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Editor's note

Since about a year ago, the topic of climate change has become increasingly popular in the media. Before that, the Kyoto Protocol was mainly paid attention to in the thematic supplements of newspapers. Nowadays, since "An Inconvenient Truth", Dutch consumers, for instance, can buy 'green TV sets' and travel in 'green seats'. CO_2 neutrality has become a marketing tool.

The recent IPCC Fourth Assessment Report has also gained much attention. It shows that people are very likely to have an influence on global temperatures, and that without radical policy measures the risks in terms of damage will be large. It also shows that policies and measures and technologies are available to formulate climate policies within reasonable economic margins.

How does this translate to formulating a global climate policy for the period after 2012? Unlike national policies, which can be determined and enforced by the national government, an international policy regime is based on a coalition of sovereign states. For the coalition partners, the (expected) revenues from joining the coalition are higher than the (expected) costs. Countries that face relatively high costs will have an incentive to stay out of the coalition.

A general problem with compiling an international climate coalition is that the cost-benefit profile of climate policy measures has long been unfavourable for many countries. Firstly, the costs of clean energy sources and technologies are relatively high. Second, due to scientific uncertainty, the revenues from climate policies (*e.g.* avoided damage) were not always clear. Third, since GHGs mix evenly in the atmosphere, the GHG emission reductions of one group of countries may be offset by increased emissions from countries that are not in the coalition.

The new scientific insights delivered by the IPCC and the increasing knowledge of sustainable energy technologies will contribute to lowering the costs of climate policy and make countries more aware of the benefits of avoiding climate change damage. However, for a global and strong coalition, more efforts will be needed.

The experience with the UNFCCC (1992) and the Kyoto Protocol (1997) has shown that the wish to build a global climate coalition resulted in less strict policies. In 1992, proposed emission reduction commitments became non-binding stabilisation objectives. In 1997, industrialised countries only adopted legally binding commitments in return for flexibility (five-year commitment period; JI, CDM and emissions trading; and six GHGs).

As mentioned above, the present context for climate policy negotiations is probably more favourable than it was in 1992 and 1997. The main difference is that climate change has become increasingly interwoven with other policy issues. For instance, within the EU energy security of supply has become an important policy objective and the European Council has underscored this by stating that by 2020 sustainable energy sources must have a 20% share in the EU energy mix. As this will contribute to GHG emission reduction, there is a clear link between energy and climate policy. In developing countries, energy security of supply is also a priority issue, as well as poverty alleviation. The CDM, for instance, has delivered some good examples of how GHG emission reduction could be combined with poverty alleviation, local air quality improvement, and sustainable use of energy sources.

Yet, the increasing opportunities for smart combinations between climate, energy and economic issues do not automatically imply that post-2012 negotiation will be smooth. Several countries are struggling with the question of what their role in an international climate coalition would look like. This issue of *JIQ*, for example, contains a report of a recent climate panel held in Turkey. On the one hand, Turkish stakeholders see the possible benefits of combining climate policy with domestic energy issues, but they are concerned that joining a climate coalition would imply quantified commitments based on 1990 levels. Considering Turkey's strong industrialisation since the mid-1990s, but still relatively low GHG emissions per capita, 1990 may not be a reasonable base year.

During the Subsidiary Bodies-sessions in May of this year, a number of leading developing countries (China, India, South Africa, Brazil) explained their views on a future climate regime. UNFCCC Executive Secretary Yvo de Boer said he was encouraged by these signals.

Indeed, it seems that more non-Annex B countries are willing to take action, as long as they know that this would support their domestic sustainable development priorities. Therefore, in order to make more countries willing to join a climate coalition, commitments in terms of policies and measures to be taken (*e.g.* renewable energy targets) or quantified commitments with different base years may be required.

Some readers may be concerned that differentiated commitments will make international climate policy less transparent. Unfortunately, we probably have to accept that for a global climate policy no one-size-fits-all solution exists. But, differentiation of commitments with a view to countries' domestic circumstances and economic development will undoubtedly be much more effective than G-8 leaders expressing support for a 50% reduction target without being clear about the base year and who will do the job.

We'll have to take climate policy a bit more seriously than that.

Wytze van der Gaast (JIQ editor)

In this issue:

Turkey Approaching the Kyoto Protocol?

Earlier this year, the Government of Turkey submitted its First National Communication to the UNFCCC. It describes the economic, demographic and energy sector developments and the consequences these have had for Turkey's GHG emissions. At present, Turkey is not a Party to the Kyoto Protocol, but it is included in Annex I of the UNFCCC.

Special circumstances

Turkey has had a special history during the development of the international climate policy regime. As an OECD country, it was included in Annex I of the UNFCCC in 1992 and even in Annex II, which is the list of relatively advanced industrialised countries who have committed themselves to financial and technical transfers to developing countries (see UNFCCC Article 4.3-5). The main difference between Annex I and Annex II was that the countries with economies in transition in Central and Eastern Europe were included in Annex I, but not in Annex II.

During the negotiations on the UNFCCC, Turkey objected to being included in both Annexes and it continued its reservation to the Annexes after the Convention had been adopted. However, these objections were not taken into account and under these circumstances Turkey did not ratify the UNFCCC. For Turkey, its inclusion in Annexes I and II was problematic because the country's per capita GHG emissions were much lower than those in the EU (almost a factor three less) and its economic profile too much different from the other Annex II countries to be able to commit itself to technology and financial transfers to developing countries.

Eventually, Turkey requested the Conference of the Parties (COP) to recognise its special circumstances within Annex I. This resulted in Decision 26/CP.7 taken by COP-7 in 2001, through which Parties were invited "to recognize the special circumstances of Turkey, which place Turkey, ..., in a situation different from that of other Parties included in Annex I to the Convention" and which deleted Turkey from Annex II. Following that decision, Turkey officially announced that it would accede to the UNFCCC by publishing Law No.4990 in the *Official Gazette* on 16 October 2003. The official accession took place on 24 May 2004.

Annex I / non-Annex B

Since Turkey was not a Party to the UNFCCC by the time the Kyoto Protocol was adopted in 1997, it could not be included in the Protocol's Annex B with countries that had adopted quantified emission limitation and reduction commitments (QELRCs). Turkey's situation is comparable to that of, among other Parties, Belarus, which is also included in UNFCCC Annex I, but not in Annex B of the Kyoto Protocol. Experts within the country realised that this situation was complicated. In fact, should Turkey decide to ratify the Protocol, it could not host CDM projects, as these can only be hosted by non-Annex I Parties (*i.e.* developing countries). As an Annex I Party, Turkey could host JI projects, but that would require adoption of a QELRC for 2008-12.

At a *Conference on Clean Development*, organised two years ago by the Bogaziçi University in Istanbul (16-18 February 2005), two possible strategies were described for Turkey should it decide to ratify the Kyoto Protocol:

1. Adopt a QELRC under Annex B. This would enable Turkey to host JI projects, but would also require complex negotiations about a reasonable national GHG emissions cap, which would be particularly complex given Turkey's strong GHG emission growth due to the acceleration of industrialisation since the mid-1990s.

"Combining climate issue with energy policy"

JIQ: According to the First National Communication, Turkey has a large domestic energy supply potential. Moreover, only 30% of the landfills in Turkey are managed. How could, in your view, these issues be linked with the climate change issue?

Ms Nursel Berberoglu
Head of Department Environmental Affairs, Ministry of Foreign Affairs of Turkey:

"Turkey is taking several steps to address the topic of landfills and waste. We have informed the European Commission that Directive 99/31/EC on landfilling of waste would be transposed through the adoption of a By-law drafted within the framework of a twinning project. The draft By-law is at the final stage and is planned to be published later this year. Within the same project, a questionnaire on controlled and uncontrolled landfills was sent to municipalities for the preparation of inventories. In another waste management project, two plans have been prepared while eight plans are still at the stage of feasibility study. There is also a project that aims to establish a network for the collection and processing of waste management data.

Under existing legislation, the Ministry of Environment and Forestry is responsible for issuing permits and for landfill facility inspection. Local authorities are in charge of the collection, transport and disposal of municipal and medical waste. The costs involved with the latter activities are covered by specific cleaning taxes paid by residents.

Turkey is also taking measures to address climate change and energy issues in a comprehensive manner. The main challenge is to reconcile the need for economic and social development with the increase in GHG emissions. Presently, Turkey's per capita GHG emissions are lower than those in the OECD and countries with economies in transition.

Turkey faces the challenge of meeting the rapid increase in its energy demand. While we have been working on increasing our energy supply, we have also taken measures to promote energy efficiency, energy conservation and renewable energy use. More emphasis has recently been put on the use of advanced energy technologies and on projects focusing on energy saving. The Turkish government provides financial assistance to that end. Research projects related to climate change are supported by the Scientific and Technological Research Council of Turkey."

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"Increase of lignite must be considered carefully"

Mr Etem Karakaya
Project manager Climate Change and Energy, European Environment Agency, Copenhagen, Denmark

"At present, the dependency on import of oil and natural gas is very high in Turkey. With current economic trends, it is projected that this import dependency will increase even further. It is recognised that specific climate policies could improve countries' energy security position and air quality. This could be particularly relevant for Turkey as it has significant potential of renewable energy sources. The main sources are biomass, wind, small scale hydro and solar energy. If imported fossil fuels can be substituted with these sources, they would have multibenefits in both the fields of energy and climate. However, they need to be determined and climate change policy needs to be integrated with policies in other sectors. On the other hand, the First National Communication states that Turkey will increase its domestic energy resources, which also means increasing the use of domestic lignite reserves. The latter must be considered carefully."

