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Editor's Note

When can we be satisfied about negotiation outcomes?

Despite the disappointment that annual negotiations on a post-2012 regime have not resulted in an overall global climate agreement with quantified objectives for, at least, major GHG emitters, there have been several positive developments. For instance, there are agreements on adaptation, the Green Climate Fund and the Technology Mechanism. With the Durban Platform, the division between developed and developing countries in terms of differentiated responsibilities has become less strict. Moreover, the focus seems to have shifted from quantified commitments (*what*) towards *how* to realise pathways for low emission development.

As Rafael Leal-Arcas explained in his "Kyoto and the COPs", negotiating a climate policy package with quantified targets for countries (such as tried in Kyoto) is very complex. Countries negotiate within an intergovernmental setting without an overarching authority, so that no country can be committed to sign a deal that it doesn't want. Consequently, negotiations become a game to form a coalition, the size of which is determined by the countries for which the benefits of joining the coalition are higher than the costs. As climate change is a global issue, the coalition needs to be global, so that for all countries the benefits need to be higher than the costs.

Here we can easily understand why negotiations have become so complex. An ambitious package with strict emission reduction commitments is likely to drive up costs. This is especially the case with many low emission technologies still being early on their learning curves with much R&D to be done, followed by deployment in the market and diffusion to commercial

applicaton. In this respect, the current financial market turbulence, with reduced availability of private and public financing, does not work in favour of new efficient technologies.

Moreover, as the Kyoto Protocol has shown, costs of quantified national commitments are difficult to predict and become an endogenous economic parameter. Practice has shown that once a country realises that it cannot comply with the target, it can withdraw from the agreement. This is especially the case if other countries are in a similar position and willing join the move.

On the benefit side, there is a challenge to make countries aware that ambitious climate actions could also support sustainable development objectives. Without that, there is always a risk that climate policy making resembles the prisoners' dilemma: if a country does not undertake actions but the others do, then it benefits from the others; if the country fears that it is the only one taking strong actions, then it will be reluctant to do so. In both cases, an individual country, in an uncoordinated setting, has an incentive not to act. The challenge therefore is to find ways to support countries in maximising climate and development benefits against given resources, irrespective of what other countries do.

How have the recent climate negotiations managed to address this challenge? After 'Durban', newspaper headlines were not spectacular. There was a general feeling that there had been an agreement not to agree now. 'Durban' did not provide hard figures. Canada's avoided penalty by stepping out of the Kyoto Protocol, the week after 'Durban' was, instead, printed in bold.

However, 'Copenhagen', 'Cancun' and 'Durban' have delivered important results with the establishment of a framework for adaptation, Green Climate Fund and Technology Mechanism, as well as provisions such as low carbon development strategies (LCDS) and the Technology Needs Assessments (TNA). Although not enough yet for the 'Green Industrial Revolution' that UNFCCC Executive Secretary Figueres desires, these mechanisms and provisions could considerably contribute to required system changes in countries for climate and development, backed by international capacity support, with financial, technology and knowledge transfer.

All these steps are still modest and may not quite be headline material, but they do reflect progress.

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The Durban Agreement: A Deal to Negotiate a Deal

By Job Taminiau*

“We have made history,” said UN climate negotiation chair Maite Nkoana-Mashabane when gaveling the longest negotiation session in the history of the two decades of climate negotiations to a close. However, considerable uncertainty remains as to the effectiveness of the Durban Agreement to realize sufficient climate change mitigation. This article investigates the main elements of the Durban Agreement (these are briefly summarised in Box 1) and the perspectives of several negotiating Parties, analyses the Durban outcome, and looks forward to Qatar (COP 18).

Introduction

After the failure of ‘Copenhagen’ (2009) and the modest success in Cancun (2010)¹, expectations for ‘Durban’ to realize a comprehensive, legally binding agreement were not high. As such, the negotiations were essentially preoccupied with two main objectives:

- a) to maintain momentum in the process to realize an agreement that incorporates all main emitting Parties (especially the United States and the BASIC countries Brazil, South Africa, India and China); and
- b) to revitalise the Kyoto Protocol through the establishment of a second commitment period and, as such, prevent the creation of a commitment gap.

The climate conference outcome – the Durban Agreement

The outcome of the Durban negotiation round which ran from 28 November until 11 December (two days longer than scheduled) is the Durban Agreement. One of the main components of the Durban Agreement is the establishment of a second commitment period of the Kyoto Protocol (UNFCCC 2011a). Within this second commitment period – which is scheduled to start in 2013 and end in either 2017 or 2020 (to be decided upon at COP 18) – the aim is to ensure aggregated emissions by Parties included in Annex I are reduced by at least 25-40 % below 1990 levels by 2020 (ENB 2011). To realize this aim, it is the intention to convert the Cancun Agreement pledges for emission reductions into quantified emission limitation or reduction objectives (QELROs), information on which is to be submitted by the Parties to the AWG-KP by 1 May of this year. An important unresolved issue in this regard is the implication of carry-over of AAUs from the first to the second commitment period on the scale of emission reductions to be achieved (ENB

Box 1. Summary of the elements of the Durban Agreement

- Establishment of the Durban Platform for Enhanced Action which mandates negotiations to 2015 to realize a “protocol, legal instrument, or an agreed outcome with legal force” applicable to all Parties and to be implemented by 2020.
- Establishment of the second commitment period of the Kyoto Protocol. The period will be initiated in 2013 and end in either 2017 or 2020.
- The operationalisation of the Green Climate Fund which is to realize financial flows of US\$100 billion per year by 2020.
- Operationalisation of the Adaptation Committee and formulation of the information that needs to be incorporated in National Adaptation Plans.
- Agreement on the modalities and procedures of the Technology Executive Committee (TEC) to assist technology development and transfer.
- Decision on the procedures for the measuring, reporting, and verification (MRV) of emissions in both developing and developed countries.
- Inclusion of carbon capture and storage in the Clean Development Mechanism (CDM) through agreement on its modalities and procedures.
- Decisions on CDM aimed at increasing its scale and improving its robustness.

2011). Additionally, in order to eliminate the ‘ambition gap’ between the pledged reductions and the above emission reductions goals, the AWG-KP decision emphasizes the relevance of the 2013 -2015 Review of pledges.

Further, the Durban Agreement outlines a negotiation process which is to result in a “protocol, or legal instrument, or agreed outcome with legal force” which covers all negotiating Parties (UNFCCC 2011b) and which is to come into effect and be implemented from 2020. As such, the Ad Hoc Working Group on a Durban Platform for Enhanced Action (AWG-DP) is to complete its work no later than in 2015. An important consideration in the process will be to raise the level of ambition in terms of emission reductions. This consideration will be informed by the IPCC Fifth Assessment Report, 2013-2015 Review and the work of the subsidiary bodies.

