

Editor's Note

According to the report *State of the World Population 2011* (UN Population Fund), the world is now populated by 7 billion people. While it took 123 years to grow from 1 billion to 2 billion people (between 1804 and 1927), growing from 6 to 7 billion people has only taken 12 years. According to the report, population growth during this century will continue mainly in Asia (a peak of 5 billion people around 2050) and in Africa (population growth from around 1 to 3.6 billion by the end of the century).

This trend is an important development that the world has to cope with. In addition, the *World Economic Outlook 2011* showed that 2.7 billion people rely on traditional biomass for their energy needs, while 1.4 billion people have no access to electricity. In their study *Poor People's Energy Outlook*, Practical Action explains how the average percentage of people in developing countries without access to modern fuels for cooking is now slightly below 60%, whereas for meeting the Millennium Development Goal (MDG) this should be lower than 30%.

Another striking figure was recently published by Anderson (2011). He explained that for making the MDGs in Africa resilient to climate change, 40% more funding will be required over the next ten years.

Finally, the *World Energy Outlook 2011* projects that USD 38 trillion of investment is required to meet projected energy demand through 2035.

The above factors and trends show how strongly climate change has become interlinked with global

development and energy issues: a changing climate makes achieving development goals more difficult and expensive; and in the light of the climate urgency, increasing energy demand should primarily be met with low emission options. UNFCCC Executive Secretary Christiana Figueres has been clear about this: what we are doing to reduce GHG emissions is not enough; we need a green industrial revolution.

Such a 'revolution' needs a vision and an approach where global demographic, energy, development and environmental factors and trends are jointly dealt with. This is easier said than done as we have to deal with vested interests and many leaders consider the present financial crisis as the main short term challenge.

Still, there are some heartening developments. Perhaps not at the level of international negotiations, although Cancun delivered promising results, but, instead, at more local levels. For instance, in the Northern region in the Netherlands, the *Energy Valley* foundation (energyvalley.nl) has been working hard on, among other aspects, developing an infrastructure for green gas production and distribution. Over the past 50 years, the region has been an important natural gas producer, and green gas is considered a natural successor for that source. Farmers & Agrofood industries are being encouraged to produce biogas, which can be upgraded to green gas = natural gas quality. Knowledge centers, policy makers, and private sector entities (farmers, finance institutes, engineering companies) co-operate under an integrated approach based on a clear vision: to contribute to delivering green gas to 20% of Dutch households by 2020.

Although Energy Valley stakeholders have different interests and may not all be equally concerned about climate change, the overall strategy integrates different factors and concerns (e.g., depleting natural gas sources, and addressing economic slow down in the mainly rural area by looking for alternative opportunities in the agricultural sector) into an overall vision and approach for sustainable economic growth. It also demonstrates the strength of local solutions in light of local contexts.

Scaling up such local initiatives to higher policy levels is a big challenge, but the example shows that, even under difficult economic circumstances, it can be in anyone's interest.

In this issue

- 1 Editor's Note
- 2 JI in Russia: slow start, fast ride
- 4 New FP7 project: APRAISE
- 6 Why NAMAs should not make CDM mistakes
- 9 TNAssess - a tool for prioritising climate and development action
- 12 New JIN website
- 13 Reports
- 15 JIQ meeting planner

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Joint Implementation: Russians Harness their Horses Slowly, but Ride Fast

by Igor Shishlov*

Despite being a promising mechanism to capitalise on Russia's AAU surplus and to attract foreign investments into modernisation of the economy, JI did not really take off in Russia until summer this year. It was then that President Medvedev called for boosting JI projects, realising that the time remaining until the end of the first commitment period of the Kyoto Protocol is short.

Strong inflow of new projects

As explained in earlier issues of *JIQ*, the development of Joint Implementation (JI) in Russia was impeded by the lack of political traction. This was aggravated by an obscure tender procedure for project registrations. As a result, only 32 out of about 100 potential JI projects got registered under the first two tenders, organized in 2010 by Sberbank – the largest Russian bank responsible for management of JI projects.¹ By mid this year, only 5.5 million ERUs had been issued by Russia, compared to almost 25 million for its smaller neighbour, Ukraine. The JI prospects remained dim until 27 June 2011 when President Medvedev announced that Russia needed to boost JI to take advantage of the mechanism before the end of the first commitment period of the Kyoto Protocol.

The first results of the President's call could be seen quickly with the issuance of almost 17 million ERUs in July and August. The latest issuances of ERUs from two large HFC-23 destruction projects took place less than a week after submission of the reports verifying the reduction of these GHG emissions. It showed that Russia is capable of issuing ERUs quickly (although it is too early to consider such quick issuance a general rule).

At the same time, in August, Sberbank launched a new tender for registration of JI projects for up to 70 million ERUs. The tender attracted 70 applications with a total emission reduction potential of 106 Mt CO₂-eq. Half of these projects were new, i.e., they had not been submitted for JI registration before. This, again, demonstrates the high potential for JI in Russia: when the circumstances are more favourable, many new projects are presented.

No price floor

Sberbank has also cancelled the floor price for ERU sales contracts. The minimum price of €10 per ERU, imposed by the bank until recently, was subject to controversy and resulted in several conflicts, with the most notable leading to Denmark's withdrawal from its investments in Russian JI projects during spring this year. The change is especially important in the light of the current context of the bearish carbon market, with ERU spot price averaging €8.23 in September of this year.

New JI procedures

Finally, on 4 October 2011, the new legislation for JI procedures in Russia entered into force. The key amendments were, among others:

- The official limit on the ERU issuances during the first Kyoto commitment period is set at 300 million.
- The tender procedure is substituted with a call for applications. The most important implication of that is that there will be no more limits to project registrations, except for the overall limit of 300 million ERUs.
- Sberbank is obliged to be a third party in any foreign ERU trading contract. This controversial amendment provides the bank with a powerful lever to directly influence the sales of ERUs and the selection of buyers.
- The fees imposed by Sberbank for its services are limited at the level set for covering administrative expenses of the international oversight body, i.e. JISC.
- Revenues from the sales of ERUs have to be reinvested into energy efficiency and/or environmental projects. This is evidence that Russia is trying to use JI as a policy tool to channel additional investments into prioritised sectors.
- The legislation also sets precise time limits for each stage of the registration and issuance procedures. Theoretically, this makes the process more predictable, although previous experience has shown that the timelines are seldom observed in Russia (except for the two large HFC-23 projects for which recently ERUs have been issued, as discussed above).

