

Can the New Market Mechanism Bring System Changes for Low Emission Innovation?

By Wytze van der Gaast¹

The Clean Development Mechanism (CDM) has long been considered a success stories under the Kyoto Protocol. Nearly 4,300 projects have been registered for implementation in developing countries across a broad range of sectors (cumulative GHG emission reduction of 2.18 GtCO₂-eq. by 2012). At the same time, the CDM was criticised for its uneven geographical distribution, with relatively advanced countries such as China, Brazil, India, Mexico taking a share of nearly 80% in the CDM pipeline² and still several developing countries with no CDM projects at all.

Another concern about the CDM has been whether it really supports system changes in countries for acceleration of low emission innovation. As a project mechanism, CDM project technologies are mainly identified for their GHG emission reduction potential and it is not always clear whether these technologies are really those that would deliver the strongest combined climate and development contribution for the host country.

As argued by the FP6 ENTTRANS project³, ideally, a CDM activity would be the result of a strategic assessment of a country's development needs and identification of priority technologies or measures to meet these needs with low GHG emissions. Such an approach, as nowadays reflected in the updated

TNA process and several LEDS studies, would result in a strategy for development and transfer of technologies and measures at the desired scale for reaching climate and development goals within a country. The CDM would be one of the mechanisms to support implementation of such a strategy.

The current CDM does not stimulate such a line of work. In light of the above, the COP and CDM Executive Board are working on making improvements for which they have established dialogues with CDM stakeholders and practitioners. It will be a challenge for CDM regulators and practitioners to explore interlinkages with NAMA, TNA and LEDS processes and let the mechanism support low emission innovation strategies

New market mechanism

Next to the CDM (and JI among industrialised countries), a New Market Mechanism will be developed as per the decision of COP17,⁴ "operating under the guidance and authority of the Conference of the Parties, to enhance the cost-effectiveness of, and to promote, mitigation actions, bearing in mind different circumstances of developed and developing countries". COP17 also considered the establishment of an overall framework for approaches to reduce GHG emissions, including market-based instruments.⁵

Several proposals for the New Market Mechanism had already been presented by a number of Parties, both developing and developed countries. Among the earliest proposals for a New Market Mechanism was formulated by the EU in the form of 'sectoral crediting' or 'sectoral trading'. With sectoral crediting a country would agree on an absolute or relative target GHG emission level for a sector which it could achieve unilaterally or with international support. Emission reductions beyond this target level could then be traded as carbon credits. Sectoral trading refers to a cap-and-trade system whereby a country receives emission allowances upfront and can trade surpluses or deficits with other Parties. Such a system could possibly also be linked to CDM projects in sectors not covered by the cap-and-trade system.

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² <http://cdmpipeline.org/publications/CDMPipeline.xlsx>

³ ENTTRANS, 2008. Promoting Sustainable Energy Technology Transfer through the CDM: Converting from a Theoretical Concept to Practical Action, EU 6th Framework Programme <<http://jiqweb.org/images/stories/mifiles/downloads/jin/ENTTRANSd2.pdf>>

⁴ 2/CP.17, para 83. <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>,

⁵ 2/CP.17, para. 79.

Last year, Japan presented its Bilateral Offset Credit Mechanism (BOCM) which intends to promote advanced low emission technology products or services by crediting the emission reductions achieved in other countries. These credits can subsequently be used to help Japan meet its GHG emission reduction goals. During 2011, in 15 non-Annex I countries feasibility studies were initiated for BOCM activities (http://mmechanisms.org/document/bilateral_moej.pdf).

Sector-level focus instead of projects

An important aspect of the New Market Mechanism proposals is the tendency to consider the GHG emission reduction activities at a larger scale than the project level of the CDM. For instance, the submissions to the UNFCCC on the New Market Mechanism by the Alliance of Small Island States (AOSIS), Costa Rica, the Dominican Republic, Mexico, Panama and Peru explain how the new market mechanism should go beyond the project-based approach of the CDM and address countries' sectoral emissions.⁶

The positive aspect of the current development towards a policy level approach beyond the usual project-level approach is that the New Market Mechanism could more strongly support the system changes in countries to support low emission innovation. After all, when addressing emission reductions at the level of a sector, mitigation options need to be prioritised and implemented at a larger scale which would require an analysis and improvement of the existing system for innovation.

Interlinkages with TNA, LEDS and NAMA

This obviously raises the issue of how to align the New Market Mechanism with ongoing provisions such as TNAs, LEDS and NAMAs and to avoid double counting of efforts. With respect to TNAs and LEDS, the New Market Mechanism could be complementary to these. For instance, as part of the process of a TNA or a LEDS, a country would determine in which sectors the strongest combined climate and development contributions could be achieved and with which mitigation options. These options could then be identified for implementation under the New Market Mechanism, so that the value of the GHG emission reduction would support the implementation of the low emission innovation strategies identified by TNAs and LEDS.

The story might be different when considering the co-existence of the New Market Mechanism and NAMA initiatives. With NAMAs a number of developing countries are seeking bilateral and multilateral financial support to initiate broad-based policies and measures that reduce GHG emissions and are appropriate for countries' development goals. Actions identified and supported under NAMA support schemes, for instance at the sectoral level, could therefore not be considered additional anymore for crediting under the New Market Mechanism. According to, e.g., an analysis by the Center for Clean Air Policy, a clear "bright line" distinction between NAMAs and NMM is therefore needed.⁷

This calls for a co-ordinated development of NAMA and New Market Mechanism provisions. For example, following the EU's sectoral crediting proposal, a country could pledge a target under the Kyoto Protocol based on a low emission development strategy and identify the required GHG emission reductions as NAMAs, which are supported by bilateral and multilateral capacity building and financial support and subject to MRV processes. Emission reductions which go beyond this pledged target could subsequently be rewarded with carbon credits under the new market mechanism. For example, a developing countries pledges to reduce its transport sector GHG emissions and identifies a portfolio of NAMAs for that containing country-wide investments in Intelligent Transport Systems and public transport infrastructure improvement. Additional investments beyond this target, such as public-private sector initiatives in the field of electric engines for taxis, etc., could then be offered for crediting under the new market mechanism.