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¹ See the October 2010 and December 2010 *JIQ* articles on the international climate change negotiations

Also, the Durban Agreement allows for the completion of the design of the Green Climate Fund and designates the World Bank as the interim trustee. With these developments, the Fund should be able to become operational in 2012 (UNFCCC 2011c). The aim of the Fund will be “to promote the paradigm shift towards low-emission and climate-resilient development pathways” by providing balanced support for developing countries between mitigation and adaptation efforts in the context of sustainable development.

With the aim of making the Technology Mechanism fully operational in 2012, the negotiations also focused on the two components of the Mechanism: the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTC&N). The Durban Agreement contains a decision on the modalities and procedures of the TEC policy-making body (UNFCCC 2011d). The TEC has had its first meeting and is underway to develop its rolling work-plan for 2012-2013 during its next meeting in February 2012. This is an important step towards the operationalisation of the Technology Mechanism with the objective of enhancing action on technology development and transfer to support action on mitigation and adaptation. Besides financial support, support for technological development is seen as a major component of an effective climate action strategy.

Perspectives and opinions

The Durban Agreement was heralded by most negotiating Parties as a positive development towards a global climate policy regime.

The established process under the AWG-DP mirrors the call for a ‘roadmap for climate action’ made by the European Union prior to Durban (EU 2011). The EU posited that, for it to be persuaded into a second commitment period of the Kyoto Protocol, a pathway to universal action was a prerequisite. It is therefore not surprising that the EU sees the Durban Agreement as a ‘historic breakthrough’ document capable of finally realizing a global and ambitious climate policy regime (EUobserver 2011).

An important development in the international negotiations was the alignment of the small island states and least developed countries with the position of the EU (EurActiv 2011a). This coalition allowed for a stronger negotiation position to confront the other Parties. Additionally, the African countries were determined to prevent the burial of the Kyoto Protocol on African soil (ENB 2011).

Since the US has consistently called for symmetry between developing countries (especially China and India) and the developed countries in terms of climate policy actions, it eventually supported the proposed

roadmap of the EU (Guardian 2011a). As such, the US is satisfied with the Durban Agreement as it ascribes to a legal document in 2020. As US climate envoy Todd Stern put it: “this had all the elements that we were looking for” (EurActiv 2011b12, DOS 2011).

With a large number of Parties backing the EU proposal, eyes turned on India and China. Early on in the negotiation process, China signalled some flexibility to participate in a climate regime with legal force (Globalpost 2011). In return of support for the roadmap process, the EU offered to commit to a second commitment period of the Kyoto Protocol. The formulation of what form of legal status the 2020 agreement would entail, without any current clarity of what the specifics of the deal are going to be, encountered fierce resistance especially by India (Guardian 2011b). As such, the realization that the BASIC countries have agreed to a commitment with legal force ‘applicable to all Parties’ is a substantial deviation from their original negotiation position and thus a major concession.

The effectiveness of Durban?

With the establishment of the AWG-DP and the agreement on a second commitment period for the Kyoto Protocol, the multilateral process seems to have been revitalised. However, several aspects of the Durban Agreement allow for critical analysis. Importantly, Canada, Russia and Japan will not participate in the second commitment period of the Kyoto Protocol (Euractiv 2011c). This signals the dwindling political importance of the Kyoto Protocol. Furthermore, the second commitment period of the Kyoto Protocol is still to be inscribed with new QELROs and new amendments and the length of commitment is still to be decided. Actual ‘commitment’ is, therefore, limited. As such, all the second commitment period appears to achieve for now is to realize continuity for climate action.

Additionally, due to persistent pressure provided by the US, India, and China, the Durban Agreement specifically incorporates the year 2020 for implementation of a new climate regime (Lynas 2011). As such, this formulation appears to exclude the option for earlier implementation even if political agreement has been achieved. Additionally, the wording of the AWG-DP aim to realize “protocol, or legal instrument, or agreed outcome with legal force” is sufficiently ambiguous to allow for multiple interpretations. In fact, when one considers the considerable negotiation effort invested in this formulation, it is not at all clear whether the different Parties have a similar understanding of what is to come into effect in 2020.

These two aspects are significant since they separate mitigation ambition and the legal nature of targets until 2020 (Lynas 2011). The voluntary Copenhagen process, dubbed pledge-and-review, will be the only

system in which all Parties participate until 2020. Critics point to the fact that the pledged emission reductions made so far are insufficient to limit temperature increase to 2°C (CAT 2011). Moreover, while the Durban Agreement notes that “the process shall raise the level of ambition” it does not provide methods to actually do so. This limits the potential of the Agreement.

The participation by all Parties in a legal climate regime signals the end of the Kyoto Protocol dichotomy of Annex I Parties and non-Annex I Parties. As such, it appears Durban will allow for the reformulation of the meaning of the Convention principle of ‘common but differentiated responsibilities’ into a spectrum of climate action in light of country-specific development context. This could turn out to be one of the main achievements of ‘Durban’ as this dichotomy was one of the principal obstacles for global agreement on climate action throughout the history of the negotiations on climate change.

Concluding remarks

The long timeline involved with the established process raises doubt as to the commitment of negotiating Parties to ambitious climate action. This doubt is further substantiated by the history and dynamics of the climate negotiations which clearly outline the trade-offs made between participation, compliance, and stringency. The negotiation process as it is currently formulated postpones multilateral action outside of the Kyoto Protocol to 2020.

In the meantime, climate action will need to be initiated unilaterally through the voluntary pledge-and-review approach, which, in its current form, offers no effective approach to climate change. This realization not only stems from the notion that current pledges and actions are insufficient to realize the emission trajectory required to limit climate change to 2°C, but also finds a basis in the notion that voluntary commitments have a historically inadequate performance record both inside and outside the climate change negotiations. Moreover, since the pledge-and-review approach does not provide incentives for ambitious action, the level of commitment is unlikely to become sufficient after Durban.

The 2013-2015 Review, the Fifth Assessment Report by the IPCC, and the work of the subsidiary bodies are to provide means to reduce this ambition gap over the next couple of years. As such, while the Durban climate talks were able to maintain momentum in the global climate effort, it remains to be seen whether the Durban Agreement will in fact be a ‘historic breakthrough’ or a deferment of ambitious climate action into the future.

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Domestic Emission Trading Systems in Non-Annex I Countries – State of Play and Future Prospects

by Wolfgang Sterk and Florian Mersmann*

Since the adoption of the Kyoto Protocol in 1997, the establishment of a harmonised international carbon market has been seen as one of the main strategies in international climate policy. So far, however, the market is far from being globally harmonised or systematically linked. Instead, a mosaic of national and sub-national markets has been under development, differing in timing, location, relationship to the Protocol and their levels of legal commitment.