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"Turkey's base year after 2000"

Dr Gürkan Kumbaroglu:
Bogaziçi University, Industrial Engineering Department, Istanbul, Turkey

Climate / Energy package
"Over 75% of total primary energy supply in Turkey comes from imported sources. Turkey can reduce this extremely high import dependency through the development and implementation of renewable energy technologies and waste-to-energy projects. This would deliver a double benefit from both the climate and energy supply perspective and could easily be combined in a climate/energy package for Turkey as (a) entrepreneurs look forward to implementing such projects and (b) policy-makers look forward to reducing the import dependency of the country. The only necessity is to provide a financial incentive, an example of which could be emission certificate trading."

Upcoming Parliamentary elections
"None of the political parties with good chances to overcome the 10% hurdle for parliamentary elections refer to the Kyoto Protocol in announced policy documents. However, I believe that there will be a difference in Turkey's position after the elections. A Parliamentary Commission, established earlier this year to elaborate Turkey's position on the Kyoto Protocol, has recently finished its work and posted its draft report on the official website of the Grand National Assembly. In this report, the country's current policy is criticised by noting that Turkey should not only 'observe' the Kyoto Protocol, but identify her position and start negotiations as soon as possible. Following an invitation, I had personal contact with the Parliamentary Commission and believe that the draft report represents a consensus of all Commission members with different political backgrounds. It is an encouraging outcome leading to the expectation that Turkey's position to the Kyoto Protocol might change from a passive policy towards a more progressive approach. Moreover, I believe that the new Government of Turkey will find it hard to resist the growing public pressure against the current passive country policy, and will need to develop a solid strategy and convincing arguments identifying the conditions on how to approach the Kyoto Protocol."

Feasible way for Turkey to adopt commitments
"Unless there will be a technological revolution, it does not seem feasible that Turkey reduces its GHG emissions to the levels that we had back in the 1990s. However, an emissions trajectory with a base year chosen from one of the years of this century could be established under the negotiations. It is essential to make a fair distribution of responsibilities between countries, which can be based on various energy, economic, and GHG emissions indicators. Obviously, the Annex I classification of Turkey under the UNFCCC is not fair as there are various non-Annex I countries such as Malta, Israel or Cyprus with considerably higher per capita income and emission levels than Turkey. Still, I believe that Turkey could adopt some commitments which are sustainable, that is to say: which do not limit economic growth. In this respect, a feasible way might be to open the way for international cooperation. After all, as the country cannot readily benefit from the Kyoto Protocol flexibility mechanisms due to her Annex I and non-Annex B status, there should be some form of cooperation and financial assistance in order to encourage Turkey to adopt commitments."

Emissions trading
"Emission certificate trading seems to be the most promising way to foster a diffusion of GHG reducing technologies, applications and practices in Turkey. There are some examples of Verified Emission Reduction certificates trading, which are issued for projects realised in Turkey and traded in the global marketplace. But these cannot really provide an incentive for a wide expansion of GHG reducing projects as VER prices are too low. I see a big potential in the electricity sector, in particular. because (a) power generation has the highest share in Turkey's CO_2 emissions, 34% in 2005, and (b) there is an annual demand growth of 7-8%. This requires a continuous flow of new sustainable investments."

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2. Request the COP/MOP to amend the Kyoto Protocol and allow Turkey to host CDM projects as an Annex I/non-Annex B country.

Both strategies would require a time consuming process of amending the Kyoto Protocol. First, the request for an amendment must be circulated to other Parties via the UNFCCC Secretariat six months before the session of the COP/MOP. Then COP/MOP must approve the amendment, after which it must be ratified by 75% of the Kyoto Protocol Parties. Even in case of a rather smooth process, this amendment might take about two years. The experience of Belarus, which adopted a QELRC within Annex B in November last year (at COP/MOP-2), but which eventual endorsement through ratification by three-quarters of the Kyoto Protocol Parties is still far from certain, is illustrative in this context. Now that Turkey still has not ratified the Kyoto Protocol, it is unlikely that it will be able to host JI or CDM projects during the 2008-2012 commitment period.

Non-Annex I?

Recently, on 5 June of this year, a discussion panel on *The Kyoto Protocol: Opportunities and Threats for Turkey* was organised at the Bogaziçi University by the *Turkish Association for Energy Economics*. At this workshop, the debate, first, centred around the issue of whether Turkey should request the COP to be deleted from UNFCCC Annex I, so that it would not have to adopt a QELRC as a Kyoto Protocol Party and would be able to host CDM projects as a non-Annex I Party. A representative of the Turkish Ministry of Foreign Affairs argued that ratification of the Kyoto Protocol as an Annex I Party would not automatically imply that Turkey would have to adopt a QELRC. She said that there is no legal basis for such an assumption.

After that, the debate focused on the post-2012 climate regime. Some participants argued that being a Party to the Kyoto Protocol, even without being an Annex B Party and without benefiting from the CDM, would give Turkey more influence during negotiations within the *Ad-hoc Working Group* context. Others, however, were concerned that ratifying the Kyoto Protocol would increase the likelihood that Turkey would have to accept quantified commitments *after* 2012.

Irrelevant

With a view to this, some participants underlined that formulating quantified commitments for Turkey on the basis of 1990 GHG emission levels would be problematic as Turkey's GHG emissions increased by almost 70% between 1990 and 2004. This is mainly due to an acceleration of the industrialisation process during this period. Participants argued that 1990 as a base year has become quite irrelevant. In addition, Turkey's per capita CO_2-eq emissions in 2003 amounted to 4.1 tonnes per year, which is 2.5 times lower than average per capita GHG emissions in the EU-25 and more than 3 times less than the average for all Annex I countries. In terms of CO_2 per capita emissions, Turkey was slightly below the 2003 world average (see Turkey's National Communication, 2007, p. 6, Table 1.1, which can be downloaded from unfccc.int, under 'National Reports'). Participants underscored the need to keep these special circumstances for Turkey, as formulated in Decision 26/CP.7, in mind during future negotiations.

After the panel meeting, *JIQ* spoke with three panel experts about the issues explained in this article. Their views are highlighted in the boxes on these pages.

Logo printed on the front page of chapter 1, First National Communications of Turkey to the UNFCCC, 2007.

Russian JI Procedures Adopted, but Work still Remains to be Done

by Anna Korppoo and Arild Moe*

The Prime Minister of the Russian Federation adopted the long-awaited procedures for approving JI projects on 28 May 2007. Since the launch of the Track 2 JI procedure (October last year), a pipeline of Russian JI projects has been building up, which are waiting for the Russian Government to be approved. The recent Governmental Order #332 has established the JI documentation and project cycle for projects in Russia. The regulations outline what a project proposal, including project documentation and project passport, should consist of.

The Russian JI Co-ordination Centre will be based at the Ministry of Economic Development and Trade (MEDT). In addition, other governmental actors will be involved in the project approval process through the review of project proposals. Some governmental agencies will be member of a Commission to be established by MEDT for the approval of JI projects. The evaluation process of project proposals will consist of an analysis of the project application, its expert review, and remarks from government agencies involved. The official approval of the projects will be based on a decision by the Russian Government. After implementation, project investors are required to report annually to the JI Co-ordination Centre of the project's progress.

The regulations limit the JI competence of the MEDT to the first commitment period, which also ends speculations on potential early or late crediting of JI projects in Russia.

What remains to be done?

Despite the adoption of the Russian JI procedures, still some work remains to be done. For project submission and approval, efficiency standards are required, which MEDT has begun working on in June of this year. The standards will probably be available by the end of the summer of this year. Also, the above-mentioned Commission for project approval needs to be formed, which should be an easy task as it is planned to be small.

MEDT and the Ministry of Foreign Affairs will prepare a format for a Memorandum of Understanding between the governments of Russia as JI project host country and of the country that purchases the ERUs. The draft is due for completion by 1 September 2007. However, the Russian regulations do not require a Memorandum of Understanding to be signed.

Finally, a list of independent experts is not yet available and the JI regulations do not establish a timeline for their selection by the Co-ordination Centre.

Potential pitfalls

The Russian JI procedures do not provide firm requirements for a JI project and it remains unclear when the procedures will become functional. Given that further work remains to be done, as explained above, this will inevitably cause delays.

So far, the experience with Russian inter-agency commissions has been discouraging as their ability to function well has been hampered by political infighting. In addition, the regulations do not state which organisations should be involved in the project review and approval procedures. This could lead to another inter-agency negotiation process.

The regulations reserve the right for the Russian Government to dismiss approved projects. Although this clause is in place for *force majeure* type of problems, it leaves the door open for not transferring the ERUs to project investors at the end of the first commitment period for reasons such as project developers missing the reporting deadlines, problems or delays with investor government approval, liquidation of the foreign investor company, as well as other reasons considered fit by the Russian Government. Even though dismissing projects is unlikely to be in the interest of the government, the clause adds another uncertainty.

The fact that several other governmental organisations will be involved in project approval and the lobbying that this could create, may hamper the functioning of the JI coordinating centre as a one-stop-JI-shop.

The JI procedures state that the overall amount of ERUs to be issued to Russian JI projects will be limited per sector. Although it is presently not clear whether and how this will apply in practice, it may reflect the fact that according to some administrative principles, the JI benefits must be divided among sectors. Sectoral limits on JI project-based emission reductions might seem to be an impediment to project development, but the regulations state that the Commission may reshuffle the limits between sectors. The implementation of these limits is still completely open to the decision of the Commission.

Implications for the Russian JI potential

The regulations are characterised by bureaucracy and vagueness, and they fail to promptly establish a JI approval system (including unclarity about the issuance of a Letter of Approval). The window of opportunity for Russian JI projects is clearly closing as the beginning of the first commitment period is only some months away. Further delays with the project approval system may discourage project investors, especially as the project cycle includes potential institutional barriers. Given the remaining tasks as established by the regulations, JI project approval in the Russian Federation could start after the summer of this year at the earliest.

The newly established regulations reflect a strong focus on controlling JI projects, rather than attracting them. However, the fact that the regulations have now been published is a positive sign, and many of the problems and associated risks discussed above may never materialise in practice. An important factor will be the development of interest in JI projects of and signals given in this respect by the highest governmental levels.