Conclusions

The New Market Mechanism, as defined by COP 17, could become an important tool for supporting strategies for low emission innovation in developing countries. It would therefore complement the project-level focus of the CDM. A challenge in developing the new market mechanism is to align it with other provisions such as NAMAs to avoid double counting and non-additional actions under the New Market Mechanism.

⁶ De Sépibus, J., W. Sterk, and A. Türk, 2012. Top-down, Bottom-up or In-between: How Can a UNFCCC Framework for Market-based Approaches Ensure Environmental Integrity and Market Coherence?, NCCR Trade Regulation Working Paper No. 2012/31 <[http://www.wti.org/research/publication/?tx_nccr_pi1\[show\]=428&cHash=08a110827ca901501f7b2abc287fe451](http://www.wti.org/research/publication/?tx_nccr_pi1[show]=428&cHash=08a110827ca901501f7b2abc287fe451)>

⁷ CCAP Submission on Development of a Framework for Market Mechanisms that Avoids Double Counting of Effort and Achieves a Net Decrease in Greenhouse Gas Emissions, 5 March 2012 <<http://www.ccap.org/>>

In their recent publication, **Challenges and Solutions for Climate Change**, Wytze van der Gaast and Katherine Begg take as their starting point that maximising sustainable development benefits and climate change mitigation and adaptation should go hand in hand. For instance, climatic changes will make it more difficult and costly to reach (Millennium) development goals in developing countries. In addition, the urgency of climate change mitigation and the current economic situation make it imperative that we maximise economic, environmental and social benefits with any investment in low emission technologies or enabling measures. The book's first challenge is to place the climate negotiations in this wider context of sustainability, equity and social change.

Next, the book explains how technologies and measures can be identified for both climate and development goals. Based on the updated TNA process, country stakeholders first identify a country's development priorities. Subsequently, technologies and measures for mitigation and adaptation are prioritised by assessing their climate and development benefits. In this process, the aim is to maximise the benefits from any investment.

Once technologies and measures for achieving climate and development goals in a country have been prioritised, the next challenge is to create low GHG emission and climate resilience strategies to accelerate innovation for sustainable development. The book explains a participatory process for characterising the existing system or market for development and transfer of prioritised technologies and measures. This helps to identify blockages or market barriers as well as activities for overcoming these weaknesses. These activities (policies, training, etc.) thus can form a strategy for innovation of a technology or measure. When taken together with activities to accelerate adoption of other priority technologies or measures, sector and/or national strategies can be formed.

The book continues with describing how recent climate change negotiations have increasingly focused on developing strategies for meeting climate goals in the context of countries' sustainable development (i.e. LEDS, NAMAs and NAPs) and discusses possible interlinkages between these provisions as well as with the: Technology Mechanism, Cancun Adaptation Framework, Capacity Building Framework and Financial Mechanism. The book suggests areas where activities can be integrated so that duplication and wastage of resources can be avoided.



Finally, the book discusses the challenge of how finance initiatives for the purchase and modification of technologies being transferred for climate and development benefits can be scaled up. The chapter recommends to integrate finance strategies with strategies for innovation to support successful transfers (e.g. TNA or LEDS), involving the large number of private and public players identified. The scope of such integrated strategies would be broader than just financing projects with prioritised technologies or measures, to also focus on funding of innovation strategies.

Box 1. Climate change challenges

1. To place climate negotiations in wider context of sustainability, equity and social change.
2. To select technologies and measures for climate change mitigation and adaptation based on countries' sustainable development and climate goals.
3. To create strategies and action plans to accelerate innovation for sustainable development and climate goals.
4. To rationalise current directions in international policy making to support developing countries in devising and implementing strategies for climate and development goals
5. To facilitate an international finance framework in order to support technology development and transfer at desired scale within a country.

Bikin Tiger: the First JI Forest Management Project

By Igor Shishlov¹ and Mariana Deheza²

Forestry and Kyoto flexibility mechanisms

Despite their climate change mitigation potential, forestry activities have been largely excluded from the Kyoto flexibility mechanisms. The CDM allows only for afforestation and reforestation (A/R) projects delivering temporary CERs, while other types of forestry projects, such as improved forest management (IFM) projects, cannot be credited. Although JI does not have such a restriction on forestry project crediting, until recently there were no IFM projects implemented under the JI framework. This could be explained by the fact that removal units (RMUs), which are granted under forestry projects, are, unlike ERUs from other project types, not eligible for use under the EU ETS. Consequently, RMUs can only be used by Annex I country governments for Kyoto compliance and/or on voluntary carbon markets. This article describes the Bikin Tiger forest management project which is currently being validated as a JI Track 2 project.

Overview of the project

The Bikin Tiger project is the first example of an IFM project developed under the JI framework. The aim of the project is the protection from logging of the virgin forest in the basin of the river Bikin in the Primorsky region of the Russian Far East (Figure 1). Not only is this the largest undisturbed temperate mixed forest massive in the Northern hemisphere, but, for centuries, it has also been the home to the indigenous Udege people. The area is also the primary habitat to a number of endemic and endangered species including the Amur Tiger (whose population is estimated at 30 to 35 animals in the area).

The project area includes two types, the Bikin Nut Harvesting Zone (88% of the area) and the riparian zone of Bikin River (12% of the area), with a total forest area of 456 thousand ha. The area is leased for 49 years from the Primorsky Forest Department by the Tribal Commune Tiger (TCT), an interest group formed by the indigenous Udege people. Through this leasing concession, TCT not only prevented logging companies from leasing the area, but also gained access to non-timber forest products (NTFP) collection, and prevented illegal nature use (by means of anti-poaching brigades).

This area, formerly protected from commercial harvesting by a classification as a Nut Harvesting Zone

(NHZ), was threatened by the new legislation that came into force on the 25 January 2010. According to this new regulation,³ up to 59% of the project area qualified for commercial logging.

Since Russia has chosen to account for sinks and sources of GHG emissions from forest management under Article 3.4 during the first commitment period of the Kyoto Protocol, the project qualifies as a “forest management” type of activity under this article (as “forests remaining forests after 1990”).

The protection of forests in the basin of Bikin helps achieve three main objectives:

- to contribute to climate change mitigation through the preservation of an existing carbon stock which is estimated at 114 million tons of CO₂;
- to protect the indigenous Udege communities that rely on the forest in their traditional lifestyle; and
- to contribute to biodiversity conservation, particularly preserving the habitats of at least 12 endangered species, including the Amur tiger, as well as 14 endemic species.