Nevertheless, creating a global carbon market is a key goal of EU climate policy. As plans for the establishment of emissions trading systems (ETS) emerge in various non-Annex I countries, prospects for linking them to existing systems seem to finally get in reach. We have analysed the prospects of emission trading in non-Annex I countries in a recent paper on behalf of the German environment ministry.¹ In the following we first give a theoretical overview of what design factors need to be taken into account when establishing national emission trading systems. The following elaborates on the status of emissions trading discussion in various non-Annex I countries.

Design issues in linking domestic emission trading schemes

Links among ETS of every type of country will have to deal with seven basic issues: coverage of the scheme, definition and recognition of trading units, type and stringency of emission targets, allocation methodology, temporal flexibility, MRV, and compliance systems. The need for harmonisation varies with regard to these design elements. Some design options such as the systems' coverage may raise equity issues and stir opposition from concerned stakeholders. However, they are unlikely to adversely affect the overall effectiveness of the linked regimes. A constellation where one or more gases or categories of sources are included in one scheme but not in the other first and foremost raises questions regarding competitiveness and gaining the necessary political support for linking under these circumstances. However, competitive disadvantages and possible discrimination due to diverging treatment of sectors in two trading regimes are not caused by linking and would also occur in its absence.

Other aspects have important implications for the equity, the economic and the environmental effectiveness in a combined scheme. The definition and

recognition of trading units, the nature and the stringency of the targets, the provisions for banking and borrowing, monitoring, reporting and verification and the compliance regime fall into this category. It bears noting that all of these issues fundamentally depend upon countries' levels of ambition as regards climate protection. If environmental effectiveness is the main priority, the route leads clearly to stringent absolute targets with reliable MRV and strict penalties. Such a system will also be careful to allow only high-quality offsets to count towards compliance. By contrast, features such as relative targets, weak emission caps, price caps or safety valves and a generous recognition of offsets sacrifice environmental effectiveness for the sake of containing costs. Through linking, these cost-containment measures will also impact all other linked systems. Linking should therefore only be sought between countries which have a comparably ambitious climate policy outlook.

Linking developed and developing country schemes raises another fundamental issue: Since developing countries do not dispose of Kyoto-valid trading units, new mechanisms or policy options need to be developed if trading units from developing countries are to be used by industrialised countries.

Emerging systems in Non-Annex I countries

The following is limited to countries where a minimum of specific information on emission trading discussions was available. These are Brazil, China, India, Kazakhstan, Mexico, and South Korea. Tentative discussions are also taking place in other countries such as those that have received grants under the Partnership for Market Readiness. However, these appear to be at an even more general level than the discussions in the countries that are covered here.

Brazil has established a stock exchange for voluntary carbon units which may precede a domestic trading scheme. In addition, Rio de Janeiro, Brazil's second richest state, recently announced to launch an ETS for its largest emitters between 2013 and 2015. Rio de Janeiro is also in consultation with its neighbour states. China has made concrete steps towards the creation of regional ETS in various cities and provinces. Newer announcements even envisage the creation of a national system by 2015. However, these plans are still in early stages, and differ widely in their institutional designs. For example, whereas Guangdong is likely to put in place a trading system based on absolute emission

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¹ The paper can be downloaded at <http://www.jiko-bmu.de/1054>

caps, Tianjin and Beijing have indicated that their trading schemes might be based on energy saving credits.

India has not shown much propensity for a domestic ETS due both to political and institutional reasons. However, trading schemes for energy efficiency and renewable energy are already in place. Kazakhstan has very definite plans for an ETS, and has in fact a draft law in parliament.

Mexico has been one of the earliest proponents of a domestic ETS, but has not taken this plan much farther. Under the World Bank's Partnership for Market Readiness, Mexico has been one of the first eight countries to receive an initial grant of USD 350,000 in order to build up domestic capacities for the implementation of carbon markets. However, if Mexico's Expression of Interest for the Partnership is any indication, focus seems to have shifted from a domestic ETS to the development of credited NAMAs in energy efficiency in housing, appliances and other end uses, methane destruction or use in solid waste disposal, improved cement blended production, and urban transport. Mexico envisages that part of the financing for these NAMAs may come from crediting, but the ideas revolve around improving national regulation or establishing local projects rather than introducing a domestic ETS.

South Korea has already come very far in the design of its ETS. However, due to opposition by domestic industry, targets have been weakened and the start date pushed back. There are currently two competing bills in Parliament. In the interim, a Greenhouse Gas & Energy Target Management System is to ensure that the pledged emissions reduction of 30% below business as usual by 2020 will be met. Even though government officials coined it a precursor to the ETS to come, it is at the moment not a real trading system. Instead, the nationally-set target is broken down to company level and individual targets for the country's 470 largest emitters will be imposed. As with the planned ETS, the system covers more than 60% of the nation's emissions. If individual targets are not met, the failing company will first be issued an improvement order. If targets are overshoot for a second time, a fixed fee of 100 million won (ca. € 6,300) will have to be paid, even if the company is only marginally off-target. Means of compliance include voluntary energy-saving agreements with the Ministry of Knowledge Economy as well as Korean certified (KCERs) emissions reductions, issued by the same ministry. Issuance of KCERs and validation of agreed reductions depend on cuts in the companies' own facilities and may not be traded at this point in time. Emissions cuts bought abroad (e.g. CERs) are also specifically excluded from the scheme.

Conclusions and Outlook

The above survey has shown that the outlook differs substantially from country to country. Kazakhstan and South Korea are the most advanced, specific emission

trading bills have been put on the table in these countries. However, even here not all design elements are clear and it is uncertain when these laws might actually be passed. China's new-found commitment to the creation of a nation-wide scheme by 2015 gives reason for optimism. However, the implementation pathway is as yet unclear. The question is in particular how the very diverse design choices of the envisaged pilot schemes are to be aligned to form a convergent system on such short notice.

The trading systems that do emerge may not necessarily be based on GHG emissions. India is establishing trading systems for energy efficiency and renewable energy and some Chinese provinces are also considering efficiency-based systems. On the one hand, such systems might optimistically be seen as potential precursors to a GHG trading system that help to build capacity and gain first experiences with trading. On the other hand, institutional lock-in and path dependencies might prevent a later shift from energy consumption to GHG trading.

In addition, even where GHG emissions trading is pursued, such a system will not necessarily be compatible with the global carbon market. The environmental benefits of emissions trading and those of linking with other schemes crucially depend on the design of a trading system. This relates especially to the nature and stringency of the targets and the inclusion of cost-containment features. Through linking, such features would impact the whole combined trading scheme and thus impair rather than enhance its environmental effectiveness.