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For the publications of the project, please see: http://www.climate-strategies.org and choose section "East-West Investment."

Guidance for CDM Programmes of Activities

At its thirty-second meeting held on 20-22 June of this year, the CDM Executive Board took a decision on CDM Programmes of Activities. Through such programmes, activities that are likely to reduce GHG emissions but that are not sufficiently suitable for stand-alone CDM projects, could be submitted as part of one CDM activity.

At COP/MOP-1 (2005), guidance had been given about the scope of the programme. In Decision 7/CMP.1 it was stated that a local/regional/national policy or standard cannot be considered as a CDM project, but that project activities under a programme of activities can be registered as a single project activity. Although not precisely clear on the difference between a policy and a programme, this decision in principle opened the door for bundles of activities in the fields of, among others, compact fluorescent lamp projects and air conditioning improvements in residential dwellings, but also technology implementation in industrial sectors.

At its 28th meeting held last year, the Executive Board (EB) discussed a draft concept for CDM programmes of activities. Before the 32nd EB meeting of June of this year, this draft had been further fine-tuned and was adopted under the title "Guidance on the Registration of a Programme of Activities as a Single CDM Project Activity", as well as in a second document on procedures for registration of such programmes of activities and issuance of their CERs (Annex 38 and 39, respectively to the EB's Meeting Report, see http://cdm.unfccc.int/EB/032/index.html).

Further guidance has been requested from the UNFCCC Secretariat on programmes of activities for small-scale and small-scale afforestation and reforestation (A/R) projects. Also, modalities for payment of fees for registration of programmes will have to be worked out.

An interesting aspect of the decision on CDM programmes of activities is that a programme's physical boundary may extend to more than one country. A programme must be proposed by a co-ordinating or managing entity which will be the official project participant acting on behalf of the programme's activities. The duration of a programme will not exceed 28 years (which was 30 years in the draft guidance document), but the participating individual activities will have crediting lifetimes, just as regular CDM projects, of seven years with the possibility of renewal of the project plan twice to a maximum of 21 years (or ten years maximum without possibility of renewal). During the lifetime of a programme, activities can still join, but their individual crediting lifetimes are maximised by the time left between entering the programme and its overall finishing date, again with a maximum of 21 years. For A/R programmes, the maximum crediting lifetime is 60 years.

Finally, the EB decided that each CDM programme activity shall be monitored, but also stated that the monitoring method to be used could be based on random sampling.

Budapest Workshop: LULUCF Projects in JI and GIS

by Bernhard Schlamadinger*

On 21-22 May of this year, a workshop took place in Budapest, Hungary, on the role of land use, land-use change and forestry (LULUCF) activities under JI and Green Investment Schemes (GIS). The workshop hosted over 60 participants, mostly from Annex I countries, and it was organised with funding from COST Action 639 (Greenhouse-gas Budget of Soils under Changing Climate and Land use).

The workshop discussed the following main topics: policy, regulatory and implementation aspects, country-specific experiences and plans, and soil / GHG monitoring requirements. These topics were further discussed in working groups on the second day.

JI LULUCF activities are possible in such areas as avoided deforestation, improved management of croplands / grasslands / forests, and peatland management. Since this set of activities is broader than LULUCF under the CDM, it is a potential testing ground for possible CDM activities after 2012.

It was concluded that issuance of ERUs for JI LULUCF projects requires the existence of Removal Units (RMUs), which can be generated only from activities under Kyoto Protocol Article 3.3 (afforestation, reforestation, deforestation) or Article 3.4 (forest, cropland, and grassland management). Most countries count these activities over the entire commitment period, so that RMUs will only be generated after the 2012 inventory has been approved, *i.e.* in late 2014. Since, in addition, these RMUs or ERUs cannot be carried over to a post-2012 climate regime, it will be difficult to find buyers for these types of credits. In addition, countries not meeting JI Track 1 requirements would not be able to produce any credits.

Participants recommended two possible solutions, which would allow earlier transfer of credits:

a) annual accounting of Article 3.3 and 3.4 activities; or
b) to carry out LULUCF activities under a Green Investment Scheme (GIS, via Kyoto Protocol Article 17) rather than JI.

Specific recommendations for LULUCF activities in a GIS context include:

1. Try to get projects and programmes ongoing and 'learn by doing', instead of focussing on a 'scheme'.
2. Adopt one of the three contractual options for GIS: a) a government sells and controls the AAUs; b) a government allocates AAUs to a sub-national public body (*e.g.* the Forestry Department) which is free to sell these; and c) private companies propose projects to the government and receive AAUs which they can sell themselves.
3. Develop LULUCF priorities/ strategies from the bottom up with involvement of local NGOs, government planners and resource managers who are most aware of LULUCF needs.
4. Engage buyers and private financing institutions in the GIS system design which should provide benefits to the host country *and* satisfy buyers' needs.
5. Simplify the monitoring system taking into account existing national inventory systems, thereby avoiding the 'CDM trap.'
6. Encourage innovation and use of GIS as a testing ground for post-2012 policies.

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ENTTRANS: Assessment of Technology Implementation Chains in CDM Host Countries

In the former issue of JIQ (April of this year), the mid-term progress with the study project "ENTTRANS: promoting sustainable energy technologies through the CDM" was explained. ENTTRANS is a so-called specific support action under the Sixth Framework Programme of the EU and is carried out by an international consortium of ten partners under the co-ordination of Foundation JIN in the Netherlands. This article describes the planned activities for the final stage of the project.

The main objective of the ENTTRANS project is to explore how the CDM could support the transfer of sustainable energy technologies to developing countries. The starting point of the analysis in January-February 2006 was that the CDM was becoming an increasingly powerful policy instrument for Annex I countries with quantified commitments under the Kyoto Protocol to fulfil these through emissions trading projects in developing countries. On the other hand, however, it could be observed that the distribution of projects across developing host countries was rather skewed towards a small group of countries that have taken about 90 to 95% of the CDM market as suppliers of projects and (expected) emission reduction credits.

The latter is, for instance, illustrated by the amount of certified emission reductions (CERs) issued. India, South Korea, Brazil and China have thus far supplied 90% of *issued* CERs (based on actually realised GHG emission reductions). In terms of expected credits, China, India, Brazil, South Korea and Mexico (in that order) presently have a share of 84% of the pipeline; in terms of proposed projects this percentage is 79%.[1] Consequently, although the pipeline of CDM projects (under validation by a designated operational entity or registered by the CDM Executive Board) contains over 2000 projects, there is no equal distribution of projects across the world.

CDM barriers

Generally, it is assumed that the choice of host countries is largely determined by the extent to which a country has its CDM institutional procedures properly in place and how easy the underlying project technology can be implemented. Jane Ellis (OECD) and Sami Kamel (UNEP Risø Centre)[1] have recently carried out an assessment of whether and to what extent the slower CDM development in 'underrepresented' CDM host countries can be explained by exploring barriers to project development and implementation. They distinguish between specific CDM barriers, which are mainly of an institutional nature related to the CDM project cycle, and barriers that are of a more general, country-level nature such as political and economic stability of a country and its regulatory framework.

The paper explores a broad range of barriers which have been identified after a thorough analysis of the CDM project pipeline. Examples of barriers identified by Ellis and Kamel are: stability of laws in host countries and the ability to enforce these; tax policies and import tariffs, which in some countries make alternatives to sustainable energy technologies relatively cheap by subsidising fossil fuel consumption and taxing clean technologies (*e.g.* through import tariffs); unclear ownership structures for the technology and the CERs; limited access of decentralised energy and cogeneration plants to the grids; the possible problems with power production permits, complex custom formalities (in particular in sub-Saharan countries); and such aspects as corruption.

In their paper, Ellis and Kamel have only focussed on removable barriers, of which some are typically related to energy production and the CDM, whereas others are more generally related to the investment climate in the CDM host country. By doing so, they have provided useful insights in the implementation chain of a regular CDM project, which is obviously much broader than the accounting procedures for calculating the GHG emission reductions of projects and whether these reductions are additional to business-as-usual reductions, or not.

Implementation chain

A paper that specifically focuses on the implementation chain of technologies and products in developing countries was prepared in 2005 by Mike Albu and Alison Griffith (Practical Action, UK).[2] They have developed a tool for drawing a map of the relevant market for a product or technology. The tool is particularly aimed at distribution of products and technologies in the rural areas in developing countries. By doing so, the market can be described in terms of:

- the **market chain actors** who own a product or technology as it moves through the implementation chain: *e.g.* product traders, local markets, intermediary traders, processors, producers, and end users;
- the **infrastructure and policies, institutions and processes** that shape the market environment: *e.g.* trade policy, contract enforcement, tax and tariff policy, corruption, regulations for business, trends, and registries; and
- the **business and extension service partners** that support the market chain's operation: *e.g.* market information, financial services, market advisors, consumer organisations.

Although the market mapping exercise by Albu and Griffith has not been carried out specifically for the CDM, it can be a very useful tool to better understand the implementation chain of a CDM project in a developing country. It would, for instance, enable placing the barriers and investment aspects identified by Ellis and Kamel on the basis of actual CDM projects in a CDM project market map: what does the implementation of the underlying technology of a CDM project look like in a developing host country? Who are the implementing actors, how stable are laws and their enforcement, and how well is the domestic financial sector able to provide the funding for the investment?

Technology needs

Both papers by Ellis and Kamel (2007) and Albu and Griffith (2005) form a good literature reference for the work that the ENTTRANS project will undertake during the second half of this year. During 2006 and the first quarter of this year, the ENTTRANS team has worked on exploring

[1] Jane Ellis and Sami Kamel, 2007, "Overcoming Barriers to Clean Development Mechanism Projects", OECD/IEA and UNEP Risø Centre, COM/ENV/EPOC/IEA/SLT(2007)3, May 2007.