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¹ According to the JI procedures in Russia of October 2009, Sberbank acts as Carbon Unit Operator and conduct tenders for identifying and selecting JI projects in Russia.

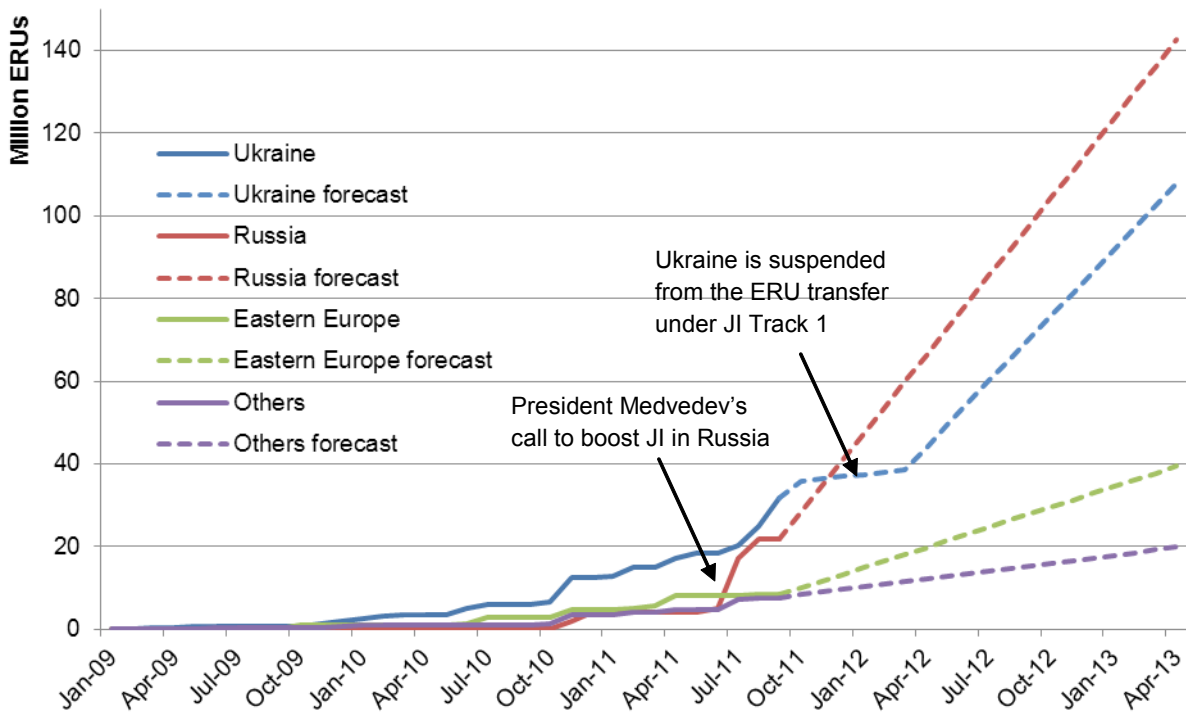


Figure 1. Cumulative ERU issuance and forecast until 30 April 2013
 Source: CDC Climat Research (October 2011).

How many ERUs can we expect?

The new regulations entered into force at the time when Sberbank was assessing the applications under the latest tender of August this year. This created a legal discrepancy and eventually led to Sberbank cancelling the August tender and opening a rolling-based application window between 17 October 2011 and 2 May 2012. All projects that applied for the JI scheme under the latest tender in August have to resubmit their documentation according to new procedures.

The elimination of the tender system means that Russia can theoretically issue up to 300 million ERUs for the period of 2008-2012. This officially set limit is unlikely to be reached though. Despite Russia's large JI potential (which, as explained above, is much larger than its project portfolio over the past couple of years), the present pipeline of projects (approved projects and projects with approval pending) shows that at maximum 200 million ERUs can be expected in the country between 2008 and 2012.

However, even this potential is unlikely to be fully realised due to various risks that affect the issuance success rate of a JI project. In fact, according to the risk-

adjusted ERU supply forecasting model,² developed by CDC Climat, Russia is expected to deliver 142 million ERUs during the 2008-2012 period (this is illustrated in Figure 1).

Still, this will probably make Russia the third largest supplier of Kyoto offsets after China and India. Moreover, the increase in Russian ERU supply will likely put additional pressure on the price of carbon, as the markets are already suffering from oversupply as well as the negative impacts of the Eurozone debt crisis.

For more information on JI in Russia, please check the Climate Brief no. 8 (CDC Climat Research, October 2011) available at: <http://www.cdclimat.com/Climate-Brief-no8-Joint.html?lang=en>

² The issuance success rate (issuance of ERU vs ERUs estimated in the PDDs) rarely achieves 100%. In the CDC Climat forecasting model historical data is used to make projections of future issuance rates depending on country of origin and type of project. For further details on the calculations, please see: <http://www.cdclimat.com/Climate-Brief-no8-Joint.html?lang=en>

APRAISE - Assessment of Policy Impacts on Sustainability in Europe

New project under EU Seventh Framework Programme

Vlasis Oikonomou*



JIN would like to present a new project under the EU Seventh Framework Programme, called APRAISE. This project, which has started in October of this year, will assess policy interrelationships and impacts on sustainability in Europe. The project is co-ordinated by JIN and will be conducted in co-operation with nine European partner institutes (the consortium is presented in Box 1). This article explains the objectives, work plan and outputs of APRAISE.

APRAISE aims to provide policy makers with an improved understanding of:

- the efficiency, effectiveness and efficacy of existing and potentially new environmental policies,
- how these policies could interact, and
- what could be the impact of such policy interactions on achieving social, environmental and economic goals at both the European and Member State level.

Through this, APRAISE can offer European and national policy makers a more holistic understanding of the interaction of different policies so that efficient policies can be formulated. For example, in some circumstances two policies can reinforce each other, whereas in other situations implementing these policies may be counterproductive. By evaluating existing and expected policy approaches for environmental policies within the EU, APRAISE can provide such insights: when can policy synergies be achieved and under what circumstances do we risk reduced policy effectiveness due to co-existence of policies? As these insights will be context-specific (e.g., sector or geographical context), the analysis will focus on both environmental policy making at the EU level and at the level of individual Member States.