Finally, there is the sheer complexity of establishing an ETS. Even in the EU, where implementation of an ETS was fast-tracked as much as possible, the process from the publication of the Commission's Green Paper on emissions trading to the start of the system took five years.

Nevertheless, as Chinese announcements are becoming increasingly ambitious, the creation of a large-scale Chinese system by the middle of this decade is a distinct prospect. There is also clear interest in various other developing countries to explore the possibilities of introducing emissions trading systems. Taken together with the developments in Australia and California, 2015 might see a very substantial share of global emissions being covered by domestic emission trading systems.

Incidentally, 2015 has just been set to be the end date of the new negotiation process launched in Durban. The endgame of the Durban Platform might hence play out in the context of a very substantial share of global emissions being covered by domestic emission trading systems, which should constitute a rather favourable environment for agreeing to a global framework.

Domestic Offset Projects: An Economic Assessment

by Daniel Steiner and Andreas Tuerk*

What are Domestic Offset Projects?

The reduction of greenhouse gas (GHG) emissions from industrial and energy supplying sectors is ensured by the European emissions trading scheme (EU ETS) through capping of GHG emissions. For stimulating GHG mitigation measures in sectors not covered by the ETS other policy instruments are used, such as subsidies, taxes or standards. In addition to such instruments, Domestic Offset Projects (DOPs) could be considered for reducing GHG emissions in non-ETS sectors; thereby using private rather than governmental funds. Through a DOP a private sector entity (for instance, an installation with commitments under the ETS) provides financial support to a GHG abatement investment and received GHG emission reduction certificates ('credits') in return. These certificates can be used compliance with, for instance, ETS targets. The introduction of a DOP scheme is currently contemplated, discussed or tested in several European countries like Denmark, Finland and Ireland. Germany and France have already introduced the opportunity for carrying out DOPs. Recently, the Dutch Parliament has decided to examine the possibility of issuing credits to domestic GHG emission reduction products outside the ETS (see elsewhere in this issue).

Pros and Cons of Domestic Offset Projects

Beside the advantage of using private funds for stimulating GHG reductions, DOPs also has the advantage of mobilising private actors' 'search engine' capabilities to discover the most cost efficient GHG abatement potentials. Stimulating domestic GHG mitigation may also accelerate domestic 'green technology' innovation. However, there has been controversy about DOPs due to a number of short term disadvantages, particularly for governments. For instance, should the GHG emission reduction claimed under a DOP not be additional (and if this would not be detected by additionality tests), the government that hosts a DOP faces the risk that the credits transferred are not backed by additional emission reductions. Another argument against DOPs is the potential competition for cheap abatement opportunities between the government and private sector DOP developers.

The list of pros and cons could be expanded; some disadvantages could be softened or eliminated by including certain design provisions. However, what has been lacking in the discussion on DOPs so far, are comprehensive economic assessments comparing DOPs with other ways of achieving GHG abatements, whereby the focus is not only on GDP and employment impacts, but also on external effects. This article explains what such a comprehensive assessment could look like. It is based on a recently completed comprehensive study on DOPs.¹

An alternative economic assessment approach

In our study we looked at the economic implications of several alternative ways to reduce GHG emission reductions by a specific amount, reductions that could be used to assist in meeting domestic GHG targets. The approach we used varies a bit from commonly used approaches, most of which assess economic performance only by changes in gross domestic product (GDP) or employment. Although such common macroeconomic indicators can be used for analysing the performance of the economy when introducing additional policies, they do not necessarily assess a society's welfare change. In our more comprehensive approach we also include effects not necessarily displayed at markets (external effects). An example of such an external effect is improved health effects from reduced air pollution.

In the applied approach, the Hicksian welfare index² has been taken for measuring the change in welfare from macroeconomic effects induced by different policies. Basically, it represents the amount of goods available for a representative household's consumption. The applied approach therefore includes welfare change as an indicator of a society's overall well-being, both in terms of welfare impacts displayed at markets ("macroeconomic welfare") and non-market welfare impacts ("welfare from external effects").

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² Also known as "Equivalent variation"; e.g. Hicks, J.R., (1946): Value and Capital; Second edition; Oxford.

Best strategies: four cases

In an exemplary assessment, four different ways for achieving 100,000 tons CO₂ emission reductions are distinguished; in all cases a representative (ETS-regulated) company (in our example, iron and steel producing) is responsible for 80% of these CO₂ reductions and the government for the remaining 20%:

- In **case 1** all GHG reductions are achieved by purchasing carbon offset certificates from abroad (e.g., JI or CDM credits).
- In **case 2** the company still purchases carbon offset certificates from abroad, but the government raises funds by a common tax on domestic consumption and uses this to subsidize a switch from conventional cars to cars with lower-carbon and cheaper (in terms of fuel costs) natural gas engines.³ In this case, the government achieves the switch through a fairly high subsidy rate, which is assumed to be above the real additional financial need ("inefficient" subsidy scheme).
- Contrary to case 2, in **case 2+** it is assumed that the government can fulfil its GHG abatement share also with a low subsidy rate ("efficient" subsidy scheme), which is, in terms of funding size, comparable to grants provided to DOPs.
- **Case 3** analyses the DOPs option: the representative company explores low cost abatement options for switching to natural gas powered cars (similar to the examples in cases 2 and 2+). Assuming that the company's 'search engine' will result in the lowest cost option, the company's product prices will only increase marginally (for providing necessary funds for DOPs). In order to obtain government approval of accomplishing DOPs in its country, the government keeps 20% of the CO₂ emission reductions achieved for own compliance purposes (in the French DOP programme a similar discounting takes place).

³ Although this technology is assumed to be cheaper due to lower fuel costs, broad application of this technology might be hampered due to non-financial barriers, where additional financial compensation might be a way to overcome them.