[2] Mike Albu and Alison Griffith, 2005, Mapping the Market: A framework for rural enterprise development policy and practice, Practical Action (formerly known as the Intermediate Technology Development Group), UK, http://www.practicalaction.org

the sustainable development needs priorities of the five case study countries – Chile, China, Israel, Kenya and Thailand – in terms of energy services (with a view to the medium to long term): *e.g.*

- electricity for industrial appliances;
- electricity for agricultural production;
- electricity for households, both in rural communities and urban communities;
- electricity for service sectors;
- heat delivery for industry;
- heat delivery for households;
- heat delivery for service sectors;
- Energy for cooling purposes (*e.g.* medicines);
- Energy for cooking;
- Efficient transport; and
- Municipal solid waste (MSW) management.

For this part of the study a questionnaire was developed for interviews with stakeholders in these countries. These interviews were carried out by the project partners in the countries.

As a next step, stakeholders selected a number of technologies which could be appropriate for meeting the needs and priorities identified. Examples of technologies for electricity production are: clean coal technologies, coal-to-gas technologies, several types of renewable energy sources (hydro, wind, solar), biomass technologies, and coal-mine methane. For heat production, possible technologies are: geothermal heat, and solar thermal technologies for water and building heating. Examples of cooling applications are: geothermal heat pumps with which buildings can be cooled, solar thermal cooling, passive building design techniques such as shading and insulation. Improved cook stoves, but also solar cookers and biogas could be considered examples of cleaner technologies for cooking. Examples of proven techniques in MSW management are: methane capture in landfills and use for electricity generation, combustion or gasification of MSW, and biogas generation. These technologies have been assessed by the stakeholders in terms of suitability, accessibility and sustainable development contribution (environmental, economic, and social benefits).

Stakeholder workshops

During the second half of this year, in each of the case study countries stakeholder workshops will be organised at which the results of the interviews will be presented to the stakeholders interviewed and to other invited experts. In addition, the ENTTRANS partners will use the opportunity of the workshops to run a few sustainable technology examples through a market map assessment. The project partners will for these technologies describe who the main actors are in the implementation chain, which government regulations and policies are relevant and important, how the financial sector could support the investment, and which cultural aspects have to be taken into consideration.

The maps will be discussed and completed with the stakeholders during the workshops in the form of breakout sessions. The aim of this exercise is to obtain a picture of the entire chain of activities that have to be carried out in order to successfully implement a new energy technology in a country. This picture will differ from country to country and this will therefore provide for each country useful country-specific information and guidance on how to implement a suitable and desired technology in the country.

Role of CDM

The relevance of insight in technology implementation chains for the CDM is that the technologies identified during the ENTTRANS stakeholder assessments have in common that they could contribute to reducing GHGs if they replace a fossil fuel based alternative or replace less efficient equipment, or, in the case of waste management, capture GHG emissions that under business-as-usual circumstances would have remained unmanaged. Therefore, these technologies could become eligible under the CDM for their GHG abatement potential.

Moreover, in most cases, the technologies potentially contribute to sustainable development because of their contributions to energy efficiency, employment, local air quality improvement, health benefits, *etc.* (note that the ENTTRANS team is preparing a document with 10-page descriptions of over 40 technologies, including sustainable development aspects; this document will become available online as an output of the ENTTRANS study).

The CDM could play an important role in supporting the transfer of sustainable energy technologies to developing countries. As explained above, countries can do a lot to improve the investment climate for technologies by, *e.g.*, removing policy inconsistencies (*e.g.* sustainable technologies taxed and non-sustainable energy use subsidised), making permit systems less complex, reducing customs bureaucracy, clarifying property rights, and enhancing law enforcement. At the same time, it must be realised that removing such barriers from the implementation chain will not make technology transfers automatically feasible. After all, there may still be problems with acquiring funding to import technologies, with training employees to manage and maintain the technology, and with purchasing spare parts.

In particular with a view to the latter, the CDM could play a supporting role as it enables the generation of additional revenues based on the project's GHG emission reduction potential. Such income increases the credibility of the investment (so that, *e.g.*, banks are more willing to provide loans) and enables a training component for local employees, *etc.*

As such, the CDM could provide opportunities to demonstrate the functioning of a technology and to enable its roll-out into the economy of the host country in the medium to long term. By doing so, host countries could use the CDM as a strategic tool to support its sustainable development. The partly participatory assessment of the ENTTRANS project aims at assisting host country stakeholders in this process.

Exploring how technology implementation chains could be improved by domestic policy measures and how the CDM could help remove barriers within the chain, would make it easier for developing countries to take appropriate action to improve their investment climate. This could make them more attractive CDM hosts; in particular, if the projects become part of a long-run and consistent domestic sustainable development strategy.

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Box 1. ENTTRANS workshops

- **Thailand**, Bangkok, 29 June 2007 – organised by AIT, Thailand, and JIN, the Netherlands.
- **Kenya**, Nairobi, 10 July 2007 – organised by Practical Action, Kenya, and University of Edinburgh, UK.
- **China**, Kunming, 29 July 2007 – organised by Kunming University of Science and Technology, China, and University of Edinburgh, UK.
- **Chile**, 21 August 2007 – organised by Cambio Climático y Desarollo, Chile, and JIN, the Netherlands.
- **Israel**, 25 or 28 October 2007 – organised by Interdisciplinary Center for Technological Analysis and Forecasting, Israel, and the Environmental Protection Unit at the National Technical University of Athens.

Linking Beyond the Linking Directive: Solve the Technicalities Smoothly and Quickly

by Jozsef Fucsko*

The EU ETS has been operational since 2005 as part of EU climate policy. In 2005, the modalities and procedures for the implementation of the Kyoto Protocol, which were initially decided upon by COP-7 in the 2001 Marrakech Accords, were adopted by the first meeting of the Kyoto Protocol Parties (MOP-1). The 2004 Linking Directive allows for the trade of CERs and ERUs from CDM and JI projects in the EU ETS market. However, there are more EU ETS-Kyoto Protocol linking issues to be resolved, two of which are discussed in this contribution.

A first issue relates to the eligibility to trade allowances within the EU ETS from 2008 onwards. Whereas during 2005-2007 ETS allowances are traded between installations only, during the second ETS phase each allowance transfer is accompanied by a transfer of an assigned amount unit (AAU) under the Kyoto Protocol (traded via Protocol Article 17). However, this requires that EU Member States are eligible to transfer AAUs and thus comply with the relevant conditions determined by COP/MOP-1. Currently, by mid-2007, no country has yet fulfilled these conditions.

Therefore, EU ETS installations run the risk that their (international) allowance trading contracts become non-executable as long as their governments are not eligible to trade AAUs under the Kyoto Protocol.

Second, as per the decision of COP/MOP-1, Kyoto Protocol Parties must keep a commitment period reserve (CPR) in order to prevent overselling AAUs. The CPR allows Parties with a GHG emissions level below their assigned amount to sell their entire surplus, but prevents Parties from 'recklessly' selling AAUs if their actual GHG emissions are higher than the assigned amount. However, even in the case of an AAU deficit, up to 10% of the allocated five year assigned amount can still be sold.

The hitch comes with the privatisation of part of the AAUs when they need to be transferred within the EU in conjunction with EU allowance transfers. This could lead to situations in which EU ETS companies that temporarily transfer large amounts of ETS allowances require Parties to transfer more AAUs than their CPR allows them to. While the CPR requirement should be satisfied at any time, the EU ETS requires annual settlement only; therefore a possible conflict might arise between the two systems, even if installations eventually comply with the stipulations of the EU ETS.

The basic problem is that, although a CPR infringement situation is unlikely (it requires coherent behaviour of a large number of companies with large-scale overselling, lending or simply transferring allowances to mother company accounts for a while), general restrictions on EU ETS trade may be imposed. This would unreasonably affect EU ETS installations' trading flexibility and entail liquidity constraints. Within the framework of a national solution, it might be possible to apply uneven batching of allocation over the five years (say 5%, 20%, 20%, 20%, 35%), or breaking down the CPR rule to the ETS companies (*e.g.* they should always hold 90% of the allocated EUAs or the amount corresponding to their last years emissions, whichever is lower).

Alternatively, EU ETS installations could be left free in their trading behaviour, irrespective of the theoretical possibility of conflicting with their countries' CPR. After all, the threat of the €100/EUA applicable fine will stimulate compliance with liabilities anyway, and should ETS capped companies not do so, the fine is a strong compensation for the respective Member States' additional Kyoto Protocol compliance costs. An analysis of company behaviour in the first two years of trading could show whether the intuition of unlikely CPR violation can be accepted or rejected.

In this context, also a theoretical legal issue emerges: how to deal with an 'innocent' installation that would be entirely banned from trading just because others' activities threaten to breach the CPR floor? My suggestion is to arrange for prudent state AAU management, continuous monitoring and analysis, and only in the event of approaching the CPR, apply general allowance trading constraints, or *temporarily* intervene by increasing the state AAU/credit portfolio to maintain the CPR.

Technically, the easiest and at the same time most efficient solution would be to exempt the EU ETS sector from the CPR rule (apply it only to state owned AAUs). This, however, may be politically difficult, because it would require modification of the COP/MOP-1 decisions. It is worth noting that the above described temporary CPR violation – contrary to first intuition - is less likely in AAU restricted 'EU-15 States' than in the new Member States which are likely to have surpluses (see Box 1).

In the imminent task of matching the Kyoto Protocol and EU ETS, governments are facing several technical issues. In this process, it is hoped that decision makers formulate their decisions so that GHG markets can maintain liquidity and function efficiently with compliance generally achieved at the lowest possible cost.

Box 1. CPR violation

The following two cases explain why temporary CPR violation is less likely in AAU restricted 'EU-15 States' than in the new Member States which are likely to have AAU surpluses.