The overarching motivation of the APRAISE project is therefore to contribute to research on and application of sustainability-oriented policy making by building a more comprehensive understanding of the policy systems at a sectoral, national, and pan-European level. The focus on interrelationships and tradeoffs at each policy level on different scales of observation

is of crucial importance when designing efficient policy mixes that can lead Europe to more significant sustainable pathways.

Specific objectives

Given the above project goal, the specific objectives of APRAISE are as follows:

- Improve the decision basis for the selection of policy tools through a better understanding of the efficiency, efficacy and effectiveness of different sustainability-related policy tools.
- Include policy interrelationships (synergies and trade-offs) into efficiency assessment and policy design. Interrelationships include intra-sectoral, inter-sectoral, and EU Member States interactions.
- Develop an improved methodological framework for the *ex-post* and *ex-ante* assessment of environmental policies and policy mixes (mainly environmental taxes, tradable permits, subsidies, regulations and financial instruments for investments in green technologies) based on a review and expansion of existing approaches.
- Empirically assess the existing and planned

Box 1. APRAISE partners

APRAISE is conducted by a high expertise consortium consisting of:

Co-ordinator:

- Joint Implementation Network (JIN, the Netherlands)

Partners:

- Joanneum Research (JR, Austria),
- Fraunhofer Institute for Systems and Innovation Research (Fraunhofer ISI, Germany),
- Science and Technology Policy Research University of Sussex (UoS, UK),
- National Technical University of Athens – Energy Policy Unit (NTUA, Greece),
- Centre for European Policy Studies (CEPS, Belgium),
- Government Institute for Economic Research (VATT, Finland),
- Laboratory for Energy Policy – University of Ljubljana (UL, Slovenia),
- Stockholm Environment Institute Tallinn Centre (SEIT, Estonia), and
- University of Pireaus Research Centre (UPRC, Greece)

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environmental policies in several EU Member States and selected sectors and expand the existing databases on cost, effects and social implications of environmental policies.

- Evaluate the role of sustainable development indicators for impact assessment. This includes:
 - a) an analysis of the relevance of existing indicators,
 - b) examining whether new or alternative indicators may represent a value added, and
 - c) assessing the contextual factors that shape the degree to which indicators are used by various policy actors and influence policymaking.

Methodology

In order to meet these specific policy-related objectives the following scientific and technical approach will be applied by APRAISE:

- Provide a critical overview and review of existing methodologies for the *ex-post* and *ex-ante* assessment of the costs, efficiency and impacts of policies and measures. A starting point will be the tool box for Impact Assessment developed under the Seventh Framework Programme project *Linking Impact Assessment Instruments to Sustainable Expertise* (LIAISE).¹
- Refine, expand and potentially develop new qualitative and quantitative methodologies for *ex-post* and *ex-ante* evaluation of policies and measures taking into account policy interactions that may lead to win-win situations for economic, environmental and social sustainable growth and improved co-ordination between EU Member States.
- Improve the available database on costs and impacts of policy tools and test existing and improved assessment methodologies by carrying out case studies in Member States in several key sectors (sectors are to be selected by the European Commission based on partners' range of expertise).
- Increase the analytical capacity of quantitative models, including the models *Global Trade Analysis Project* (GTAP)² and *Business Strategy Assessment Model* (BSAM), by expanding their sectoral scope and coverage of environmental policy instruments beyond the energy sector.
- Testing of these models to examine critical policy gaps and overlaps.
- Review and improve different methodological approaches (qualitative, semi-quantitative, model-based) in order to integrate and compare the results of policies analysed at the sectoral, national and European level. Based on these insights, it can be determined which aspect of sustainability should be addressed for each approach. Moreover, the strength and limits of each approach will be assessed, for further methodology refining.

¹ <http://ecologic.eu/3337>

² <https://www.gtap.agecon.purdue.edu/about/project.asp>

Main outputs

The main outputs of APRAISE are as follows:

- **Extension of policy assessment models:** for the top-down analysis, a modified version of the dynamic *Computable General Equilibrium* model of the world economy, based on the GTAP-model and database is used. BSAM is used for the bottom up approach.
- **Empirical analysis of environmental policy instruments** (and their mixes) employed in different relevant sectors (for instance energy, water, waste, transport, air quality).
- **Development of modelling scenarios** to provide additional data about the macro-effects and the structural effects of a given policy, including deployment of green technologies and socio-economic effect of different combinations of policies. There will be a two-pronged approach to the scenario generation:
 - 1) focusing on the response individual actors may have on a combination of policies, while simultaneously facing uncertainty in relation to market parameters, and
 - 2) an integrated approach, where the impact of policies is studied from a social planner perspective and the focus is more on the interactions between sectors, policies and actors.
- **Integrated policy assessment.** The results of both the empirical and model-based analysis concerning the effectiveness, efficacy and efficiency of environmental policies and their interaction with each other and with other policy fields are consolidated for the environmental sectors considered.
- **Dissemination and exploitation activities** for discussion refinement and dissemination of the methodology and models results.

The total duration of APRAISE is 36 months and the budget is around € 3 million. Periodical updates and reports of the project will be published in *JIQ* in combination with the project's webpage, which is presently being constructed.

APRAISE will connect to a broad network of national and EU-wide stakeholders in order to extract views on the evaluation of various energy and climate policies and share conclusions and recommendations with national and EU policy makers. Therefore, *JIN* cordially invites interested partners to collaborate with us by providing comments and suggestions on the project's findings.

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Mitigation versus Sustainable Development?

Why NAMAs Shouldn't Repeat the CDM's Mistakes

by Christof Arens, Hanna Wang-Helmreich, Timon Wehnert*

Next year, Rio de Janeiro is going to host the Rio+20 summit. Since the 1992 UN Conference on Environment and Development (UNCED), the term sustainable development has successfully spread out into every niche and corner of our world. No government and no company would officially proclaim that they would disapprove of sustainable development. So, we are tempted to say that we have reached a global consensus here. The pitfall is that the concept behind the term is rather vague. There seem to be manifold definitions and the question remains how to operationalise our objectives.

Despite this vagueness, we can formulate key cornerstones of sustainable development, such as poverty alleviation, environmental protection, employment generation, improvements of health and well-being. Many of these have been iterated by heads of states and in important international documents like the Millennium Development Goals.