Box 1. Macroeconomic welfare impacts of various options for GHG abatement

In general, imposing climate protection policies leads to distortions within the economic system. The magnitude of impacts and distortions, however, depends on the type of instrument introduced and which sectors are affected. Impacts on macroeconomic welfare from different options to achieve GHG abatement targets can be sketched as follows:

- **Purchasing carbon offset certificates abroad:** Purchasing carbon credits from abroad for achieving carbon reduction without significant business opportunities for domestic companies leads to a reduction in welfare. Either payments have to be forked out directly by consumers (represented by the government), thereby reducing their budget for consumption, or payments have to be made by companies. This raises prices of their products due to including offset certificates' purchases as cost factor may worsen their international competitiveness. Consequentially, their output could reduce leading to reduced tax payments, as well as a release of primary production input factors labour and capital, which are owned by consumers and where consumers generate their incomes from. If prices are not raised in the case that companies might not be able to forward higher prices to consumers, profitability of companies – in the end owned by consumers – is reduced.
- **Domestic actions supported by governmental subsidies:** Achieving GHG reductions domestically by subsidizing single measures might have varying effects depending on the types of measures subsidized. The analysed effects of switching from conventional cars to natural gas powered cars and thereby saving fuel costs can be described as follows: reducing energy demand makes the consumer better off because the same service can be provided at lower costs. However, lower energy demand leads to lower economic output and therefore to a lowering of payments for input factors labour and capital. However, the major impact might be induced by the magnitude of subsidy rate for certain activities. Certainly, raising funds for such subsidies by generally taxing domestic consumption (e.g. carbon tax) and simultaneously refunding costs to consumers for implementing certain GHG-abatement measures once again could be considered almost as a zero-sum game – almost because it leads to a market distortion. However, the crucial point is now that consumers might not be completely flexible in adjusting their consumption structure and therefore not profiting completely from their payments (no complete refunding) as their funds might be used by companies for reducing their sales prices – also for foreign consumers. Higher production and therefore higher income from primary input factors labour and capital might be overbalanced by the reduced budget of domestic consumers. To sum it up, lowering energy demand increases the consumers' welfare, however they might suffer from paying subsidies (market distortion) – the higher the subsidy the higher the welfare loss.
- **Domestic Offset Projects (DOPs):** The way DOPs function is similar to that of subsidies. However, as the 'search-engine' market looks for GHG abatement potential at lowest costs, the demand for funds for DOPs is minimized. That means distortions and effects from raising funds (e.g. taxing domestic consumption; increasing prices of products), and thereby reducing consumers' budgets, might be rather small in comparison to subsidy schemes not targeting only on cost efficient GHG abatement opportunities.

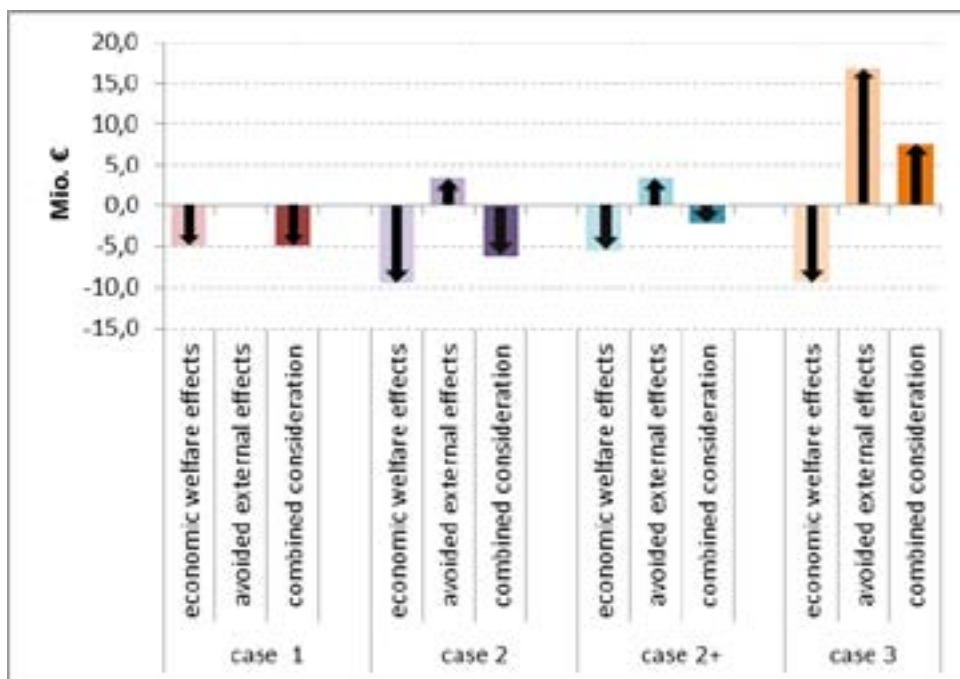


Figure 1. Welfare effects (in million Euro) of the cases analysed

In our analysis, it turned out that all cases lead to macroeconomic welfare losses due to economic distortions, reduced economic activity and implicated effects. Purely from a macroeconomic welfare perspective, DOPs (case 3) only receive a medium score, as the entire reduction in energy expenditures occurs domestically. This results in a loss of yields from primary factors labour and capital and consumers' budgets are reduced at most. However, case 2 (credits' purchase from abroad + "inefficient" governmental subsidy scheme) leads to the worst macroeconomic welfare effects as distortions are maximal due to the high subsidy rates – and therefore the need for raising respective funds for these subsidies.

Combining macroeconomic welfare effects with welfare effects due to changing environmental effects (external effects, e.g. improved health effects from reduced air pollution), however, changes the picture considerably. The bulk of external effects are represented by GHG emissions and local air pollutants.⁴ As GHGs mainly have global impacts ("it does not matter for the climate where GHGs are reduced") and all considered cases reduce the same amount of GHGs, only the domestic reduction of local air pollutants is considered as relevant external effects in this analysis. Not surprisingly, the reduction in negative external effects is highest in the case where most emissions of local air pollutants are reduced domestically. In our exemplary study, this occurs only in case 3, where both

the government and the representative company, through DOPs, achieve the entire quantity of CO₂ emission reductions domestically (see Figure 1).

Figure 1 shows that, when taking macroeconomic and non-market external effects together, the high impact of reduced external costs by reducing emissions of local air pollutants entirely domestically (case 3) is crucial for the final result of comparing different ways for achieving GHG emission reductions. Although the applied measure of fuel switching in our study example leads to lower macroeconomic welfare in the short run (lower economic output with lower revenues from labour and capital production factors and thus reduced consumer budgets), the significant impact of avoided negative external effects in case 3 (i.e. domestically avoided local air pollutants) leads to the highest overall welfare among the cases considered. It is important to point out that macroeconomic welfare effects may differ considerably by the type of GHG abatement measure applied. Nonetheless, reducing harmful air pollutants entirely domestically leads to a high increase in consumer welfare.

Furthermore, macroeconomic welfare losses due to a reduction in the consumers' budgets are lowest when macroeconomic distortions, i.e. need for grants finally paid by the consumers, are lowest. This could be either achieved by DOPs or other *efficient* governmental subsidy schemes.

