newly set-up fund or through a suitable existing fund.[19] Considering the possibility of a fluctuating carbon price, and hence uncertainty about carbon market revenues (as in the case of the EU), we also suggest to create a mechanism whereby the annual budget of the fund will be set ex-ante, so that if the carbon market revenues fall short, the gap will be filled by national general budget contributions. A clear and credible institutional arrangement and transparent process to manage carbon market revenues, reporting, and information sharing should be clarified up front.

[19] There is no dedicated budget item on "climate change" in the current budget system of the Chinese government (climate change related expenses are under various budget items like "energy saving and environment protection", "agriculture, forestry and water affairs" etc), so operating via a fund would make it easier to track the financial flows, as compared to operating solely via the general budget.

Strengthen south-south cooperation to respond to climate change

As the world's biggest GHG emitter and second largest economy, China would be expected by international society to take more responsibility for global climate protection in the future. The demand for its efforts in south-south climate finance may also grow. By being forward-thinking in climate finance development, China is considering how to enhance the issue of climate change in the current south-south cooperation, which may require adequate funding support. Revenues from carbon markets might also be channeled in this direction.

Reference List

AGF (High-level Advisory Group on Climate Change Financing), 2010: Report of the Secretary-General's High-level Advisory Group on Climate Change Financing

Bloomberg , 2013: China Carbon Permits Trade 22% Below Europe on Market Debut, to be found on: http://www.bloomberg.com/news/2013-06-18/china-carbon-permits-trade-22-below-europe-s-on-market-debut.html, retrieved on: 20.08.2013

BMF (German Federal Ministry of Finance), 2013a : Bericht des Bundesministeriums der Finanzen über die Tätigkeit des EKF 2012 und über die 2013 zu erwartende Einnahmen- und Ausgabenentwicklung, to be found on: http://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Oeffentliche_Finanzen/Bundeshaushalt/2013-04-25-ekf-anlage3.pdf?__blob=publicationFile&v=3, retrieved on: 05.07.2013

BMF (German Federal Ministry of Finance), 2013b: Eckwertebeschluss der Bundesregierung zum Regierungsentwurf des Bundeshaushalts 2014 und zum Finanzplan 2013 bis 2017 sowie zum Sondervermögen „Energie- und Klimafonds", to be found on: http://www.bundesfinanzministerium.de/Content/DE/Pressemitteilungen/Finanzpolitik/2013/03/2013-03-13-PM22anl3.pdf?__blob=publicationFile&v=2, retrieved on: 05.07.2013

CDC Climat Research, 2013: Auction revenues in EU ETS phase 3: a new public resource, Climate brief, no. 25, January 2013

CIOL, 2012: China to earmark $2.38 billion for SMEs, to be found on: http://www.ciol.com/ciol/news/61178/china-earmark-usd238-billion-smes, retrieved on: 08.07.2013

Enting, Katrin/Reich, Hendrikje, 2012: Auctioning Emission Allowance to Contribute to the USD 100 billion Goal- European Experiences, paper to be presented at the 2012 Lund Conference on Earth System Governance 18-20, April 2012, to be found on: www.lund2012.earthsystemgovernance.org/LC2012-paper165.pdf, retrieved on: 08.07.2013

Esch, Anja/Jedrasik, Ilona/Mazounie, Alix/Gautier, Celia/Holub, Petr/Bart, Istvan/Jerabek, Jiri/Kaskeala, Niklas, 2013: Using EU ETS auctioning revenues for climate action, What is the appetite for earmarking in specific EU member states?, Germanwatch (Edit.)

Esch, Anja/Kowalzig, Jan, 2012: Sondervermögen „Energie- und Klimafonds“ Finanzierungsgrundlage sichern, klimapolitische Integrität wahren und Potential entfalten!, Germanwatch/Oxfam Deutschland (Edit.) to be found on: https://germanwatch.org/de/download/6221.pdf, retrieved on: 05.07.2013

EU Commission, 2010: Allowances and caps, to be found on: http://ec.europa.eu/clima/policies/ets/cap/faq_en.htm, retrieved on: 25.07.2013

EU Commission, 2013a: The EU Emission Trading System (EU ETS), to be found on: http://ec.europa.eu/clima/publications/docs/factsheet_ets_2013_en.pdf, retrieved on: 03.07.2013

EU Commission, 2013b: EU ETS 2005-2012, to be found on: http://ec.europa.eu/clima/policies/ets/pre2013/index_en.htm, retrieved on: 05.07.2013

EU Commission, 2013c: The EU Emission Trading System (EU ETS), to be found on: http://ec.europa.eu/clima/policies/ets/index_en.htm, retrieved on: 05.07.2013

International Business Times, 2013: China’s Shenzhen Set June 17 as Start of Carbon Emission Trading, to be found on: http://au.ibtimes.com/articles/453821/20130405/china-s-shenzhen-sets-june-17-start.htm#.UdqJgFNxh4Y, retrieved on: 08.07.2013

Kowalzig, 2013: Bundeshaushalt 2014: Bei Zusagen zur Klimafinanzierung wird gekürzt, to be found on: http://www.deutscheklimafinanzierung.de/blog/2013/07/1069/, retrieved on: 05.07.2013

Lewis, Joanna, 2011: Center for Climate and Energy Solutions (Edit). To be found on: http://www.c2es.org/international/key-country-policies/china/energy-climate-goals-twelfth-five-year-plan, retrieved on: 13.06.2013

Mueller, Benito, 2008: To earmark or not to earmark? A far-reaching debate on the use of auction revenue from (EU) Emissions Trading, Oxford Institute for Energy Studies (Edit.)