Consequently, in the UNFCCC climate negotiations, developing countries have stressed the importance of sustainable development over and over again. As important as climate change is, they argue, it must be addressed in the context of sustainable development. This was reflected in the Bali Action Plan, agreed on in 2007, which called for mitigation activities by developing countries in the form of Nationally Appropriate Mitigation Actions (NAMA), which are to be conducted "in the context of sustainable

development".¹ Thus, NAMAs should serve a dual goal: mitigation and sustainable development in developing countries.

When it comes to putting flesh on the bones of the NAMA concept, the question of how to address both mitigation and sustainable development will be crucial. It may be helpful to note that the basic construction of the Clean Development Mechanism (CDM) is of a comparable nature. The instrument carries its dual aim in its name: it aims at supporting countries in their development, and this development must be clean, i.e. climate friendly. As article 12 of the Kyoto Protocol reads: "the purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development..., and to assist Parties included in Annex I in achieving compliance with their... reduction commitments". Thus, analysing the lessons learned from the CDM seems to be an important step for designing the NAMA concept.

Lessons learned from the CDM

The CDM's dual aim has in fact not been fulfilled equally for both parts: apart from reducing GHG emissions, the contribution of the CDM to the host countries' sustainable development has been very limited.² As early as in 2006, Lohmann documented a number of cases where projects were found to have negative impacts for the local population.³ Other studies question the CDM's contribution to sustainable development on a general level.⁴ Michaelowa and

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¹ Bali Action Plan - UNFCCC (2008). *Report of the Conference of the Parties on Its Thirteenth Session, Held in Bali from 3 to 15 December 2007. Addendum: Part Two: Action Taken by the Conference of the Parties at Its Thirteenth Session* <<http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf>>

² We are leaving the doubts on the environmental and climate integrity of the mechanism aside here; cp., e.g., Schneider, L. (2007). *Is the CDM fulfilling its environmental and sustainable development objective? An evaluation of the CDM and options for improvement*. Berlin: Öko-Institut; Michaelowa and Purohit (2007). *Additionality determination of Indian CDM projects – Can Indian CDM project developers outwit the CDM Executive Board?* Zurich: Climate Strategies.

³ Lohmann, L. (2006). *Carbon Trading. A critical conversation on climate change, privatisation and power*. Uppsala: Dag Hammarskjöld Centre (development dialogue no. 48).

⁴ See, e.g., Sutter, Ch. and J. Pareno (2007). Does the current Clean Development Mechanism (CDM) deliver its sustainable development claim? An analysis of officially registered CDM projects. *Climatic Change* 84:75–90; Olsen, K.H. (2007). The clean development mechanism's contribution to sustainable development: a review of the literature. *Climatic Change* 84: 59-73.

Michaelowa, for example, conclude that “projects addressing the poor directly are very rare and that even small renewable energy projects in rural areas tend to benefit rich farmers and the urban population”.⁵ Other studies look at the CDM’s contribution to transferring environmentally friendly technologies to developing countries. The overall findings are that hardly more than a third of the projects involve technology transfer.⁶

Clearly, the CDM has difficulties putting its contribution to GHG mitigation into the broader perspective of sustainable development. One problem is that the mechanism puts a price exclusively on the climate effect of the projects but not on other benefits, such as employment generation or health improvements (e.g., when more efficient cooking stoves replace open fires for household cooking).

Moreover, local stakeholder groups often have difficulties voicing their concerns in the course of the project approval phase. This is due to limited local capacities and lack of knowledge of the CDM, but also due to the construction of the approval process, which is carried out in English and internet-based.

At the international level, no procedures or criteria are envisaged for the assessment of a CDM project’s contribution to sustainable development. CDM host countries determine for themselves how to assess impacts other than GHG emission reductions, and the Designated National Authority (DNA) of the host country is responsible for checking whether CDM projects actually comply with these requirements.

A study by the Wuppertal Institute,⁷ however, has found that despite a limited number of good practice examples, many CDM host countries have not actually defined sustainability criteria and that the sustainable development criteria of host countries that do exist, frequently lack transparency and clarity. The criteria are usually qualitative guidelines that are rather vague and

leave much leeway for interpretation. Consequently, project participants can easily avoid giving concrete and verifiable details and stay at the level of very general statements. Without clear guidance for evaluation of sustainable development aspects, the process gets highly subjective and leaves too much room for interpretation, for both applicants and evaluators. Furthermore, the stakeholder consultation is often only rudimentary, completely unregulated and badly documented.

Nice to have

NAMAs are often discussed as a new mitigation instrument, which is supposed to overcome some of the shortfalls of the CDM. However, NAMAs may well repeat neglecting the second part of its goal, sustainable development, if this issue is not addressed wisely. Recently, the Wuppertal Institute has analysed the current status of 16 NAMAs in a comparative study.⁸ Although we find a high potential of linking these NAMAs to sustainable development, only half of the current NAMA proposals actually discuss this issue at all.

From the perspective of potential NAMA funders we see a clear imbalance between mitigation and sustainable development. The EU, for example, puts forth the position that “the allocation of support to developing countries should move towards...actions which maximize climate value for climate money”.⁹ In the same document, sustainable development is addressed much less forcefully by stating that “financial support for action to adapt to or mitigate climate change should support other sustainable development action.” This falls in line with the general debate on NAMAs, in which sustainability issues are generally referred to as ‘co-benefits’. The term speaks for itself: there is one clear objective – reduction of GHG emissions; sustainable development is nice to have.

In our view, the current discussion on NAMAs is prone to repeat the CDM’s mistakes. If the current paths are

⁵ Michaelowa, A. and K. Michaelowa (2007). Climate or development: is ODA diverted from its original purpose? *Climatic Change* 84: 5-21.

⁶ See, i.a., De Coninck, H., F. Haake and N. van der Linden (2007). Technology transfer in the Clean Development Mechanism. *Climate Policy* 7: 444-456; Schneider, M., A. Holzer and V.H. Hoffmann (2008). Understanding the CDM’s contribution to technology transfer. *Energy Policy* 8: 2920-2928.