4 Burtraw, D., Toman, M.: Estimating the ancillary benefits of greenhouse gas mitigation policies in the U.S.; OECD; p. 2; <http://www.oecd.org/dataoecd/32/23/2054700.pdf>

Conclusion

From the overall welfare point of view, DOPs lead to similar results as domestic GHG abatement stimulated by *efficient* governmental subsidy schemes (i.e. tailored to suit the additional financial need of investments). These two ways are the most advantageous ones of the assessed cases in our study. The least preferred are inefficient governmental subsidy schemes; this option is even less advantageous than purchasing carbon offset certificates from abroad.

A potential advantage of DOPs over governmental subsidy schemes is that with DOPs the private sector's

'search-engine' can be used for exploring low cost abatement options, instead of determining as a government optimal subsidy rates. In any case, from a more comprehensive welfare perspective, it can be concluded that domestic abatement is preferable to purchasing carbon credits from abroad as the accompanying domestic reduction of harmful air pollution leads to a high increase in the overall welfare. Apart from that, utilising relatively low cost GHG abatement potential domestically accelerates domestic clean technology innovation and creates synergies with achieving targets for renewable energy shares.

Positive Signal from 'Durban' for Joint Implementation

By Moritz von Unger *

As explained elsewhere in this issue of JIQ, one of the key results of the Durban Climate Conference was the launch of a new negotiation process, the so called Durban Platform, to develop a comprehensive climate change agreement by 2015 that will enter into force in 2020. The Parties also decided in favour of a new, second commitment period under the Kyoto Protocol which is to run from 2013 through 2017 or 2019 (however, without the participation of Canada, Japan and the Russia).

Mind the Gap?

As the second commitment period is meant to start in 2013, the gap, i.e. the period between the end of the first commitment period (31 December 2012) and the entering into force of the second commitment period, may still be avoided. This would mean that Joint Implementation (JI) can continue without interruption after 2012.

However, legal challenges persist. The architecture of the Kyoto Protocol foresees that new commitments are introduced through treaty ratifications of at least 75% of State Parties. Countries may still agree to apply any changes adopted in Doha next year on a voluntary basis. Yet, whether voluntary action can trigger the establishment of assigned amounts and the trading of emissions remains to be seen.

This notwithstanding, Durban has made the first step towards a second commitment period and towards avoiding the gap. JI may ultimately continue.

Key issues to be decided for JI at Doha in 2012

With the above in mind, Parties will have to make a number of decisions at the Doha conference for the

Kyoto Protocol to enter into a 2nd commitment period:

- First of all, they will have to decide on actual reduction targets for each participating country (and each country concerned needs to agree) as JI can only take place between those countries that have committed or will commit to a reduction target after 2012. This means, for instance, that JI will not continue in Russia unless the Russian Federation changes directions and assumes a target for its own.
- Second, Parties will have to decide on the length of the second commitment period (2017 or 2019).
- Third, the carry-over of surplus AAUs from the first commitment period needs to be decided on.
- Fourth, Parties will have to decide whether, and how, they wish to establish provisional application of the second commitment period in the absence of the 75% ratification quorum.

The continuation of JI, then, will raise additional issues. Countries need to establish the conditions under which existing JI projects, i.e. those registered before 2013, qualify for continued operations (and ERU issuance) during the second commitment period. Apart from this, the reform of the existing JI Guidelines, a matter intensely discussed by the Joint Implementation Supervisory Committee (JISC), State Parties and the private sector over the past two years, is up for negotiations.

The JISC has previously recommended to:¹

- Merge Track 1 and Track 2 in a unified Track;
- Have ERU issuance performed by a UNFCCC body instead of the Host Country;
- Let host countries decide on the additionality of emission reductions; and
- Redistribute responsibilities between the host

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country, the JISC and accredited independent entities (AIEs).

None of these JISC recommendations have been addressed yet, let alone agreed on, at the Durban Climate Conference. Instead, Parties asked for more information, to be submitted to the secretariat by 16 April 2012, from Parties, intergovernmental organizations and admitted observer organizations on their views on the JI reform taking into account past experience. Furthermore, the JISC is asked to prepare a "revised set of key attributes and transitional measures" for the adoption of new JI guidelines.

Conclusion

Overall, the Durban Agreement is a positive signal to investors in JI projects. Although the to-do-list for Doha 2012 is long, continuation of JI beyond 2012 has become a real possibility. Clearly, both the actual targets and the mechanics of the new JI remain to be formulated and adopted; yet, there is at least some hope that the overall agreement to continue within the

About JIAG

The Joint Implementation Action Group (JIAG) is a consortium of JI practitioners developing projects expected to generate more than 100 millions of tonnes of greenhouse gas emission reductions. Current JIAG members are Global Carbon, Climate Focus, Vertis, Carbon Trade and Finance, Greenstream and FutureCamp. The group provides a voice for the interests of JI within and outside of the UNFCCC context. We promote JI in its current form giving feedback to the JISC or the Conference of Parties/Meeting of the Parties (COP/MOP) on functioning of JI.

Kyoto Protocol will trigger palpable results in the near future.

For Russia, by many accounts the biggest JI market, the post-2012 countdown has begun: will they join their Western partners and participate in 'Kyoto II' or will they step aside and take once more a long break from international climate policy? This year should provide more clarity on that.

¹ See for the full recommendations <http://unfccc.int/resource/docs/2011/cmp7/eng/09.pdf>

Dutch Parliament Considers Domestic Offsets

In December of last year, the Dutch Parliament decided to examine the possibility of crediting GHG emission reductions from projects carried out domestically in non-ETS sectors. The legal possibility for such Domestic Offset projects has been created in 2008 through Article 24a of the EU ETS Directive. According to this article, emission reductions achieved through non-ETS projects could be eligible for trade on the EU ETS market. This provision has not been elaborated on at EU level yet. Several Member States are interested in it though. The Commission is still reluctant to set up an EU wide scheme, but considers to use opt-in for early domestic offsets.

Earlier, in 2005, the Parliament had decided not to adopt a DOP scheme in the Netherlands. The main reasons were that domestic offset or JI projects in the Netherlands and transferring the credits to possibly foreign partners would not bring the country closer to achieving its Kyoto Protocol targets, whereas the potential for low-cost abatement in the country was considered relatively low.

In 2007-2008, JIN in co-operation with Jos Cozijnsen carried out a study for the Energy Valley foundation for projects in the field of biodigestion for biogas production in the Netherlands. The study showed that the potential value of CO₂ emission reductions (against assumed ETS market prices) could potentially cover

10-30% of the non-profitable part of a biogas project investment. In 2008-2009, Arcadis and JIN conducted a research project for the Dutch Ministry of Environment on domestic offset opportunities in the Netherlands in the sectors: green gas production, built environment and transport.