Project milestones

The project started in 2007 when the EU provided financial support through the TACIS programme for the indigenous communities in the region, as well as legal advice to help preserve their land rights and avert illegal logging. The parts of the project that focused on biodiversity and local communities played a vital role for the project’s visibility and for obtaining financing. In 2008, WWF Russia, WWF Germany and TCT established a partnership to develop the concept of the project.

The German Ministry of Environment (BMU) provided seed funding in the amount of 2.5 million euro starting in September 2008 under its International Climate Initiative (ICI). The money was used, i.e., to fund the project’s feasibility study by EcoSecurities, the development of the PDD by GFA ENVEST, and for payments of the project area’s concession fees for the first three years, anti-poaching activities, fire prevention and development of NTFP infrastructure of the village.

The Bikin Tiger project is currently undergoing validation under JI Track 2, while most projects in Russia use JI Track 1.⁴ This was a requirement of

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³ Russian Forest code, Articles 102, 106, Order of Ministry of Agriculture of Russian Federation.

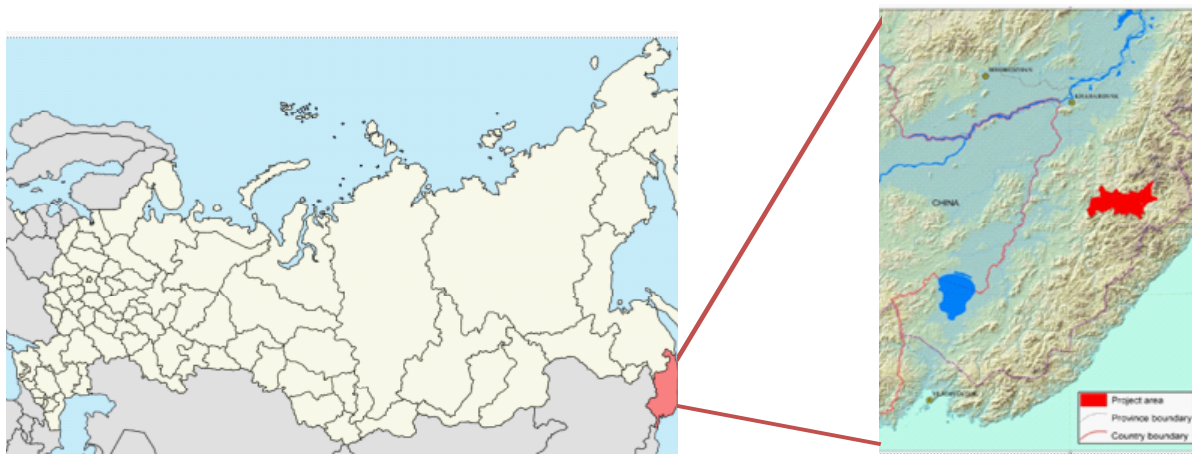


Figure 1. Location of Primorsky Region in Russia

Source: Bikin Tiger Carbon Project: JI Project Design Document

environmental NGOs, since JI Track 2 supposes international scrutiny by the JISC and therefore, at least theoretically, ensures more stringent assessment of the environmental integrity of a project.

Methodology

Instead of developing its own accounting framework, which could of course delay the project development process, the Bikin Tiger project adapts an existing methodology⁵ developed under the Verified Carbon Standard (VCS).⁶ VCS is a third-party standard which is widely used in the voluntary carbon markets. This methodology applies to tropical forests, while the climate of the project area is classified as “forest monsoon influenced humid continental climate”. This discrepancy is addressed by choosing the default values applicable to temperate forests or calculating actual carbon stock values. The project also employs the tool for testing significance of GHG emission reductions due to A/R CDM project activities. The additionality of the project is proven using the tool for the demonstration and assessment of additionality in A/R CDM project activities.

First, three alternative credible baseline scenarios were identified:

1. Measures to avoid any type of logging are undertaken without being implemented under JI;
2. Concessions are granted for intermediate and sanitary logging; and
3. Concessions are given for intermediate logging, sanitary logging and selective commercial logging.

Based on the investment analysis, the third scenario is considered to be the most plausible and is therefore used to calculate the baseline for the project.

A common practice analysis concluded that the large-scale concession lease for the forest protection as envisaged under the project is not common practice. Moreover, considering that the only expected revenues of the project are carbon revenues, the project’s financial feasibility depends on the implementation of a JI project and the value of the carbon credits. Therefore, the project can be considered additional. Calculation of net anthropogenic removal of GHG emissions by sinks takes into account the emissions from decreases in carbon stocks due to logging operations, project emissions (including illegal logging and natural disturbances) and leakage. The project is expected to result in 560 kt CO₂-eq. removals from 3 June 2009 (the date of the concession start) until 31 December 2012 (JI crediting period).

Carbon crediting

The JI project is expected to generate RMUs throughout the project’s crediting period (i.e. until the end of 2012). As Russia has not committed to the second period of the Kyoto protocol (yet), despite a strong lobby from the industry and NGOs, issuance of carbon credits under JI after 2012 is unlikely.

Therefore, the project is currently undergoing the certification under VCS and CCB (Climate, Community and Biodiversity partnership⁷) standards in order to issue voluntary credits post-2012 in case JI does not continue in Russia after this year. RMUs issued before the end of 2012 are contracted by a buyer, and received funds should cover operating costs of the project, as well as concession payments until 2020.

The possibility of recurring to the voluntary market becomes even more attractive given that the prices

⁴ For more details about JI in Russia please refer to the Climate Brief No. 8 of CDC Climat Research (October 2011): <http://www.cdcclimat.com/Climate-Brief-no8-Joint.html?lang=en>

⁵ VM0011 Methodology for Calculating GHG Benefits from Preventing Planned Degradation

⁶ For a list of all the validated methodologies that may be used to develop projects under the VCS:

<http://v-c-s.org/methodologies/find>

⁷ <http://www.climate-standards.org/>

on the voluntary market seem to be more resilient in the time of crisis than JI/CDM credit prices. Indeed, in 2011 the annual average primary and secondary CER price declined by 8% to US\$10.9/tCO₂-eq. and 20% to US\$12.9/tCO₂-eq. respectively compared to 2010, while the price of voluntary offsets increased by 8% to US\$6.5/tCO₂-eq. (World Bank, 2012). Besides, voluntary credit buyers are usually ready to pay higher prices for offsets with multiple social and environmental benefits.