⁷ Sterk, W., F. Rudolph, C. Arens, U. Eichhorst, D. Kiyar, H. Wang-Helmreich, and M. Swiderski (2009). *Further Development of the Project-Based Mechanisms in a Post-2012 Regime*. Wuppertal: Wuppertal Institute for Climate, Environment and Energy <http://www.wupperinst.org/uploads/tx_wiprojekt/CDM_Post_2012_Study.pdf>

⁸ Wang-Helmreich, H., W. Sterk, T. Wehnert and C. Arens (2011). *Current Developments in Pilot Nationally Appropriate Mitigation Actions of Developing Countries*. JIKO Policy Paper. Wuppertal: Wuppertal Institute for Climate, Environment and Energy on behalf of: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) <<http://www.jiko-bmu.de/960>>

⁹ European Council (2009). Council conclusions on International financing for climate action - 2948th economic and financial affairs. Luxemburg <http://ec.europa.eu/economy_finance/articles/eu_economic_situation/article15369_en.htm>

followed, sustainability will become an add-on of minor importance – quite in contrast to the original idea formulated in Bali.

Integrate sustainable development into NAMAs

But how can sustainable development firmly be integrated into NAMAs? Again, we take a look at the CDM: one key attempt to strengthen sustainable development is the CDM Gold Standard. Projects under this premium label have to satisfy additional rules to demonstrate their sustainable development benefits. The Gold Standard requirements include safeguarding principles (“do no harm assessment”), criteria and indicators for assessing the environmental, social and economic impacts of a project, as well as detailed requirements for stakeholder involvement.¹⁰

Among other studies,¹¹ the above-mentioned study by the Wuppertal Institute (see footnote 7) found that the Gold Standard is a robust instrument that allows a solid evaluation of a CDM project’s impacts while at the same time not placing undue burdens on project participants. The Wuppertal Institute interviewed various project developers who use the Gold Standard and concluded that they all found the Standard requirements to be well manageable.

Therefore, we see a need to address sustainable development in NAMAs much more stringently. To ensure that sustainable development is adequately addressed in NAMAs, we propose the following:

- As a minimal requirement, there need to be safeguarding principles for NAMAs. A “do-no-harm assessment” needs to be an integral part of a NAMA development process, to minimise unwanted negative side-effects.
- Following the principle of “what gets measured, gets managed,” it is important to introduce other evaluation criteria for NAMAs beyond direct mitigation effects in terms of tonne CO₂ per USD invested. In order to promote sustainable development issues in NAMAs, we do need clear criteria and indicators to measure these kinds of benefits. This will, certainly, be far more complex than at the Gold Standard’s project level as NAMAs aim at transforming whole industry sectors. Nevertheless, a variation of the Gold Standard’s requirements could in principle also be applied to NAMAs to enhance their contribution to sustainable development.
- In order to minimise negative impacts and to achieve broad-based support, introducing NAMAs

should be as transparent and participatory as possible. Any guidelines for NAMA development should therefore also include provisions for meaningful stakeholder consultation. The CDM Gold Standard offers a valuable reference for successful involvement of stakeholders.

- Experiences from the CDM have demonstrated that leaving the assessment of sustainable development to host countries may produce mixed results. However, the COP has to ensure that the instruments it creates do at least not harm the sustainable development of countries. It may therefore be recommendable to consider aspects of sustainable development on an international level as to adequately ensure the contribution of sustainable development in NAMAs.

Conclusion

Looking at the tremendous potential NAMAs have with respect to GHG mitigation in developing countries and looking at the billions of dollars which need to be invested to tap this mitigation potential, we cannot risk that all of these investments may eventually contradict sustainable development. Against this background, it will not be sufficient to reiterate the need for sustainability in Sunday speeches or vaguely hint to it in introductions of rules and regulations.

Instead, sustainable development must be an integral part of NAMAs on every level. We need to set rules on how to measure, report and verify sustainability aspects just as we measure, report and verify GHG emission reductions. Only by doing so, we can fulfil the dual aim of NAMAs expressed in the Bali Action Plan: mitigation AND sustainable development.

¹⁰ Ecofys, TÜV-SÜD and FIELD (2008). *The Gold Standard Requirements Version 2.1*, effective June 2009. <<http://www.cdmgoldstandard.org/Current-GS-Rules.102.0.html>>;

¹¹ Guerra González, J. and Th. Schomerus (2010). *The Gold Standard as a Guarantee for the Sustainability of CDM-Projects in Developing Countries?* Working Paper Series in Business and Law No. 5. Lüneburg: Leuphana Universität Lüneburg.

TNAssess – a Tool for Identifying Technologies for Climate and Development Goals

In October 2010, UNDP presented the updated Handbook for Conducting Technology Needs Assessments for Climate Change (TNA Handbook) to the UN Expert Group on Technology Transfer. The handbook offers a stepwise process for working from a long term vision on sustainable development priorities towards a low emission and climate resilient pathway for development.

To support using the handbook, two tools have been developed:

1. **ClimateTechWiki**: an online database for technologies for mitigation and adaptation (<http://climatetechwiki.org>, see JIQ, April 2011), and
2. **TNAssess**: an Excel-based software tool to help TNA groups collect and categorise data for prioritising sectors and technologies.

TNAssess is explained below.

TNAssess can be used to prioritise technologies and measures for climate change mitigation and adaptation. Since the criteria sets for mitigation and adaptation are different, leading to different (sub) sectors and technologies/measures being prioritised, the two processes are presented in TNAssess as two separate modes (see Figure 1).

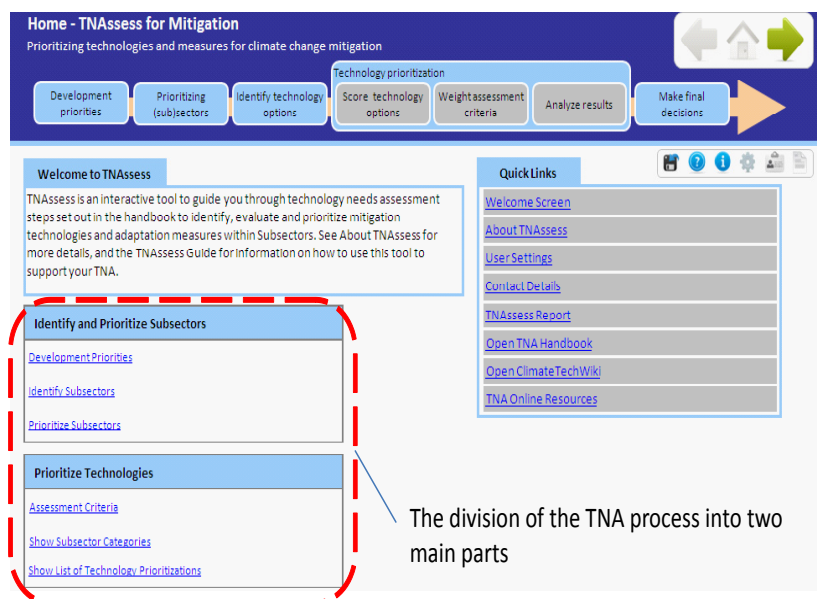


Figure 1. The TNA home page.¹

TNAssess is split into two stages: identification and prioritisation of sectors; and identification and prioritisation of portfolios of technologies within the high priority sectors.