According to Jos Cozijnsen (Dutch emissions trading consultant), when interviewed by *Argus Media* (3 January of this year), a result of the Parliament decision, the government, various agencies and market participants in the Netherlands will examine the emissions reduction potential of domestic projects, as well as GHG accounting issues such as likely monitoring and verification costs, ways to bundle schemes, the preferable scale of projects and sectors to be included under such a scheme.

The examination will also focus on GHG accounting issues such as baseline determination and use of benchmarks. Jos Cozijnsen told *JIQ* that sector organisations such as the Dutch Green Building Council and the waste sector are interested. The Netherlands government is in the process of agreeing on various Green Deals; it is expected that under such schemes DO will be elaborated on.

How to Tackle the 'Offsetting' Fever of CDM - Kill the Cash Cow or Seek a Cure?

By Lucy Naydenova and Wytze van der Gaast*

Economists use the term "cash cow" for products or concepts that are well adopted by the market and generate steady income. Under the UNFCCC, CDM can be considered a cash cow as it is a mature concept with over 3,000 projects and a multi-billion market value. CDM is currently the only international market mechanism that contributes to global climate change mitigation through sustainable development projects in developing countries. Especially since 2005, CDM has mobilized more than 3,000 projects reducing over one million tCO₂ emissions annually (cdmpipeline.org). It has triggered billions of dollars for investments in sustainable projects in developing countries.

In spite of this, CDM's environmental integrity has been questioned as demonstration of additionality of CDM projects is difficult and sometimes doubtful. For example, some of the claimed emission reductions may not be real as they would have taken place anyhow. This obviously affects the principle of the CDM. After all, CDM is part of a zero-sum game whereby CDM credits can be used to compensate GHG emissions in industrialized countries. It is clear that such a zero-sum game can only work well with real CDM credits.

On the other hand, CDM has produced a vast amount of unambiguously real and additional GHG emission reductions. Moreover, CDM is an instrument that could facilitate a substantial transfer of finance and technology to developing countries.

With a view to the above, would the complexity with determining additionality be sufficient reason to kill this carbon market cash cow? (e.g. by restricting the number of CDM credits for compliance, such as done by the EU ETS) Or can we make improvements? There are at least four possible options to reduce the market impact of non-additional CDM credits in the future:

- 1. Discount factors** - Discounting the issuance of CERs or the value of each CER in terms of tCO₂-eq. would reduce the amount of CERs generated by CDM projects and result in an "own contribution" by developing countries to climate change mitigation. Discount factors are already applied on a voluntary basis by some project developers and are recommended in some CDM baseline methodologies.
- 2. Deduction of allowances by developed countries** - Developed countries that do not wish to offset their

emissions, but seek to optimize cost-effectiveness of the reductions, can choose to cancel an allowance (AAU) for each CER used for compliance. With this method, CDM projects do not lead to 'offsetting.'

- 3. Increased targets by developed countries, dedicated to compliance via CDM** - If developed countries do not wish to offset their emissions, but see value in using CDM to support developing countries' transition to sustainable low carbon economies, they can take more ambitious targets and commit this extra effort to compliance through CDM. This method will not only effectively tackle offsetting, but will also increase predictability of the demand for CERs.
- 4. Voluntary targets by developing countries** - Developing countries can also take voluntary, but nationally binding, domestic emission reduction targets. The host country government could then allocate allowances to projects, programmes or domestic schemes that contribute to meeting the target and can sell the excess emission reductions. Although in this scenario CDM might still be applicable, the units will no longer introduce new emissions rights to the global system, as they will represent allowances by the host country. In principle, with such voluntary targets, developing countries could argue for access to JI and International Emissions Trading.

The above options demonstrate that CDM does not need to be an offsetting mechanism, but can facilitate generation of absolute credible emission reductions and boost the demand for CERs. If countries and companies want to stop offsetting, but continue to benefit from CDM, they can consider the above options.

In Durban, the CDM Executive Board launched a policy dialogue to review past CDM experience and help ensure the readiness and positioning of CDM to meet the challenges of the post-2012 period.¹ Furthermore, the issue of continuation and reform of CDM is still topic of negotiations. Without prejudice to the outcome of the international discussion, the above options could be explored to keep the CDM alive as a cost-effective instrument for contribution to global mitigation and sustainable development in developing countries in a post 2012-regime. Perhaps as part of an exercise to improve the CDM's performance in terms of additionality and environmental integrity.

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¹ http://cdm.unfccc.int/public_inputs/2011/eb64_02/index.html

Bellassen, V. (2011). What will the Market be for Kyoto Credits in 2014 and 2015?, Tendances Carbone n°64 - December 2011

This note explores the impact of the deterioration of the economic situation in the euro zone on the EU ETS. It explains how analysts have downgraded their EUA price forecasts for 2012 and 2013 by 45% on average compared with March 2011. The note pays attention to the upcoming operationalization of the centralised European Registry in the second half of 2012. Finally, it explains how the publication of the Registry Regulation in the Official Journal has kicked off the sale of the NER 300 by the European Investment Bank.

http://www.cdclimat.com/IMG/pdf/tendances_carbone_cdc_climat_research_no64_eng.pdf

Chevallier, J. (2012). Econometric Analysis of Carbon Markets: The European Union Emissions Trading Scheme and the Clean Development Mechanism, 2012, 217, p. 74, Springer, ISBN 978-94-007-2411-2

Through analysis of the EU ETS and the CDM, this book demonstrates how to use a variety of econometric techniques to analyze the evolving and expanding carbon markets sphere, techniques that can be extrapolated to the worldwide marketplace. It features stylized facts about carbon markets from an economics perspective, as well as covering key aspects of pricing strategies, risk and portfolio management.

Aimed at those with a basic understanding of time series econometrics, this book will be extremely useful for researchers and working professionals (trading managers, energy and commodity traders, quantitative analysts, consultants, utilities), and especially those in econometrics and carbon finance. The material is also appropriate for students (advanced undergraduates, MSc, MBA) in the field of econometrics, energy and environmental economics. Readers are supplied with hyperlinks to data and computer codes, while instructors receive problem sets, a solutions manual, and presentation slides.