1. If a country has an AAU deficit (or a surplus <10%), CPR violation due to EU ETS is highly unlikely with just a slightly prudent (non-overselling) state behaviour. For example, let us assume that such a country has annually 100 Mt of AAUs, of which one third, 33 Mt, is allocated to the trading sector. The CPR would allow overselling 5x10=50 Mt of AAUs, larger than the whole size of the annual EU ETS! Thus, with a prudent government, in the case of AAU deficit, it is practically impossible to breach the CPR in a country with less than 50% AAU allocated to the trading sector (in our 33% example, the government can even oversell 17 Mt)! This statement might need refinement if we think companies in masses may also 'overutilise' their temporarily increased EUA position in the March-April overlapping allocations.
2. If a state has a surplus >10%, it should never sell all the expected surplus of the remaining years, but form an AAU buffer reserve, equalling the expected size of EUA overtransfer. This is because if the state sold its entire surplus, then even one EUA oversold would hit the CPR rule. The buffer reserve can be banked or sold in the grace period after the Kyoto commitment period.

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GHG Reduction vs. Nature Protection under JI: the Case of Wind Power Projects in Bulgaria

by Marieta Koleva *

This article tackles the absence of sustainability requirements in the JI project approval procedure. Consequently, financing of climate mitigation projects with dubious environmental impacts has become possible under JI. Two projects taking place in Bulgaria demonstrate these concerns and raise considerations about whether the commitment of the UNFCCC to the objective of sustainable development is sufficiently addressed.

Activities for climate change mitigation are not always compatible with other aspects of environmental protection, unless a proper Environmental Impact Assessment (EIA) is undertaken and all the pros and cons considered. In the present situation where GHG emission reductions have a market price and other environmental services such as biological diversity not, the latter tend to fall behind the former in priority.

Environmental impact

The Guidelines for the JI Track 2 verification procedure do not require an EIA for projects. The only reference to EIA is in paragraph 33 (d) of the Guidelines,[1] which stipulates that project participants have to perform an EIA if they or the host Party think the project has significant environmental impacts. This means that if a country has minimal environmental protection standards, or has good standards with a flexible enforcement, or concludes that a JI project's negative environmental impacts are not significant, JI may be used to finance GHG mitigation projects which may not be sustainable with a view to non-GHG environmental impacts.

The JI procedure requires that accredited independent entities (AIE), who have the task to validate project plans and verify project results, have a strong expertise in environmental auditing. However, should an AIE become aware during the validation process that a project, which has been consented already by the host country government, may have adverse environmental impacts, it may not want to question the decision of the host country's authority to approve the project EIA.

Moreover, since paragraph 31 of the JI Guidelines for a project design document (PDD) does not mention environmental impacts of a JI project, the attention paid to this issue in the PDDs is generally little. According to the JI Supervisory Committee (JISC), this explains why PDDs rarely address projects' environmental impact in sufficient detail, even though paragraph 40 of the Guidelines state that information supporting an EIA shall not be considered confidential and can therefore be disclosed to the public.

Important Bird Areas

The issue of how JI projects could lead to negative environmental impacts can be illustrated by two Bulgarian JI projects: Ref. Nr. 0002 "*Pool of Small Hydro Power Stations and Wind Energy Parks Project*" (ERU buyer: the Austrian JI/CDM Programme), and Ref. Nr. 0047 "*Kaliakra Wind Power Project*" (ERU buyer: Japan Carbon Finance, Ltd.). These two wind power project activities are currently under determination (*i.e.* check whether they are in accordance with the JI Guidelines determined by the COP/MOP and JISC) by Det Norske Veritas Certification AS and JACO CDM., Ltd, respectively.

The impact of wind turbine blades on birds is not a new problem, but in Bulgaria, where wind energy generation is in its infancy, it is tolerated with some reluctance because of economic reasons. Due to this 'business-as-usual' approach, in Bulgaria multiple investment initiatives for wind power parks are being facilitated in places which have also been identified as Important Bird Areas (IBA). These sites are of critical importance for the long-term viability of bird populations. The IBA Network is a worldwide programme with acknowledged scientific value carried out by BirdLife International.

The wind power turbines of both JI projects are situated in 'Kaliakra IBA', on the northern Bulgarian Black Sea coast. This area is identified as an IBA because of its location on Via Pontica, which is the second biggest migratory flyway in Europe with large bird concentrations during spring and autumn migration.

According to the Bulgarian Biodiversity Act, the area provides a key habitat for 85 species of conservation importance. It is proposed as a Special Protection Area (SPA; part of the EU Natura 2000 network) under the EU Birds Directive. Bulgaria was due to designate and protect SPAs by the time it joined the EU in January 2007, but this process has not yet been completed. The Kaliakra IBA also meets the criteria of the Emerald Network of the *Convention on the Conservation of European Wildlife and Natural Habitats* whose Secretariat has recently opened a file about these wind farms projects because of their concerns about the potential biodiversity impacts.

Green light

Despite the high vulnerability of the area, the construction of wind turbines in the above-mentioned JI projects has been given the green light by the Bulgarian authorities without an EIA, whereas the EIA of the 'Kaliakra Wind Power Project' was approved, even though its analysis of the impact on avifauna is inadequate. Both projects disclose limited and superficial information in the section on 'Environmental Impacts' of their PDDs (Section F), which cannot demonstrate the stated absence of negative environmental impacts. Moreover, since Bulgaria has not undertaken a strategic environmental assessment to determine the potential impacts of its climate change mitigation policies, even less is clear about the cumulative effects of multiple wind farm projects in the area.

It is therefore not a surprise that the Secretariat of the *Convention on Biological Diversity* has initiated co-operation with the UNFCCC Secretariat to ensure integration of biodiversity considerations into the implementation of the Kyoto Protocol. The narrow scope within which climate protection activities are considered and assessed needs to be broadened urgently, in order to ensure that these are consistent with other environmental and nature protection requirements. The issue of *sustainable* climate change mitigation needs to be tackled now, because, if we can have doubts about the sustainable development contribution of JI Track 2 projects (with external validation and verification), what can we reasonably expect from the JI Track 1 (fast track) projects?

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[1] FCCC/KP/CMP/2005/8/Add.2, 30 March 2006: http://unfccc.int/resource/docs/2005/cmp1/eng/08a02.pdf#page=2

Podilsky Wet to Dry Cement JI Project in Ukraine

On 29 March 2007, the UNFCCC Secretariat announced that the JI Supervisory Committee had finalised the determination ('approved') the first emission reduction project under JI. The Podilsky Cement factory, within which the project will be carried out, is located 7 km away from Kamyanets Podilsky in the Western part of Ukraine.

From wet to dry production

The Podilsky Cement factory is the most significant employer in and around Kamyanets Podilsky, as well as one of the biggest employers in the Khmelnitsky oblast (the district of Ukraine that Kamyanets Podilsky belongs to). The parties involved in the project are JSC Podilsky Cement (on behalf of the host country, Ukraine) and CRH Finance Limited (on behalf of the investor country, Ireland). It is estimated that the project's total GHG emission reductions will amount to slightly over 3 Mt CO_2-eq. throughout the period of January 2009 (start of the project's crediting period) to December 2012 (end of Kyoto Protocol commitment period). The average annual emission reductions during this period are estimated at 755,851 tonnes of CO_2-eq. Further information about the project's determination procedure via the JI Supervisory Committee is provided in Box 1.

Podilsky Cement factory was constructed in the 1970s and consists of six wet kilns, of which four are currently used for the cement production process. The aim of the JI project is to substitute the wet production process of cement with a dry production process and in this manner to reduce the GHG emissions originating from the combustion of fossil fuels during the cement production. The project's emission reduction units (ERUs) will be purchased by CRH Finance Ltd. from Ireland.

Raw meal

Wet cement production, which is typical for Ukraine (as well as for the Russian Federation), involves mixing raw materials (limestone and clay or loam) with water in order to produce slurry. Further in the process, water is evaporated from the homogenized mixture and this step in the production requires significant amounts of energy. The raw meal (dried slurry) is subjected to high temperatures in a rotary kiln, where the reaction of calcination takes place (its final products are lime and CO_2).

The lime is further influenced by the temperatures of 1,400 –1,450 °C. This reaction, called sintering, results in clinker. The final stage of cement production is fine crushing of clinker and mixing the substance with mineral components, such as slag, fly ash or gypsum.

In the case of dry cement production, the raw materials are mixed without water and therefore the evaporation process can be omitted. The latter technology results in 53% reduction of energy consumption which would be needed for the wet production process.

Mothballing

The €140 m investment project involves replacing the old installation with a new one (plus equipment for milling and homogenization of raw material, precalciner, preheater tower, kiln for dry cement production) and mothballing of the existing wet kilns. The latter kilns are to be used in case of operational problems with the new system and will remain in reserve for a 5-year test period of the new production line.

The four 'wet kilns' will be replaced by one four-stage calciner kiln system with a grate cooler. The raw meal will be heated to 800°C with the exhaust heat from the kiln. At 950°C the precision of calcination reaction is controlled. The fully calcined raw meal undergoes sintering in the kiln and the clinker formed in the process is placed first in the cooler and afterward in the clinker storage. Moreover, an additional heat generator will be installed in order to allow the raw mill produce the first raw meal before the kiln starts operating. The primary fuel used will be coal, but natural gas and other fuels are also considered.

Potential risks

The current daily production capacity of the operating kilns is 1,632 tonnes of cement per kiln. This, with rotary kilns operating 325 days per year, amounts to a total production capacity of 3 m tonnes of cement per year. The projection for the years 2010-2012 (production is expected to be lower in 2009) with the application of dry cement production technology equals 2.5 m tonnes of cement per year. The daily production capacity of the new kiln is approximately set at 7,000 tonnes of clinker, with the operation period of 330 days per year.