Sector prioritisation

The TNAssess section “identify and prioritise subsectors” is used to conduct the following main steps:

- List and categorize the country’s development priorities, which can be used as criteria for identifying priority subsectors,
- Record the country’s subsectors with high GHG relevance and/ or those which are most vulnerable to climatic change, and
- Prioritise those subsectors where the strongest combined climate and development benefits can be achieved.

Development priorities are clustered under environmental, economic and social development priorities, as shown in Figure 2.

Environmental development priorities	
Reduced air pollution in cities	The two big cities in the country suffer from smog due to pollution caused by industrial production and transport
Economic development priorities	
Employment generation	This is particularly important for people working in agricultural sectors and who may face losing their job due to increased industrialization service sector growth. Training is key here to address this issue.
Improved soil conditions	In the past soil was polluted due to unsustainable management
Energy security of supply	The electricity system is currently facing problems with outages and problems with expanding power capacity to follow expanding demand.
Social development priorities	
Improved health conditions	Health problems occur where firewood is used for cooking

Figure 2. Summary table with development priority clusters

¹ TNAssess contains a language sheet which supports multi-lingual applications. Presently, next to English, there is a Spanish and French version.

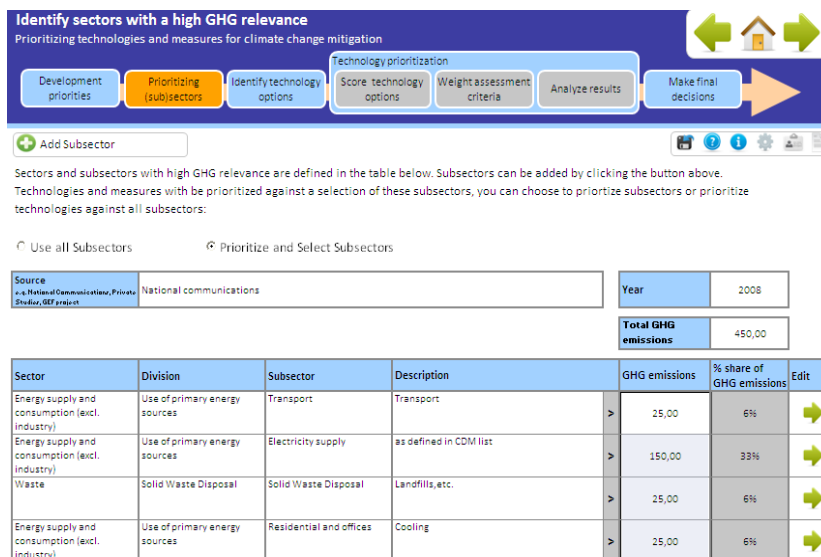


Figure 3. Characterising (sub)sectors in terms of their GHG emissions.

Figure 3 shows how (sub)sectors can be characterised in terms of GHG emissions.

Figure 4 shows a scoring table for (sub)sectors' climate and development benefits with a scoring range from 0 (sector not desirable in term of benefit considered) to 5 (very desirable). Once completed, stakeholder groups can select those (sub)sectors which contribute most to climate and development objectives.

Technology prioritisation

Once (sub)sectors have been prioritised for achieving climate and development benefits, TNAssess enables users to identify technology options for mitigation or adap-

tation. These options can both be considered for the sector as a whole or grouped in categories of small scale, large scale and short term or long term available technologies. TNAssess can load technology options per category directly from ClimateTechWiki, but stakeholder groups can manually add as many options as they like from other sources.

TNAssess supports a technology familiarisation process by helping stakeholders complete technology option pages. With these pages stakeholders can translate generic technology information to their national context. All data from the pages is automatically stored for use in the next steps.

Once the familiarisation process has been completed for a (sub)sector or a category, stakeholders can start scoring technology options in terms of how they contribute to the country's economic, social and environmental development goals with low emissions or climate vulnerability. In this multi criteria decision analysis (MCDA), scoring is done with relative scores: 100 for a technology with the highest benefit; 0 for a technology with the lowest benefit. Other technologies are scored relative to these scores (see Figure 5).

By assessing weights for the criteria, the relative importance of each criterion can be determined. In MCDA, using the swing weighting method, pairs of criteria can be evaluated and weighed to reflect their relative importance by considering the difference between the top and bottom of the scales and how much we care about it. The biggest difference is considered the most important and given a weight of 100. The other criteria weighs are relative to this.

The output of the process is shown Figure 6. In the graph, the total value of an option is the sum of all the criteria of the scores for the particular option on each criterion multiplied by the weights for the criteria (normalised). Zero values in the graph show that this technology option is the

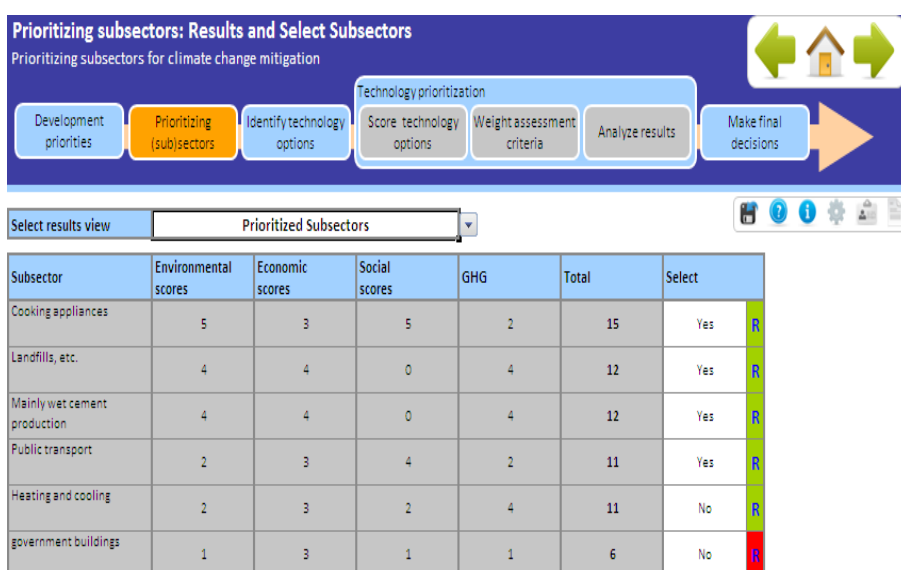


Figure 4. Scoring table for subsector selection.

least preferred for the criterion. Nominally, the option with the highest overall value is the highest priority technology, but the robustness of the result has to be explored and tested through the use of sensitivity analysis on the uncertainties, differences in assumptions and perspectives.