Electric Power Research Institute (2011). Designing a Large-Scale Federal Offset Program in the United States

This paper evaluates the CDM and other key existing offset programs, and draws lessons from these programs that can help to inform development of a potential future U.S. national or regional offsets program. The paper anticipates how policy discussions in the US may once again focus on development of a GHG cap-and-trade program combined with development of a large-scale GHG emissions offsets program. The paper points out that the overall design

and key elements of an offset program will have a significant impact on whether a future offsets program can achieve the objective of stimulating investment in activities that create low-cost GHG reductions. It is argued that U.S. policymakers can draw lessons from the experience of the CDM.

http://my.epri.com/portal/server.pt?Abstract_id=00000000001023673%20

Fuhr, L., B. Unmüßig, H.J.H. Verolme and F. Yamin (2011). A Future for International Climate Politics, Durban and Beyond, edited by the Heinrich Böll Foundation, Berlin 2011

This document aims at placing climate policy making in a broader perspective and contributing to a fresh strategy for tackling inequity and achieving a truly sustainable socio-ecological transformation of our economies and societies. The document is the result of a project by the Heinrich Böll Foundation, which have invited two experts to write two analytical papers: Durban: A Signpost Toward a Safe Climate Future? By Hans J.H. Verolme (Climate Advisers Network) and Pathways and Partnerships for Progress for Durban and Beyond by Farhana Yamin (University College London and Children's Investment Fund Foundation).

http://www.boell.de/downloads/oekologie/A_Future_for_International_Climate_Politics_-_Durban_and_Beyond.pdf

Haya, B. and P. Parekh (2011). Hydropower in the CDM: Examining Additionality and Criteria for Sustainability, Energy and Resources Group Working Paper ERG-11-001, University of California, Berkeley

This paper examines the effectiveness of additionality and sustainability criteria being applied to hydropower projects applying for carbon crediting under the CDM. It examined the conditions under which hydropower development decisions are commonly made, with a focus on China and India where the majority of CDM hydropower projects are hosted.

It is found that the CDM is having little effect on large hydropower development, and that the basic conditions needed for an accurate additionality assessment are not met. In particular, non-financial factors, such as energy security, heavily influence decisions to build large hydropower, and uncertainty in investment analysis inputs allows project developers to choose input values strategically in order to show that their projects are less financially viable than they actually are. Further, large hydropower and some small hydropower are being built in large quantities worldwide, which are heavily supported

by governments, and therefore should be considered common practice and ineligible for CDM crediting.

The paper recommends that large hydropower be excluded from the CDM, and that small hydropower be accepted only in places where it is not already being built. The second part of the paper examines the assessment of compliance of hydropower projects with World Commission on Dams (WCD) guidelines under the ETS and provides concrete recommendations to strengthen the EU's assessment of WCD compliance.

http://erg.berkeley.edu/working_paper/index.shtml

Morel, R., V. Bellassen, M. Deheza, A. Delbosc and B. Leguet, 2011. Durban: one small promising step for climate... by 2020, CDClimate Climate Brief n°10

An achievement at the Durban summit is the decision to extend the Kyoto Protocol, after its first commitment period ends in 2012. This extension essentially allows the continuity of the existing mechanisms and tools: the Clean Development Mechanism, Joint Implementation and the registries. Further, for the first time emerging economies, especially China, are willing to discuss emission reduction targets to be implemented in 2020. The summit has also led to implement the Green Fund and make changes to the accounting of forest emissions. This climate brief discusses the implications of the Durban conference decisions and looks to next steps in the policy making process.

<http://www.cdclimat.com/spip.php?action=telecharger&arg=1389>

Newell, P.J., and J. Phillips (2011). Governing Clean Development: what have we learnt?, Governance of Clean Development, Briefing 03, November 2011, University of East Anglia and University of Sussex, UK

This briefing outlines the need to change the political relationships that determine who benefits from the Clean Development Mechanism (CDM), which go beyond reducing market transaction costs or overhauling the formal institutions of CDM governance. It is argued that policies are required that recognise these challenges and create opportunities to drive significant changes in how governance works for both climate and development.

The briefing calls for strong and effective institutions (locally, nationally and internationally) to steer CDM toward climate and development goals. It also calls for aligning the CDM with national policies and coordinated donor initiatives in order to enhance the potential of the CDM reaching citizens who lack access to finance. It argues that local communities and the public have few opportunities to directly engage with CDM procedures and little political influence over CDM policy. Finally, the paper concludes that barriers

to clean technology transfer run deeper than carbon markets alone.

<http://clean-development.com>

Silverstein, D.N. (2011): Using a harmonized carbon price framework to finance the Green Climate Fund. Unpublished

Funding a response to climate change after Kyoto will require another look at both burden sharing and funding mechanisms. After reviewing the risks of cap-and-trade with carbon offsets and the advantages of a harmonized carbon tax, a method is proposed to utilize a harmonized carbon price to finance the Green Climate Fund. A common carbon price is set across all nations with either a carbon tax or an emissions trading floor price with carbon offsets excluded. The harmonized carbon price is incrementally increased until 2050 to reach the cost of atmospheric removal and achieve equilibrium. Carbon revenues collected internally within nations are used for internal investments in climate change.

Financing for the Green Climate Fund is generated from transferring a percentage of the collected revenues, based on a sliding window of historical responsibility for fossil fuel emissions and national wealth. Collected revenue is disbursed for climate aid based on a set of national climate need factors for adaptation and mitigation, including preserving strategic carbon absorbers, low-carbon infrastructures, technology transfer and population management.

In the interest of distributive justice, nations themselves determine the need factors of each other. Unlike cap-and-trade, this method does not explicitly set emissions caps, but total global emissions can be regulated nevertheless. Formulas are presented for collection and disbursement, which require parameters for a globally harmonized carbon price, a climate fund contribution rate, historical responsibility from fossil fuel emissions, a national wealth threshold for fund contributions and need factors for each nation. Published economic and emissions data are used with the formulas to demonstrate an example of how the financing can work. This presents an equitable way to address climate needs across all nations on both a global and regional level.

http://mpr.ub.uni-muenchen.de/35280/1/MPRA_paper_35280.pdf

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
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

16-19 January 2012, Abu Dhabi, United Arab Emirates

World Future Energy Summit
 Contact: <http://www.worldfutureenergysummit.com/>

8-9 February 2012, London, UK

Aviation Carbon 2012 – Carbon Planning & Trading Strategies for Airlines
 Contact: <http://www.AviationCarbon2012.com>

1 March 2012, Wels, Austria

Energy Efficiency Watch (in the frame of the international conference World Sustainable Energy Days) - an update on the implementation of energy efficiency policies in the EU
 Contact: <http://www.wsed.at>

10-12 April 2012, San Francisco, USA

Navigating the America Carbon World.
 Contact: <http://nacw2012.com/>

14-25 May 2012, Bonn, Germany

Bonn Climate Change Conference - May 2012 with SBI 36, SBSTA 36, AWG-KP 17, AWG-LCA 15
 Contact: <http://unfccc.int>

4-6 June 2012, Rio de Janeiro, Brazil

Rio+20 - United Nations Conference on Sustainable Development (UNCSD)
 Contact: unfccc.int

16-17 June 2012, Pontificia Universidade Católica, Rio de Janeiro, Brazil

“Solutions for a sustainable planet” International conference
 Contact: www.iied.org