Four potential risk factors to the project have been identified in the Project Design Document[1] and solutions provided. First of all, since the project requires significant long-term financing and as the Ukrainian financial market is not able to provide funding for such large investments, CRH Finance Ltd. will be the investor. Second, as wet cement production is the most commonly applied method in Ukraine, there is insufficient knowledge about the new technology. In this case, CRH will provide assistance to the Podilsky Cement employees whenever necessary. Moreover, cement production in Ukraine depends on the demand for cement in the market, which in its turn depends on the economic situation of the country. In order to avoid

[1] The Project Design Document (PDD) for the project "0001. Switch from wet-to-dry process at Podilsky Cement, Ukraine" can be downloaded from http://ji.unfccc.int/JI_Projects/Verification/PDD; The final determination report can be found at http://ji.unfccc.int/JI_Projects/Verification/FinDet.html

Box 1. The project's determination as JI activity

Joint Implementation projects have to go through a similar, though more simple procedure compared to the CDM. A Project Design Document (PDD) has to be made which should be determined (comparable to validation) by an Accredited Independent Entity (AIE). The last step in the process is that the JI Supervisory Committee (JISC) of the UNFCCC finalises this determination The main difference with CDM is that there is no requirement to use an approved (CDM) methodology for baseline determination and monitoring. "For this type of project no CDM methodology was available", explains Lennard de Klerk, Director of Global Carbon BV, developer of the project. "Nevertheless, we have applied the practice available in the CDM as much as possible. For example, we have used the CDM tool for the demonstration of additionality."

This first JI project was well received and no review was requested by any of the JISC members. Under the rules of the JISC, any similar project can now use the same approach that was taken by this JI project. De Klerk: "The majority of the Ukrainian and Russian cement industry is still based on a wet process. The acceptance of this ever first JI project opens the way for other cement factories to use the JI mechanism to switch from a wet to a dry process and reduce their CO_2 emissions. At the same time it shows that JI helps to reduce the specific energy consumption in the industry, which is one of the main strategic priorities of both Ukraine and Russia."

excessive production, conservative market forecasts were taken into consideration while estimating production levels during the crediting period. Finally, there was a risk that the project would not be approved by the Ukrainian Government due to the lack of an approval procedure. This problem was solved by consulting and gaining approval from the regional authorities and presenting the project to the responsible ministry in the process of project setup.

Baseline determination

In order to calculate the GHG emissions in the baseline and project scenarios, the "CO_2 Emissions Monitoring and Reporting Protocol for the Cement Industry" prepared by the Working Group Cement of the World Business Council for Sustainable Development, has been used. There were five potential baseline scenarios developed, keeping in mind the following criteria:

- The cement market is a competitive market.
- The factory should meet the quality requirements of the clients.
- The factory should be able to meet the growing demand for cement on the Ukrainian market.
- The factory should remain profitable.

The first scenario emerging is to follow business-as-usual (wet cement production using natural gas as fuel). The second scenario assumed the use of the same wet cement production technology but with the use of coal as fuel. This option is considered more profitable for Podilsky Cement as natural gas (which needs to be imported) has become more expensive in Ukraine.

In February 2005, the Board of CRH Finance Ltd. decided to invest in a coal mill for the Podilsky company. Such an investment not only increases the energy costs of the factory, but it is also very important for the security of energy supply, which has become a significant factor in the country since the gas supply interruption in Ukraine in January 2006.

The other possible scenarios concern conversion of the production process to dry production, again by assuming coal or natural gas as fuel (third and fourth scenario, respectively). In both cases, the required investment would amount to €140 m.

Finally, the most expensive option (fifth scenario) would be the construction of a new cement plant. Since such a construction process is estimated to take several years, the plant would have to be built on a new location. The construction costs for such a new plant are estimated at about € 200-300 m. Next to higher expenses, new permits would be required and new infrastructure would have to be built.

The scenario chosen as a baseline for this project is therefore the wet cement production with coal as fuel (scenario two above). The baseline for the project was determined by Global Carbon B.V., the Hague (the Netherlands). The estimated cumulative baseline emissions in the period 2009-2012 amount to 7,541,120 tCO_2-eq, while the project emissions are estimated at 4,517,717 tCO_2-eq. This means that the total emission reductions of the project in years 2009-2012 amount to 3,023,403 tCO_2-eq. The project's crediting period starts on 1 January 2009 and the project lifetime is expected to be at least 30 years.

Other project benefits

The environmental benefits resulting from the project are GHG and dust emission reductions and the application of Best Available Techniques standards for non-GHG emissions. The emissions of dust will go down from 150 grams/second in 2005 to 11 g/s (in Ukraine, emission limits are given in grams per second). As for the non-GHGs, NOx emissions will decrease to 500 mg/Nm³. Since the sulphur content in the raw materials is low, these emissions have not been taken into consideration in the project setup and neither are they supposed to increase. The environmental impact of the project was assessed by the Ukrainian authorities before the construction permit was granted.

Moreover, there are social and economic benefits connected to the project. First of all, Podilsky Cement will remain one of the most significant employers in the region with job security not only for the employees of the factory, but also for its suppliers and contractors. Additional employment will also be provided for 300 construction workers during the 24-month construction period. Finally, due to the project, a modern cement production technology will be implemented in Ukraine with possible spill-over effects to other plants in the country.

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Linking Domestic Offset Projects to the EU-ETS

The 2004 Linking Directive enables installations covered by the EU Emissions Trading Scheme (ETS) to purchase GHG credits from emission reduction projects. Eligible projects in this context are activities carried out under the flexibility mechanisms of the Kyoto Protocol: Joint Implementation (JI) and the Clean Development Mechanism (CDM).

In addition to JI and the CDM, the Linking Directive, at least conceptually, also provides scope for allowing GHG emission reductions achieved through so-called domestic offset projects to enter the ETS market. Domestic offset projects resemble JI and CDM activities in the sense that their GHG accounting procedures are similar, but these projects take place outside the scope of the Kyoto Protocol. A typical domestic offset project is an investment in a decentralised sustainable energy system within the EU, but outside the EU-ETS, through which GHG emissions are reduced and sold as allowances to an EU-ETS installation. The extent to which domestic offset projects will be used during the second phase of the EU-ETS (2008-2012) is presently uncertain and depends on political decision making by Member States in the near future.

With a view to this political context, the *Energy Valley Foundation* in Groningen, the Netherlands (see Box 1), commissioned a study to explore what the linking of domestic offset projects to the EU-ETS could look like. The study had two objectives:

1. Explore how selling GHG credits to EU-ETS installations could enhance the financial feasibility of sustainable energy production projects in the Netherlands.
2. Given this outcome, analyse to what extent the GHG credit revenues could reduce the need for public support for sustainable energy projects in the Netherlands.

The study has been carried out by the Foundation Joint Implementation Network (JIN), in co-operation with Jos Cozijnsen Consultancy (both in the Netherlands).

Hybrid system

The analysis in this study has been based on a hypothetical hybrid system in which the unprofitable part of a sustainable energy production project is financed by a combination of feed-in tariffs and GHG credits. The Dutch feed-in tariff system (in Dutch: MEP) is taken as a basis for the analysis. Figure 1 illustrates what the interaction between the different sources of income for a domestic offset project could look like. It assumes a required rate of return for a financially feasible investment of 15% per year of which 8% can be covered by the sales of electricity. The remaining 7% is covered by a combination of the revenues from the GHG credits and a feed-in tariff. The example shows that with higher ETS prices the required feed-in tariff could become lower and reduce projects' income dependency on 'conventional' national feed-in tariff systems, and vice versa. The theoretical case of Figure 1 has been applied in this study to two actually existing sustainable energy projects in the Northern part of the Netherlands: a co-digestion biogas and a pyrolysis project.

The emission reduction performance of both projects has been calculated using Life Cycle Analysis (LCA) for GHG emissions. Three project phases have been identified:

1) feedstock production/supply,
2) conversion process/energy production, and
3) energy usage.

For each phase, a baseline has been determined by estimating the GHG emissions in the absence of the project. Subsequently, the emission reductions have been calculated by taking the difference between the baseline and the actual project emissions. For the baseline estimates, to the extent possible, the experience with GHG accounting methodologies under JI and the CDM has been used, including the use of default emission factors, baseline assumptions, and conversion parameters.

Box 1. Energy Valley

The Energy Valley foundation in Groningen, the Netherlands, manages a public-private co-operation framework which aims to integrate energy-related activities carried out in the Northern provinces of the Netherlands into a cluster of national and international importance. Its main objective is to enhance economic development and employment growth in the Northern part of the Netherlands through optimisation of energy-related activities.

Energy Valley is supported by the European Community, the European Fund for Regional Development and the Framework for co-operation among the Northern provinces in the Netherlands, and EZ/Kompas.

The detailed structure of the Energy Valley concept is provided by (national and regional) governments, research institutes and businesses. In order to co-ordinate this structure and observe that the above-mentioned objective is achieved, the Energy Valley Foundation has been created. In consultation with the parties involved, the organisation marks out the strategic course and monitors the connection and harmonisation between the various initiatives undertaken within the Energy Valley. The organisation plays a stimulating and supporting role for the companies and institutions that together form Energy Valley.

For further information, please visit:
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Emission reduction calculations

For the co-digestion project (production: 4.7 million m^3 biogas per year), emission reductions have been expressed in terms of CO_2, N_2O and CH_4, since the project reduces N_2O and CH_4 in the feedstock generation phase (*i.e.* animal waste collection) and since these reductions could relatively easily be calculated and monitored.