Figure 6 gives an initial indication of the top-ranked technology options within each portfolio set. For example, Figure 6 allows some insight into how well balanced the option is on the key criteria. However, this is regarded as a 'first pass' through the problem. Towards a final answer, TNAssess supports sensitivity analysis and enables users to repeat the prioritisation to explore uncertainties or perspectives, etc.

Once the technologies have been prioritised in terms of the benefits and the results considered robust, a final choice can be made through a comparison of benefit to cost ratios. Figure 7 shows the screen in which the prioritised technology options are ranked in terms of their benefits to costs. The technology with the highest benefits (red) relative to costs (blue) is ranked first. The graph also enables a comparison between benefits and costs without the need to monetise the benefits. The benefits are expressed in terms of the cumulative scores and the costs in monetary values.

Cost information is collected earlier in TNAssess when completing technology option pages. Those technology options with the highest Benefit to Cost ratios can be selected. Again, some test of uncertainty in the cost estimations can be made to ensure that the results are robust.

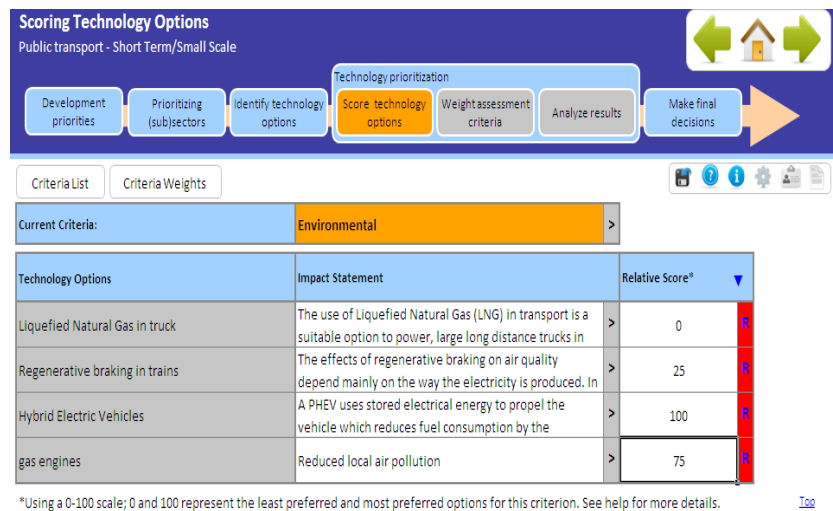


Figure 5. MCDA scoring table

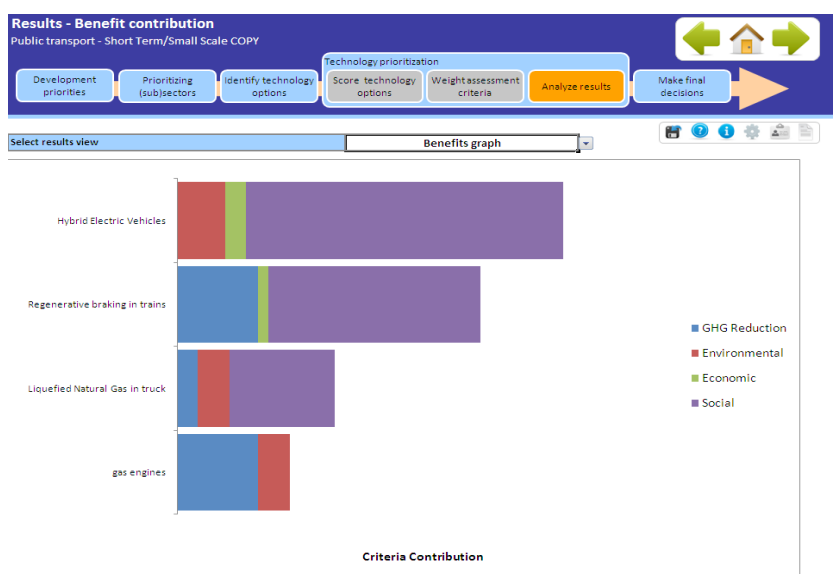


Figure 6. Cumulative scoring results for example technology category

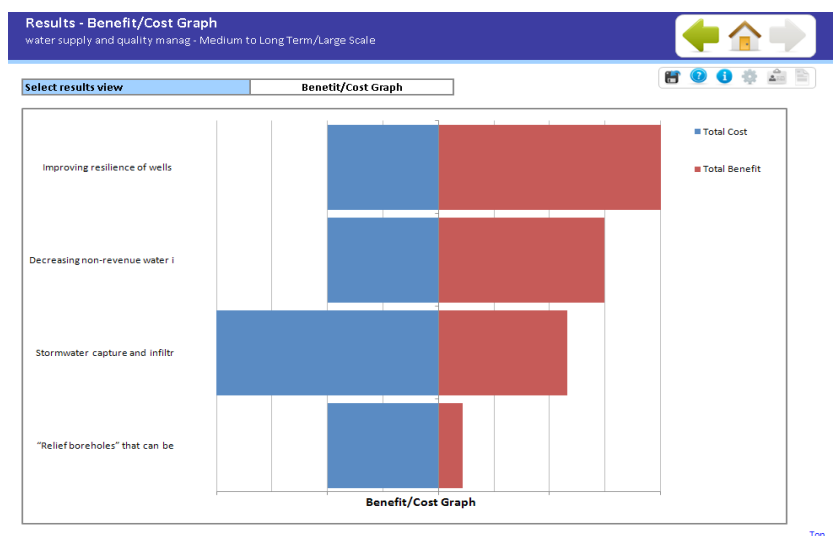


Figure 7. Example of benefit to costs comparison of prioritized technology options

TNAssess will be available at short notice for download from: <http://climatetechwiki.org/support-tools>

About JIN

Foundation Joint Implementation Network (JIN), established in 1995, is an international knowledge center concerning climate change policy issues. The mission of JIN is to serve as a knowledge centre for climate change policy issues in general and the concept of emissions trading in particular. JIN is a highly specialized carbon market and technology transfer advisory unit, acting independently on a not-for-profit basis. Our core team is comprised of specialists working in advisory roles for carbon market participants since its inception. Our field of expertise has broadened over the years and now includes issues such as climate change and energy policy, technology transfer, sustainable development, and energy market liberalization.