Lessons learnt from this project

Being the first IFM project developed under the JI framework, the Bikin Tiger project is an example of an innovative approach that combines GHG emission reduction, biodiversity preservation and protection of indigenous communities. The project provides several key lessons:

- Untouched forests around the world got a new financial instrument which may motivate officials at different levels to preserve unique forest landscapes and to use climate finance for conservation activities.
- It is possible to implement IFM projects under the JI framework. In the absence of forest management methodologies in the CDM, the JI project may employ the VCS methodology, as well as the tool for the demonstration and assessment of additionality in A/R CDM projects.
- Public upfront financing was essential for the

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 Interview with Dr. Alexey Kokorin (WWF Russia), June 2012

project launching, without affecting the project's additionality. Side benefits of the forestry project, such as protection of indigenous communities and biodiversity conservation, increase its attractiveness for investors, public and credit buyers. In the case of the Bikin Tiger project, carbon revenues are expected to be sufficient to cover the operating costs of a forestry project.

- In order to mitigate risks associated with market uncertainty, the project may apply for different certifications such as JI, VCS and CCB.
- The main barriers to the project implementation are administrative, as forestry projects require close cooperation with local authorities. Inability to sell RMUs on the EU ETS market is also a barrier.

Microscale CDM Programme of Activities in Nigeria: Improved Cooking Stoves

Introduction

The improved cooking stoves distribution project in Nigeria was developed within the scope of the CDM Gold Standard¹ and was officially registered with the CDM Executive Board in February of this year as a small-scale Programme of Activities (SSC-PoA).² The duration of the project is expected to be 28 years including the distribution and the monitoring procedures. The project activities involve distribution of efficient fuel wood stoves (so-called SAVE80 type) throughout the whole country.

The project is developed on a voluntary basis. The parties involved are the German NGOs Atmosfair gGmbH and Lernen-Helfen-Leben e.V. (LHL) in co-operation with the Nigerian Developmental Association for Renewable Energies (DARE). Atmosfair is the project's managing entity and is also responsible for the legal aspects of the project. This means that they are involved in attracting potential suppliers and

distributors, ordering and shipping of the stoves, and developing the numbering system for the devices (each stove is provided with a unique serial number in order to prevent it from double counting within a scope of another CDM project). DARE is the distributor of the stoves with their task being training the workers, assembling and numbering of the devices, promotion, sales, customer support, as well as the collection, processing and storage of data necessary for project monitoring. LHL plays a facilitating role between the other two organisations and provides support in managing the project.

Project benefits

There is no legal obligation for switching to more efficient cooking stoves in Nigerian households, and neither do financial incentives exist to do so. Although other types of fuels for cooking stoves were introduced, the population preferences are still with

¹ <http://www.cdmgoldstandard.org/>

² <http://cdm.unfccc.int/Projects/DB/RWTUV1245685309.5/view>

traditional cooking on wood. Consequently, due to the high fuel wood consumption in Nigeria, the forest areas turned into a desert, especially in the northern part of the country. Therefore, the aim of this project is to popularize improved cooking stoves, which are designed to use up to 80% less wood than the regular Nigerian cooking devices. The broad introduction of the modern cooking stoves is meant to help reduce deforestation, air pollution and fuel costs per household.

It is expected that the annual average emission reductions will amount to 8,912 t CO₂ during a 10-year crediting period. The number of cook stoves to be distributed under the project is limited by the maximum of 180 GWh annual energy saving set for small-scale activities under CDM programmes of activities.³ According to the press release by the CDM Executive Board of 20 February of this year: "This programme, the fifth PoA to be registered in Africa, aims to disseminate 100,000 cook stoves in Nigeria within the next five years."⁴

Project organisation

The project's marketing strategy consists of the cooking demonstrations, during which the lower fuel wood consumption is stressed. The local religious communities and other networks are also involved in the distribution of the devices. The stoves become the property of the user after the purchase, with the receipt being a token that users agree to the rules of the project:

- All CERs resulting from the use of the stove become the property of the managing entity;
- Users have to fully cooperate with the monitoring activities (user interviews and device test); and
- Previously used device has to be fueled by wood/charcoal.

Since the devices are quite expensive, other payment arrangements can be agreed upon (e.g. payment in installments). The collection of payment can be facilitated by local religious groups or trade unions and other associations.

The efficiency of the improved cooking stoves has to be at least 20% and is officially established by a certified party. In the scope of the project only one type of technology can be used. One possible example is a "SAVE80" portable stove, which is a stainless steel device designed by a German company. This company is also responsible for the production of the parts. The ovens as a whole are assembled by local Nigerian employees, which provides the country with additional job opportunities and sources of income.

This type of stoves has got thermal efficiency of 52% and thermal power of 1.5 kW. The device needs 250 g of wood to boil 6 litres of water, which is 80% less than a traditional fireplace. The stove produces no smoke and a limited amount of ash. The SAVE80 comes with special pots, pans and a "Wonderbox" (a heat-retaining device which shortens the cooking process with the use of stove up to the boiling point).

Stakeholder consultation

The discussion of the project with the stakeholders took place during a conference on 30 September 2010. Among the invited parties were fuel wood traders, women groups, religious groups, government representatives, environmental and development organisations, journalists, academics, representatives of business and financial sectors, and potential distributors of the stoves. The project was positively received by the stakeholders. As a result of the meeting, the following points were stressed:

- Communication and co-operation with the government agencies, as well as religious groups and other associations must be improved, also with respect to the role of women,
- Training programmes for the users and assemblers of the improved cooking stoves must be provided (also women as assembling personnel should be taken into account),
- More initiatives to lower the price of the device should be taken, since even though quite low, the price was still perceived by the stakeholders as too high.

Monitoring of results

Data necessary for the monitoring of the project is stored electronically. Monitoring is based on the sales records for the number of devices distributed and on sample surveys including the annual report about the technical state of the stoves and their efficiency. The sample is obtained through a multistage sampling procedure.



The heat retaining box (left) and the SAVE80 improved cook stove. Source: <http://cdm.unfccc.int/Projects/DB/RWTUV1245685309.5/view>

³ Threshold for small-scale activities under CDM Programmes of Activities, see: <http://cdm.unfccc.int/methodologies/DB/6U8JY09XTLVZ8LJ7GUBSZP145BIDG2>.