For the pyrolysis project, however, the feedstock origin could not be defined in a

Figure 1. Theoretical interaction GHG credits and energy subsidies

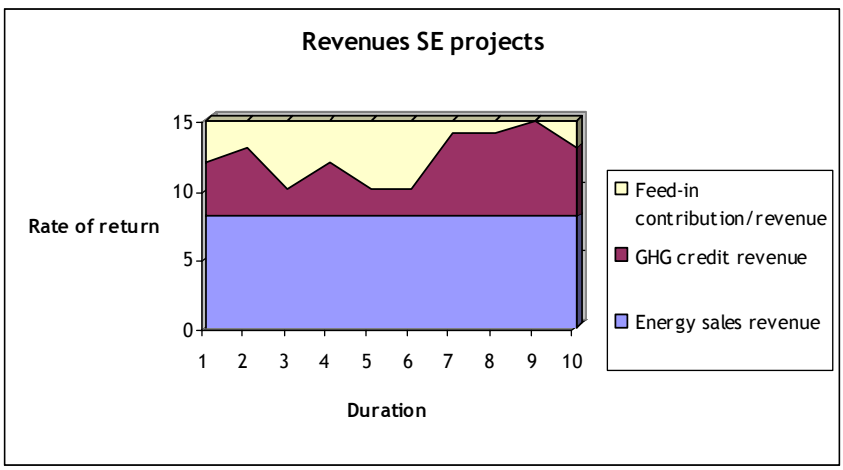

Table 1. Impact of CO_2 prices on project returns

	Co-digestion	Pyrolysis*
GHG reduction/yr	9.4 ktonnes	12.9 ktonnes
CO_2-eq revenues		
€ 15/tCO_2-eq./yr	€ 140,850	€ 193,950
€ 30/tCO_2-eq./yr	€ 281,700	€ 387,900

* For the pyrolysis project, a conservative estimate has been shown here, *i.e.* including a discount for the water content in the feedstock. Without this discount, the emission reduction would be estimated at 17.2 kt CO_2/year (revenue of € 517,000 per year)

similarly precise manner so that the N_2O and CH_4 emission reductions from the first project phase could not be calculated.

In the baseline scenario for the co-digestion project, it could be assumed that the biogas (*i.e.* green gas) either replaces use and transport of natural gas, or is delivered to a co-generation plant (with a 35% efficiency rate) to produce electricity for the grid and heat. According to the first assumption, the project reduces 8.9 kilotonnes CO_2-eq. emissions per year (for natural gas use a standardised emission factor has been used). Using co-generation as a baseline case delivers 9.4 ktonnes CO_2-eq. per year.

The electricity produced by the pyrolysis-project (annual bio oil production: 21 ktonnes) is delivered to the grid and for the baseline calculations a straightforward, average CO_2-eq. grid factor of 0.61 kg CO_2/kWhe has been used. Taking a conservative estimate of the annual electricity production by the project (*i.e.* taking into consideration the water content of the bio oil), the project could reduce 13 ktonnes CO_2-eq. per year.

To keep calculations reasonably simple and the estimates conservative, for both projects possible emission reductions through heat recovery and usage, other than the projects' own heat demand, have not been included in the emission reduction estimations. Including these reductions in potential future projects would provide some additional scope for emission reductions to be claimed from domestic offset projects.

Potential CO_2 revenues

In absolute financial terms, both projects could, should they now be eligible as domestic offsets linked to the ETS, generate the following revenues. Depending on whether the co-digestion project is assumed to replace natural gas or deliver biogas to a co-generation unit, and whether only CO_2 is considered or N_2O and CH_4 as well, the revenues from selling the GHG credits to EU-ETS installations could vary from little over €130,000 to €280,000 per year.

For the pyrolysis-project the revenues could amount to €200,000 to well over €500,000 per year. These estimates are based on the assumption that domestic offset project credits could be sold to EU-ETS installations at a price of between €15 (low estimate) to €30 per tonne CO_2-eq. (high estimate) in the course of the second EU-ETS period and beyond. These figures are summarised in Table 1.

Applying a conservative extrapolation of these project findings, for illustration purposes, indicates that the total Dutch feed-in tariff expenditures could be reduced by at least 10% (up to 30% depending on the specific project types and categories). This implies that, when taking the 2003-2006 MEP expenditures as a point of reference, GHG crediting of domestic offset projects could have saved around €145m of public (MEP) expenditures.

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Post-Kyoto

G-8 position on climate change

On 8 June 2007, the Joint Statement of the G-8 members, accompanied by Brazil, China, India, Mexico and South Africa was issued in Heiligendamm, Germany. Apart from announcing the decisions made about the cross border investments, promoting research and innovation, and development of poorer areas, the G-8 concentrated on the issue of climate change and security of energy supply.

With respect to the topic of climate change, the G-8 countries expressed their support to the negotiations on a future climate policy regime, which would have to succeed the Kyoto Protocol. According to Meeting Chair and German Chancellor Angela Merkel, global average temperature increase would have to remain below 1.5 to 2.5°C during this century.

Although no common GHG emission reduction target could be agreed, the G-8 leaders said they wanted to take the vision of the EU, Japan, and Canada that GHG emissions would need to be halved by the year 2050 seriously. It was not made clear, however, what the 50% emission reduction objective precisely looks like and to which countries it would apply (*e.g.* G-8 only or a broader group of countries). Neither has it become clear what reference year will be taken for the reduction objective.

The G8 leaders expressed the need for "flexible, fair and effective" framework. They also pointed out that the economic incentives, such as carbon markets, play a very important role in developing climate friendly technologies. The parties involved in the G-8 summit in Heiligendamm also stressed the importance of the upcoming UNFCCC conference in Bali, Indonesia, in December 2007. As for the security of energy supply, not only energy efficiency, but also renewable energy sources, were a subject of discussion during the G8 summit.

UK Climate Change Bill draft

After the publication of the *Energy White Paper* by the UK Government, which discussed the national, as well as the international, challenges with respect to energy supplies, the draft Climate Change Bill has been developed and subjected for assessment by DEFRA. The draft was released on 13 May 2007.

The Bill establishes fixed targets for CO_2 emission reductions in the UK (60% below1990 levels by 2050) and proposes a new administrative body, which would take care of the domestic emissions legislation. This new body would also be responsible for introducing new domestic emissions trading schemes.

Next to that, a Committee on Climate Change would be created to provide expert advice to the UK Government. The Government, in their turn, must present annual reports on climate change impacts and (suggested) policies to adapt to expected and current changes.

CDM Methodologies approved by the CDM Executive Board

(updated 28 June 2007)

Approved large-scale project methodologies (46)

Meth. No.	Type of project
AM0001	Incineration of HFC 23 Waste Streams
AM0002	Greenhouse gas emission reductions through landfill gas capture and flaring where the baseline is established by a public concession contract
AM0003	Simplified financial analysis for landfill gas capture projects
AM0007	Analysis of the least-cost fuel option for seasonally-operating biomass cogeneration plants
AM0009	Recovery and utilization of gas from oil wells that would otherwise be flared
AM0010	Landfill gas capture and electricity generation projects where landfill gas capture is not mandated by law
AM0011	Landfill gas recovery with electricity generation and no capture or destruction of methane in the baseline scenario
AM0013	Avoided methane emissions from organic waste-water treatment
AM0014	Natural gas-based package cogeneration
AM0017	Steam system efficiency improvements by replacing steam traps and returning condensate
AM0018	Steam optimization systems
AM0019	Renewable energy project activities replacing part of the electricity production of one single fossil fuel-fired power plant that stands alone or supplies electricity to a grid, excluding biomass projects
AM0020	Baseline methodology for water pumping efficiency improvements
AM0021	Baseline methodology for decomposition of N2O from existing adipic acid production plants
AM0022	Avoided wastewater and on-site energy use emissions in the industrial sector
AM0023	Leak reduction from natural gas pipeline compressor or gate stations
AM0024	Methodology for greenhouse gas reductions through waste heat recovery and utilization for power generation at cement plants
AM0025	Avoided emissions from organic waste through alternative waste treatment processes
AM0026	Methodology for zero-emissions grid-connected electricity generation from renewable sources in Chile or in countries with merit order based dispatch grid
AM0027	Subsititution of CO2 from fossil or mineral origin by CO2 from renewable sources in the production of inorganic compounds
AM0028	Catalytic N2O destruction in the tail gas of Nitric Acid Plants
AM0029	Methodology for Grid Connected Electricity Generation Plants using Natural Gas
AM0030	PFC emission reductions from anode effect mitigation at primary aluminium smelting facilities
AM0031	Methodology for bus rapid transit projects
AM0033	Use of non-carbonated calcium sources in the raw mix for cement processing
AM0034	Catalytic reduction of N2O inside the ammonia burner of nitric acid plants
AM0035	SF6 Emission Reductions in Electrical Grids
AM0036	Fuel switch from fossil fuels to biomass residues in boilers for heat generation
AM0037	Flare reduction and gas utilization at oil and gas processing facilities
AM0038	Methodology for improved electrical energy efficiency of an existing submerged electric arc furnace used for the production of SiMn
AM0039	Methane emissions reduction from organic waste water and bioorganic solid waste using co-composting
AM0040	Baseline and monitoring methodology for project activities using alternative raw materials that contain carbonates in clinker manufacturing in cement kilns
AM0041	Mitigation of Methane Emissions in the Wood Carbonization Activity for Charcoal Production
AM0042	Grid-connected electricity generation using biomass from newly developed dedicated plantations
AM0043	Leak reduction from a natural gas distribution grid by replacing old cast iron pipes with polyethylene pipes
AM0044	Energy efficiency improvement projects: boiler rehabilitation or replacement in industrial and district heating sectors
AM0045	Grid connection of isolated electricity systems
AM0046	Distribution of efficient light bulbs to households
AM0047	Production of waste cooking oil-based biodiesel for use as fuel
AM0048	New cogeneration facilities supplying electricity and/or steam to multiple customers and displacing grid/off-grid steam and electricity generation with more carbon-intensivefuels
AM0049	Methodology for gas based energy generation in an industrial facility
AM0050	Feed switch in integrated Ammonia-urea manufacturing industry
AM0051	Secondary catalytic N_2O destruction in nitric acid plants
AM0052	Increased electricity generation from existing hydropower stations through Decision Support System optimization
AM0053	Biogenic methane injection to a natural gas distribution grid
AM0054	Energy efficiency improvement of a boiler with oil/water emulsion technology