NDRC, 2010: 国家发展改革委办公厅关于开展碳排放权交易试点工作的通知(Notice on the Development of Carbon Emissions Trading Pilot Work), to be found on: http://www.ndrc.gov.cn/zcfb/zcfbtz/2011tz/t20120113_456506.htm, retrieved on: 08.07. 2013

Sijm, J./Boonekamp, P./Summerton, P./Pollitt, H./Billington, S., 2013: Investing EU ETS auction revenues into energy savings, ECN, Cambridge Economics (Edit.)

State Council of China, 2011a: 关于印发"十二五"节能减排综合性工作方案的通知(12th FYP Energy Saving and Emission Reduction Comprehensive Work Program), to be found on: http://www.gov.cn/zwgk/2011-09/07/content_1941731.htm, retrieved on: 01.07. 2013

State Council of China, 2011b: 关于印发"十二五"控制温室气体排放工作方案的通知(12th FYP Control GHG Emissions Work Program), to be found on: http://www.gov.cn/zwgk/2012-01/13/content_2043645.htm, retrieved on: 01.07. 2013

The Climate Group (TCG) & Research Center for Climate and Energy Finance (RCCEF) , 2013: 中国应对气候变化融资策略 (Shaping China's Climate Finance Policy), to be found on: http://www.theclimategroup.org.cn/arc/201304/4129.shtml, retrieved on: 08.07. 2013

Travers, Lee, 1999: Environmental funds: the Chinese experience, Pollution management in focus, discussion note no. 6, to be found on: http://www.oecd.org/unitedkingdom/2081693.pdf, retrieved on: 10.07.2013

Vieweg, Marion/Esch, Anja/Grießhaber, Linde/Fuller, Frances/Mersmann, Florian/Fallasch, Felix/De Marez, Laetitia, 2013: German Fast Start, Lessons learned for long-term finance, Climate Analytics/Germanwatch/Wuppertal Institute for Climate, Environment and Energy (Edit.)

Wang, Tao, 2012: China's Carbon Market Challenge, to be found on: http://www.chinadialogue.net/article/show/single/en/4936-China-s-carbon-market-challenge, retrieved on: 30.07.2013

World Bank, 2013: Mapping Carbon Pricing Initiatives: Developments and Prospects 2013, Washington DC, May 2013

Xinhua English, 2006: China to earmark 5% of box office to support indigenous cinema, to be found on: http://english.sina.com/business/1/2006/0626/81722.html, retrieved on: 08.07. 2013

Xinhua, 2010: China to earmark 21 bln yuan for reconstruction in quake-hit Yushu, to be found on: http://english.gov.cn/2010-08/27/content_1689240.htm, retrieved on: 08.07. 2013

Annex

Table 1 The different phases of the EU ETS
Source: For periods 1 and 2: EU Commission 2013b,
for period 3: EU Commission 2013a, EU Commission, 2013c

	Phase 1	Phase 2	Phase 3
Timeframe	2005-2007	2008-2012	2013-2020
Cap	"In the absence of reliable emissions data, phase one caps were set on the basis of best guesses."	-6.5% compared to 2005 -Aviation: 3% below average of 2004-2006	
Participating countries	EU	EU, Liechtenstein, Iceland, Norway	
Emissions covered	CO_2	CO_2, N_2O	CO_2, N_2O, PFC
Sectors covered	- Power generation - "energy intensive industrial sectors"	- Phase 1 sectors - "nitrous oxide emissions from the production of nitric acid by a number of Member States" - Aviation joined January 2012 (but exclusion of int. flights for one year)	- CO_2 "from power plants, a wide range of energy-intensive industry sectors and commercial airlines" (but exclusion of int. flights for one year) - "Nitrous oxide emissions from the production of certain acids - emissions of perfluoro-carbons from aluminium production"
Auctioning	Almost all allowances are given for free	>= 90% of allowances given for free, the rest are being auctioned	> 40% being auctioned, with this share increasing over time
Penalty for non-compliance	40€/t	100€/t	100€/t
CDM/JI credits possible	No	-Yes (but not from forestry, agriculture and nuclear power) -total: 1.4bn t CO_{2eq}	- Yes (but not from forestry, agriculture, nuclear power and destruction of industrial gases, also from 2013 only those from Least Developed Countries will be accepted) -total: 1.7bn t CO_{2eq}

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G:HUB promotes the development and implementation of sound climate and financial policies, and encourages critical dialogue among stakeholders; the Center seeks positive changes in climate and sustainable finance via high-quality research and analysis.

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