⁴ http://cdm.unfccc.int/CDMNews/issues/issues/I_PZ1HGCJIER5XBJY8E1DE3BF6HNWNXT/viewnews-item.html

APRAISE - Assess Policy Interactions through Enhanced System Understanding

As explained in an earlier issue of JIQ, the FP7 project APRAISE (Assessment of Policy Impacts on Sustainability in Europe) aims to assist European policymakers in achieving environmental objectives under different circumstances by designing effective, efficient and efficacious policy mixes, which are socially acceptable and secure the competitiveness of Europe's economy.¹



APRAISE considers interlinkages of policies when they form a policy mix. An analysis of an individual policy might for instance show that the environmental policy is not desirable because of high economic costs. However, in combination with other policies, the environmental target could be achieved at lower economic costs and with higher social acceptance. On the other hand, policies may, when considered in combination with other policies, turn out to be counterproductive to other goals of society.

Definition of Efficacy, Effectiveness and Efficiency

In the APRAISE project, policies and policy mixes are assessed in terms of their efficacy, effectiveness and efficiency. Efficacy refers to a (theoretical) potential effect of policy instruments, assuming a specific context and based on common understanding of how instruments function. Contrary to the theoretically assumed effect of a policy instrument or mix of policy instruments, effectiveness refers to the actually observed outcome of a policy instrument or mix. With this distinction, APRAISE will be able to analyse how and why the effect of an actual policy (mix) deviates from the potential effect. This will increase policy makers' insights into whether and to what extent they would have to reduce their expectations of policy (mix) effects.

APRAISE aims at explaining the deviation between potential and actual policy effects by analysing the 'system' (e.g. market) within which policy instruments are implemented. Such a system analysis helps to understand how the eventual effect of policy instruments is influenced by policy interactions, inefficiencies in a system's value chain, insufficient supporting services and distortions in the system's enabling environment (e.g. insufficient capabilities, competence). With these explanations the common understanding of a policy's efficacy within different contexts can be improved.

In addition to the efficacy and effectiveness of policy instruments, APRAISE will also assess the efficiency of policy instruments by establishing a relation between the effect of a policy (mix) and the resources needed for policy (mix) implementation. The project currently considers three main approaches for assessing efficiency:

1. assuming efficiency, according to economic theory, as the situation where an effect has been achieved with lowest cost possible or where no larger effect could have been achieved given the costs;
2. ranking policy instruments according to benefit-to-cost ratios, which is, strictly, not an efficiency indicator according to economic theory (see definition under 1), but which nevertheless gives insight into how policy instrument effects relate to the resources spent; and
3. determining a ratio between effectiveness and efficacy, whereby a ratio of less than 1 implies that actually achieved effects are below (theoretical) potential effects, which could be an indicator of inefficiency in the policy making process (e.g. insufficient enabling environment, insufficient supporting services and blockages in the value chain addressed by the policy instruments analysed).

APRAISE will analyse the three efficiency approaches to see how informative these will be to policy makers.

Methodology for assessing policy interactions

As explained above, the efficacy, effectiveness and efficiency of policies do not only depend on the type of policy instruments chosen (market-based instruments, subsidy scheme, awareness campaigns, environment standards, etc.), but also on how and under what circumstances they are implemented. This would form the basis for, among others, understanding interaction of policy instruments. For assessing policy interactions, APRAISE has formulated four key assumptions as a starting point:

¹ See JIQ, October 2011, http://jiqweb.org/images/stories/mifiles/jiq_issues/2011oct.pdf; For further information about the APRAISE project, please visit: <http://apraise.org>

1. Policies originate from policy objectives and targets;
2. Policies are implemented through policy instruments;
3. Policy instruments interact through stakeholder behaviour; and
4. For an understanding of how this policy interaction takes place we need to understand the systems within which stakeholders operate.

As these assumptions both reflect a top-down (working from a policy objectives/targets) and bottom-up direction (understanding stakeholder system to understand policy interactions), the challenge is to formulate a methodology that can cover both directions in light of the project's resources.

The approach which the APRAISE team has been working on contains four main stages or working modules:

1. Description of a system for policy instruments and their interaction;
2. Analysis of policy interactions within the system identified based on policy efficacy information and using policy evaluation techniques;
3. Analysis of actually achieved policy effects within the systems identified, including consultation of system stakeholders; and
4. Evaluation of findings based on criteria for effectiveness, efficacy and efficiency.

The description of a system for policy instruments and their interaction starts with a survey of relevant EU policy areas (Energy & Climate, Water, Waste, Air and Bio-diversity) and corresponding policy instruments (e.g. feed in tariffs, Natura 2000, bird migration regulations). For these policy areas relevant stakeholder groups/areas can be identified and it can

then be analysed which of the policy instruments are likely to interact through these stakeholders. This results in a so-called policy interaction heat map (see Figure 1 for an example).

Based on the policy interaction heat map, a further detailed description of the systems within which the stakeholders operate will be provided by describing the general conditions under which addressees and stakeholders of identified policy instruments operate (economic, institutional, environmental, social and other factors forming the system contexts).

For the latter description, a 'market mapping' technique can be used, which describes the actors in a system (e.g. producers, consumers, retailers, product designers, feedstock providers, etc., in a value chain) and how they interact, the general services that support these actors in their operations (e.g. finance, technical support, legal advice, etc.) and the enabling environment for the system (e.g. context description, existing policies, cultural aspects, lobbying practice, government structures, enforcement regimes, operation of governments, etc.).

Market mapping enables an understanding of how stakeholders operate in their system and why and how a change in the policy environment would affect the behaviour of the stakeholders (see Figure 2). This would help assess policy interaction as the map describes which policy instruments are relevant for a stakeholder and *whether* the behaviour of the stakeholder and other stakeholders could change because of policy interactions.