For most up to date information regarding approved and consolidated methodologies, see:
http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html

Approved Consolidated Methodologies (11)

ACM0001	Landfill gas project activities
ACM0002	Grid-connected electricity generation from renewablesources
ACM0003	Emissions reduction through partial substitution of fossil fuels with alternative fuels in cement manufacture
ACM0005	Increasing the blend in cement production
ACM0006	Grid-connected electriciy generation from biomass residues
ACM0007	Conversion from single cycle to combined cycle power generation
ACM0008	Coal bed methane and coal mine methane capture and use for Power (electrical or motive) and heat and/or destruction by flaring
ACM0009	Industrial fuel switching from coal or petroleum fuels to natural gas
ACM0010	GHG emission reductions from manure management systems
ACM0011	Fuel switch from coal and/or petroleum fuels to natural gas in existing power plants
ACM0012	GHG emission reductions from waste gas or waste heat or waste pressure based energy system

Approved Afforestation and Reforestation Methodologies (7)

AR-AM0001	Reforestation of degraded land
AR-AM0002	Restoration of degraded lands through afforestation/reforestation
AR-AM0003	Afforestation-reforestation of degraded land through tree planting, assisted natural regeneration and control of animal grazing
AR-AM0004	Reforestation/afforestation of land currently under agricultural use
AR-AM0005	Afforestation and reforestation project activities implemented for industrial and/or commercial uses
AR-AM0006	Afforestation/Reforestation with trees supported by shrubs on degraded land
AR-AM0007	Afforestation and reforestation of land currently under agricultural or pastoral use

Meetings, books, studies and reports

Recent meetings

Climate Change: Politics versus Economics, 25–26 June 2007, London, UK
Contact: The Royal Institute of International Affairs, London, UK
tel.: +44 (0)20 7957 5700
e-mail: conferences@chathamhouse.org.uk
Internet: http://www.chathamhouse.org.uk

African Banker's Carbon Finance Investment Forum, 28–30 May 2007, Johannesburg, South Africa
Contact: Glenn Hodes / Gregor Pfeifer
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tel.: +44 20 7462 7550
e-mail: glenn.hodes@risoe.dk / gpfeifer@africapractice.com
Internet:
http://uneprisoe.org/MidrandCarbon/

Emissions Trading 2007: Lessons from the Past and Strategies for the Future, 15 May 2007, Prague, Czech Republic
Contact: Mr Stan Kolar
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tel.: +420 221 082 683
fax: +420 221 082 684
e-mail: skolar@blackstonegv.com
Internet: http://www.tscr.cz

Third International Green Energy Conference, 18–20 June 2007, Vasteras, Sweden
Contact:
Internet: http://www.igec.info/

Studies & Reports

Ellis, J. and S. Kamel (2007), Overcoming Barriers to Clean Development Mechanism Projects, OECD/IEA and UNEP Risö Centre, COM/ENV/EPOC/IEA/SLT(2007)3, May 2007.
This paper assesses analyses barriers to CDM project development in countries that are presently "underrepresented" in the CDM pipeline of projects. The authors distinguish between specific CDM barriers, which are mainly of an institutional nature related to the CDM project cycle, and barriers that are of a more general nature such as political and economic stability of a country and its regulatory framework.

Examples of barriers identified are: stability of laws in host countries and the ability to enforce these; tax policies and import tariffs, which might make alternatives to sustainable energy technologies relatively cheap; unclear ownership structures for the technology and the CERs; denied access of decentralised energy and cogeneration plants to the grid; complex permit acquisition and custom formalities; and corruption.

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Shapiro R.J. (2007), Addressing the Risks of Climate Change: The Environmental Effectiveness and Economic Efficiency of Emissions Caps and Tradable Permits, Compared to Carbon Taxes, The American Consumer Institute.
Based on an evaluation of the potential effectiveness, efficiency and administrative challenges of emissions trading and carbon taxes, the author concludes that the latter instrument is a more effective means to lower emissions than a cap-and-trade programme. Carbon taxes would force businesses and industries to choose between 1) reducing carbon consumption and increasing energy efficiency; or 2) paying the higher energy costs, which provides the right incentives for companies to reduce their CO_2 emissions.

The report can be downloaded from:
http://www.theamericanconsumer.org

Capoor, K. and P. Ambrosi (2007), State and Trends of the Carbon Market 2007, Washington D.C.: World Bank, May.
This year's carbon market overview shows a threefold increase in value on the international carbon markets over 2006 when compared to 2005. The market was dominated by the sale and re-sale of EU Allowances at a cumulative value of about €19 billion. Project-based activity grew sharply as well primarily through the CDM to a value of about €3.8 billion. The voluntary market for reductions by corporations and individuals grew to an estimated €80 million.

Since 2002, a cumulative 920 Mt CO_2-eq. have been transacted through primary CDM transactions for a cumulative value of about €6 billion with both HFC-23 and N_2O destruction projects taking the lion's share with about 50% of the market volumes.

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Fenhann, J. (2007), CDM/JI Pipeline Overview, Roskilde, UNEP Risø Centre.
Next to the monthly publication of the UNEP Risø CDM/JI Pipeline spreadsheets, a website has been launched featuring the main graphs and tables from the spreadsheets. It provides a very handy, easy to use interface in analysing developments on the Kyoto markets.

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http://www.cdmpipeline.org

Neeff, T. and S. Henders (2007), Guidebook to markets and commercialization of forestry CDM projects, Tropical Agricultural Research and Higher Education Center (CATIE).
Noticing the little experience gained on trading CERs from forestry projects so far, this guide aims at providing information to project developers about the commercialisation of CERs from forestry projects.

The guidebook lists minimum requirements that CDM forestry projects need to meet, outlines steps of the CDM project cycle, gives an overview of risks, looks at forestry CDM projects from a financial viewpoint, and discusses quality standards. Besides, the authors address the present state of the markets and describe the mechanics and policy processes underlying them. Finally, a dedicated section addresses the procedures for commercialisation of carbon credits and analyses buyer's preferences, and project success criteria.

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CD4CDM (2007), Determining a Fair Price for Carbon, CD4CDM Perspectives, UNEP Risø, Denmark, May.
This publication provides insights and in-depth analysis from traders, DNAs, legal advisors, investors, and CDM developers on determining 'equitable' prices in CDM deals.

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The **Joint Implementation Quarterly** is an independent magazine established to exchange the latest information on the Kyoto mechanisms and emissions trading. *JIQ* is of special interest to policy makers, representatives from business, science and NGOs, and staff of international organisations involved in the operationalisation of the Kyoto mechanisms, including emissions trading.

The **eJIQ** is established as an addition to the regular *JIQ* in order to quickly respond to the latest developments in the field of the Kyoto mechanisms and emissions trading.

JIQ*web* Popular Downloads

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JIQ Vol. 10, No. 1	10,839
JIQ Vol. 12, No. 4	6,335

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Abbreviations

AAU	Assigned Amount Unit
AIJ	Activities Implemented Jointly under the pilot phase
Annex A	Kyoto Protocol Annex listing 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	Countries with a quantitative CO_2 target (OECD, Central and Eastern European Countries, listed in Annex I to the UNFCCC)
Annex II Parties	OECD countries (listed in Annex II to the UNFCCC)
non-Annex I Parties	Countries without a quantified CO_2 target (also non-Annex B)
AWG	Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol
CCS	Carbon Dioxide Capture and Storage
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
DOE	Designated Operational Entity
DNA	Designated National Authority
ERs	Emission Reductions
ERPA	Emission Reduction Purchase Agreement
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
IET	International Emissions Trading
ITL	International Transaction Log
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
KP	Kyoto Protocol
LULUCF	Land Use, Land-Use Change and Forestry
MethPanel	Methodology Panel to the CDM Executive Board
MOP	Meeting of the Parties to the Kyoto Protocol
MoU	Memorandum of Understanding
PIN	Project Information Note
PDD	Project Design Document
SBSTA	UNFCCC Subsidiary Body for Scientific and Technological Advice
SBI	UNFCCC Subsidiary Body for Implementation
UNFCCC	UN Framework Convention on Climate Change

JIQ Meeting Planner

9-10 July 2007, Brussels, Belgium
EU Emissions Trading 2007: Preparing for Phase II
Contact: Environmental Finance Conferences
tel.: +44 20 7251 9151, e-mail: info@enviromental-finance.com, Internet: http://www.environmental-finance.com

27 -31 August 2007, Vienna, Austria
Intersessional meeting of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol and the fourth meeting on the dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention
Contact: Ms. Claudia Stelzer, tel.: +43 1 588 00 516 or Ms. Marlene Ully, tel.: +43 1 588 00 519, e-mail: unfccc2007@interconvention.at; online reservation: http://www.austropa-interconvention.at/congress/unfccc/

5-7 September 2007, Lima, Peru
Latin American Carbon Forum
Contact: IETA, e-mail: info@ieta.org, Internet: http://latincarbon.com/2007/

29-31 October 2007, New York City, USA
Carbon Market Insights Americas
Contact: Point Carbon, tel.: +1 202 289 3930, e-mail: conference@pointcarbon.com, Internet: http://www.pointcarbon.com

6-7 November 2007, Singapore
Carbon Forum Asia 2007
Contact: IETA, e-mail: info@ieta.org, Internet: http://www.carbonforumasia.com

19-21 November 2007, Groningen, the Netherlands
Energy Delta Convention 2007 (EDC2007) – the conference will focus on the growing importance of decentralised energy, gas as transition fuel and on energy transition in general
Registration: http://www.energyconvention.nl/

3-14 December 2007, Bali, Indonesia
COP 13 and COP/MOP 3
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