In order to understand *how* the policy instruments might interact through the stakeholders within the identified system, APRAISE will analyse the potential

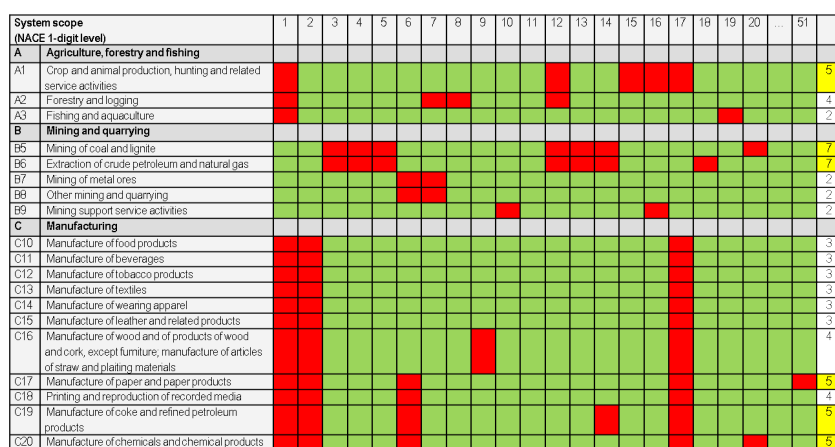


Figure 1. Heat map example
Stakeholder categories (vertical axis) and policy instruments (horizontal axis) as presented at APRAISE workshop in Groningen (red cells mean that within, e.g., Forestry and logging (A2) policy instruments 1, 7, 8, and 12 are likely to interact through the stakeholders within this area).

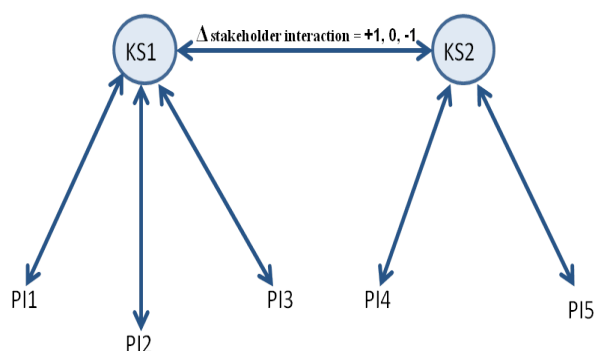


Figure 2. Illustration of possible policy instrument interaction. This diagram shows how the changed behaviour of stakeholder due to policy interaction leads to a change in behaviour of the other stakeholder, and the other way round. As a result, the incentive created by, e.g., PI5 has an impact on the behaviour of stakeholder 1 through the behaviour of stakeholder 2. Therefore, an indirect policy interaction could be seen between, e.g., PI 5 and PI 2.

impacts of identified policy instruments: what incentives they create and how strong these are (based on knowledge of policy instruments' efficacy), how these incentives interact with stakeholders' individual incentives, how a changing behaviour of one group of stakeholders affects the behaviour of other stakeholder groups, and what this says about policy instrument interactions.

The insights thus gained are subsequently compared to observed effectiveness of the (mix) of policy instruments in a number of case study situations across the range of policy areas mentioned above, as well through stakeholder consultation.

Finally, based on the above project findings, the consortium will draw conclusions on the potential effects of policy instruments, their efficiency within different contexts and how policy interactions affects these potential effects. These insights will improve the common understanding of the working and effects of policy instruments, either individually applied and in policy mixes, which will improve the common understanding of policy instruments' efficacy (see Figure 3).

This method was discussed within the APRAISE team and with the project's Scientific Advisory Board at a workshop held in Groningen, the Netherlands, on 2-3 July of this year. Based on these discussions and consultations, the methodology will be finalised in a detailed step-wise approach. This approach will subsequently be applied by the consortium for a range of case studies for policy interactions across eight EU Member States. In a future JIQ issue, the case study results will be presented.

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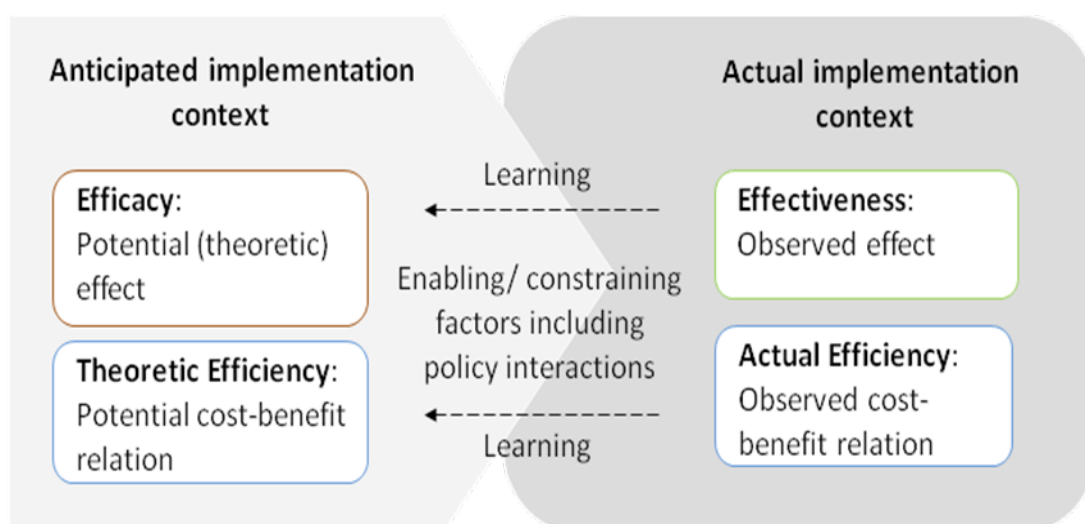


Figure 3. Interaction between observed effectiveness and potential effects of policies and/or policy mixes (efficacy)

This diagram shows the interaction between efficacy, effectiveness and efficiency in APRAISE. For example, efficacy information contributes to the consortium's judgment of policy instruments' incentive structures within the systems identified and overall finding on policy instruments' actually observed effectiveness can be fed into common understanding of efficacy.

A Level Playing Field on the European Market for Biogas & Bio-methane

Introduction

Together with the Carl von Ossietzky University of Oldenburg and the Jacobs University of Bremen, Joint Implementation Network (JIN) have recently started a research project to find out whether and to what extent there is a level playing field for biogas / bio-methane in the combined markets of the Netherlands and Germany. The project is one out of eighteen cross-border initiatives clustered under the theme 'major project biogas / green gas' of the INTERREG IVa program. This project focusses on a number of issues related to cross-border trade in bio-based gases, competitiveness and level playing field issues that may arise from institutional differences partly reflected by policy differences and differences in sustainability certification.

Context

International trade in biomass and bio-based energy is likely to grow as a result of regional economic developments driven by a range environmental and sustainability development policies (e.g. EU Renewable Energy). Internationally, trade in solid and liquid biomass dominates, while gaseous bio-energies such as biogas and bio-methane are mainly traded in regional/local markets. This is largely because (bio)gas storage, transmission and distribution are relatively capital intensive, when compared to solid and liquid bio-energies. Although physical international or intra-EU trade in bio-based gases may, for that reason, remain relatively small in absolute terms, administrative trade in renewable energy titles (such as guarantees of origins, bio-tickets, renewable energy certificates, etc.) could become an important vehicle for the biogas / bio-methane market to expand its geographical scope.

Research focus

In light of the above, the project will address strategic questions related to the expected impact of cross-border trade, the desirable level and degree of institutional harmonization, competitiveness issues and observed and optimal market behavior (e.g. investments and cross-border and cross-sectoral trade flows). Within the scope of the project, it will be identified, described and assessed how level playing field conditions could be affected by:

1. Possible national differences in policies and

measures with relevance to biogas pathways, such as policies in the field of land-use, agriculture, renewable energy and energy grids, and

2. Differences related to several dominant forms of biogas pathway certification (guarantee of origin and sustainability certification).

The project explores the possible impacts of such policies, measures and sustainability requirements for the two case-study countries (the Netherlands and Germany) by focussing on biogas pathways or business lifecycles (i.e. from biomass resources to biogas end-use applications). Such a life cycle approach enables a detailed assessment of the extent to which policies and measures targeting different stages in the biogas pathways or life cycle are sufficiently aligned to allow for an efficient system.

Policies and measures that are 'misaligned' throughout the pathway can cause suboptimal behavior and investment activities. Such misalignments can occur at the national level, but can also have serious competitiveness impacts when cross-border (physical and/or administrative) trade increases. An advantage of the pathway/life cycle approach is that it helps to structure policy and sustainability assessments based on market and business logic instead of following conventional policy-making practices that tend to have a more sectoral focus.

Initial steps in the research process

The research project had its official internal kick-off meeting in June of this year and will run for 30 months. The first activities have already started by exploring various biogas pathways and their associated policy environments (in the Netherlands and Germany). This is done in close contact with a core group of Dutch and German public and private market actors and key stakeholder groups that have expressed their support to this research initiative.

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¹ <http://www.deutschland-nederland.eu/en/home/>

Carbon Credit Capital, 2012. In Focus: Australian Carbon Market: the Carbon Price Mechanism <www.carboncreditcapital.com>

In November 2011, the Australian government passed the Clean Energy Future Package. Through this package, the government has begun to establish a carbon trading market: the carbon price mechanism, to take effect in July of this year. This paper describes the structure of the carbon market, including the primary, secondary and derivatives market, as well as the regulatory bodies. It is explained how the Carbon Price Mechanism is scheduled to transition to an ETS and how international carbon credits (such as credits generated through CERs and ERUs) would then be allowed to be traded on the ETS. The paper explains the political and design uncertainties, especially the lack of a plan for international credits. The paper also explains how the Carbon Price Mechanism has considered lessons learned from the EU ETS and how the mechanism works towards establishing a carbon market that extends globally through a network of links with other regional carbon trading markets.

Lütken, S.E., 2012. Penny Wise, Pound Foolish? Is the original intention of cost efficient emissions reduction through the CDM being fulfilled?, Low Carbon Development Programme UNEP Risoe Centre, UNEP Risoe Climate Working Paper Series, No. 1, June 2012.

This paper argues that the CDM does not reduce the global costs of GHG emission reductions, but only shifts the burden of investment. It therefore concludes that it is time to rethink the approach of the CDM to promoting emission reductions in developing countries with a view to bringing them in better alignment with reductions undertaken in developed countries. The paper comes to this conclusion based on an analysis of CDM pipeline data which shows that CDM emission reduction options exploited are not always cost efficient: i.e. CDM projects focussing on reductions of emissions of industrial gases are among the most cost-effective ones, but CDM investments in wind and hydro power projects lead to cost-ineffective emission reductions. The paper concludes that the marginal costs of abatement is not an investment driver for the CDM.

Macey, A., 2012. The Road to Durban and Beyond The Progress of International Climate Change Negotiations, Policy Quarterly – Volume 8, Issue 2 – May 2012.

This article explains how the initial challenge for the negotiations is logistic more than political, as many negotiation body discussions have to be fitted into the tight schedule. Already most negotiating meetings have been limited to 90 minutes, which means not much more than an hour of actual negotiating time. The paper explains how the high number of meetings with many overlaps makes huge demands on small delegations and on the secretariat which must service them. There is also more work required in capitals to prepare the submissions invited on nearly 40 separate subjects for 2012. This could all spell a procedural quagmire.

Nonetheless, the paper emphasises the political gains made at Durban. It explains that the core mitigation component of the future regime will logically be a merging of Kyoto and the convention, with commonality of treatment among major emitters, whether developed or developing. According to the paper, the distinction between major emitters and groups such as the small island states and least-developed countries may replace the Annex I/non-Annex I dichotomy.

The paper also explains the many uncertainties that surround the climate policy making processes, such as carbon price developments, whether major economies continue to direct their own countries down the path of low emissions growth, whether the USA deliver on its 2020 mitigation pledge, whether the international community will come up with a way of dealing with air and maritime emissions, etc.

Morris, D., 2012. Losing the lead - Europe's flagging carbon market, The 2012 Environmental Outlook for the EU ETS, e-mail: info@sandbag.org.uk. <http://www.sandbag.org.uk/site_media/pdfs/reports/losing_the_lead.pdf>

This report explains that there remains a serious disconnection between the crisis facing the ETS and the solutions tabled to rescue it. It argues that the debate has focussed on the surplus allowances sitting above the revised emissions projections rather than restoring the levels of scarcity originally envisaged.

It is explained how the revision of Europe's GDP growth out to 2020, due to the financial crisis, has left the ETS

caps with 2.2 billion tonnes less demand than was anticipated. The paper recommends amount of EU ETS allowances be removed to restore the original scarcity envisaged for the ETS cap. This will also help restore domestic effort proportional with the level of expected offshore abatement in the offsetting provisions.

The paper identifies a further 900 million excess allowances in the scheme against the original GHG emission forecasts, resulting from industrial overallocation. A full correction to the cap would require withdrawing 3.1Gt of allowances from the scheme. According to the paper, 78% of the surplus EUAs in the ETS to date can be attributed to just ten steel and cement companies, who have confirmed revenues of at least €1.8 billion from the sale of allowances.

Finally, it is noted that emission trading schemes carry a structural risk of cancelling out emission reductions caused by other policies and events, and it is necessary to install ongoing provisions to account for these to prevent emission trading schemes from becoming an environmental hindrance.

Oikonomou, V., A. Flamos, E. Spijker, N.-A. Spyridaki, and W. van der Gaast, 2012. Domestic offset projects in the built environment, Energy Efficiency, ISSN 1570-646X, Volume 5, Number 3, 5:335-350

Emission reduction activities in the EU in- and outside the European Trading System (ETS) thus far have largely taken place separately. One possibility to combine the two is through linking Non-ETS offset project-based crediting schemes in the form of JI or domestic offset (DO) projects with the EU ETS. Linking would allow non-ETS offset project-based CO₂ credits to be traded within the ETS market. This paper discusses the merits and drawbacks of the implementation of a DO scheme in the built environment in the Netherlands.

The built environment can be characterised as a sector with a great diversity and significant energy savings potential. Emphasis is paid on the modalities for estimating energy savings under DO projects. The authors discuss if next to existing EU, national or regional policies in the Netherlands, DO could spur initiatives in sub-sectors or market areas that are difficult to reach with conventional policy instruments. Thus, despite the existing policy framework in this sector, there could still be space for DO to reach the untapped energy savings potential. DO can support activities and technologies that are not covered by other policy instruments, either because they are not part of the instrument focus or are above the minimum requirements of the incumbent policy targets.

It is expected that some lessons from this study in the Netherlands can be taken into account also by other countries facing similar market circumstances, which have implemented several policy instruments and are considering DO schemes as an alternative for capturing part of the untapped energy saving potential in their end use sectors. Another possible advantage of DO is that it has the potential to reduce public spending on existing policy goals, when it is considered in conjunction with existing public financing instruments. In order to tap into this potential, there are a series of hurdles in place, like additionality and the current CO₂ price levels, while transaction and administration costs must be kept low.

Sépibus, J. de, W. Sterk and A. Tuerk, 2012. Top-down, Bottom-up or In-between: How Can a UNFCCC Framework for Market-Based Approaches Ensure Environmental Integrity and Market Coherence? NCCR Trade Regulation Working Paper No. 2012/31

The Durban Climate Conference agreed on the creation of a new market-based mechanism under the United Nations Framework Convention on Climate Change (UNFCCC) and to consider the establishment of an overall framework for various mitigation approaches, including opportunities for using markets ("Framework"). This development is taking place against the background of increasing numbers of parties developing market mechanisms outside the UNFCCC.

The creation of such a Framework is therefore of high political significance, as it should ensure on the one hand that new market-based mechanisms contribute to global climate change mitigation and to achievement of targets and on the other hand that different market-based approaches can be integrated in a global carbon market. There is yet little clarity as to the roles and design of such a framework.

This paper contributes to the debate by focussing on discussion and evaluation of inter alia several design options, ranging from decentralised to centralised. The paper concludes that a strong central oversight at the level of the UNFCCC is probably the only option that could comfortably assure the vast majority of UNFCCC Parties that the environmental integrity of new market-based mechanisms is in fact ensured.

The **Joint Implementation Quarterly** is an independent magazine with background information about the Kyoto mechanisms, emissions trading, and other climate policy issues. *JIQ* is of special interest to policy makers, representatives from business, science and NGOs, and staff of international organisations involved in climate policy negotiations and operationalisation of climate policy instruments.

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Abbreviations

AAU	Assigned Amount Unit
ADP	Ad Hoc Working Group on the Durban Platform for Enhanced Action
Annex A	Kyoto Protocol Annex with GHGs and sector/source categories
Annex B	Annex to the Kyoto Protocol listing the quantified emission limitation or reduction commitment per Party
Annex I Parties	Industrialised countries listed in Annex I to the UNFCCC; countries not included in Annex I are called Non-Annex I Parties
Annex II Parties	OECD countries (listed in Annex II to the UNFCCC)
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction (Article 12 Kyoto Protocol)
COP	Conference of the Parties to the UNFCCC
COP-MOP	COP serving as Meeting of the Kyoto Protocol Parties
DOE	Designated Operational Entity
DNA	Designated National Authority
ERU	Emission Reduction Unit (Article 6 Kyoto Protocol)
EU ETS	European Union Emissions Trading Scheme
EUA	European Union Allowance (under the EU ETS)
GHG	Greenhouse Gas
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
LCDS / LEDS	Low carbon (or emission) development strategy
LULUCF	Land Use, Land-Use Change and Forestry
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Programmes
PDD	Project Design Document
REDD	Reducing emissions from deforestation and forest degradation in developing countries, including conservation, sustainable management of forests and enhancement of forest carbon sinks
SBSTA	Subsidiary Body for Scientific and Technological Advice
SBI	Subsidiary Body for Implementation
TNA	Technology Needs Assessment
UNFCCC	UN Framework Convention on Climate Change

JIQ Meeting Planner

18-20 July 2012 , ADB Headquarters, Manila, Philippines

Third Workshop on Enhancing the Regional Distribution of CDM Projects in Asia and the Pacific, organised by the Asian Development Bank (ADB), the Institute for Global Environmental Strategies (IGES) and the UNFCCC secretariat, in collaboration with the United Nations Environment Programme (UNEP) Risoe Centre.
Contact: Ms. Alma Cañarejo <acanarejo@cmp-adb.org>

30 August - 5 September 2012, Bangkok, Thailand

Bangkok Climate Change Conference - August 2012: informal additional sessions of the AWG-LCA, AWG-KP and ADP
Contact: http://unfccc.int/meetings/bangkok_aug_2012/meeting/6812.php

26 November - 7 December 2012, Doha, Qatar

Doha Climate Change Conference - 18th Session of the UNFCCC Conference of the Parties
Contact: http://unfccc.int/meetings/doha_nov_2012/meeting/6815.php