Search JIN

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Climate news

- 07 Nov 2011 Adaptation Fund: 8th Meeting of the Accreditation Panel UNFCCC Calendar | 31/10/11 @ 12:00 pm
- 21 Nov 2011 CDM-EB 65 UNFCCC Calendar | 31/10/11 @ 11:59 am
- Public input sought to inform policy dialogue Latest CDM News | 27/10/11 @ 4:25 pm

News on JIN Activities

Currently, JIN works on the following issues:

- The new JIQ issue of July 2011 is out.
- The booklet on Domestic Offset experiences from

New JIN Publications

Most recently added publications of JIN:

Oikonomou, V., Flamos, A., Spyridaki, N., van der Caast, W. (2011). White Certificates and Domestic

New JIN Website

JIN has the pleasure to launch its renewed website <http://www.jiqweb.org>. It serves as an online interface for exchanging information about climate, energy and sustainable development related issues. The new website is divided in several consistent parts, where updates on current JIN's projects and energy, climate and development relevant issues are presented.

In the 'JIQ Magazine' section, readers can find the latest issue of JIQ as well as back issues.

The section 'Projects' reflects how JIN has been active in climate, energy and development-related projects. It contains a categorisation of various types of projects, such as:

- Energy Efficiency,
- Climate Policy,
- Non-ETS Offset projects (NEON network), and
- Technology development and transfer, such as Technology Needs Assessment and ClimateTechWiki.

In the 'Downloads' section our readers can find JIN project reports, a long list of academic articles relevant to climate, development and energy policy, as well as information on the Energy and Climate Policy Interactions Tool (ECPI), in which development JIN has participated. Shortly the free use of ECPI will be opened at jiqweb.org.

Some key new features of our website are:

- Update on JIN activities and publications,
- Climate news streaming,
- A dedicated section to NEON network on Domestic Offsets, alongside with a forum (<http://www.jiqweb.org/forum>) where our readers can register and participate in the discussions relevant to Non-ETS Offset projects, and
- Enabling active visitors' participation on the platform.

We are looking forward to welcoming you at the site and to receiving suggestions for further improvements!

Carbon Trade Watch and Corporate Europe Observatory, 2011. Letting the market play: corporate lobbying and the financial regulation of EU carbon trading.

The European Union is changing its rules on how carbon is traded in response to a series of fraud cases and the financial crisis. This report looks at how corporate lobbies are trying to influence this process, and notes that measures to regulate the market are an attempt to “regulate the unregulatable”.

<<http://www.corporateeurope.org/sites/default/files/publications/LettingTheMarketPlay.pdf>>

GVEP International, 2011. The History of Mini-grid Development in Developing Countries, Global Village Energy Partnership, London, UK.

Improving access to modern energy services in rural areas in developing countries remains a major development priority. While many countries continue to pursue ambitious and often challenging grid connection programmes, there is increasing interest in decentralised generation and distribution through mini-grids. These are defined in this document as a power source of less than 3MW capacity (diesel, hydro, biomass, hybrid) supplying a local distribution grid connected to domestic, business and institutional customers in the locality. This brief summarises some of the main approaches to mini-grid development, the requirements for successful implementation and key challenges to their development, particularly in Africa. Country examples are referred to where available.

<<http://www.gveinternational.org>>

Joint Implementation Supervisory Committee, 2011. Recommendations on Options for Building on the Approach Embodied in Joint Implementation, Annex 4 of JISC 26th meeting report.

This JISC report explains that for untapping the potential of JI projects and for securing JI's relevance as a mitigation tool beyond 2012, significant changes in the set-up of JI will be needed. It sets out key recommendations which the JISC believes should be considered in depth by Parties when reviewing JI guidelines (scheduled for COP-MOP 7).

The report explains that currently over 200 active JI projects under Track 2 are in the pipeline. If all these projects were to be realised under Track 2, the number of ERUs generated may reach 350 million for the first commitment period. In addition, over 260 projects are currently registered under Track 1.

The report subsequently provides recommendations on treating ERU issuance during the ‘true up’ period (emission reductions or removal achieved between 1 January 2013 and end of ‘true up’ period, e.g., 2015), and the ‘gap period’ between the first and second commitment period. It also recommends on the further evolution of JI, including: the project cycle, role and responsibilities of the governing body; eligibility requirements for partners before their participation as JI host Parties or ERU recipients; and financial resources needed for funding the work of the JI governing body, committees and support structure.

<http://ji.unfccc.int/Sup_Committee/Meetings/026/Reports/Annex4.pdf>

Joint Implementation Action Group, 2011. Position Paper for CMP Durban.

The JI Action Group (JIAG) was formed in 2008 to support the post-2012 negotiations with hands-on experience from JI market participants. In this position paper, JIAG calls upon the COP-MOP 7 session of this year to confirm that the determination and verification of JI, as well as issuance of ERUs based on JI projects will continue during the ‘true up period’. On the JI project cycle, the JIAG concludes that the current split into two tracks leads to unnecessary fragmentation of the market. Unification of the two tracks, as recommended by the JISC, provides, in the view of JIAG, the opportunity to take the best of both tracks. However, it would only be beneficial if the responsibilities of different stakeholders are redefined, including that of the new JISC.

In its closing remarks, JIAG expresses concern that without clear guidance in Durban (COP-MOP 7), JI activities will be further reduced and the mechanism could become the first ‘victim’ of a stalemate in negotiations. This would leave a significant part of potential GHG emission reductions without any international incentives.

<<http://jiactiongroup.com/documents/JIAGPositionPaperforDurban17Oct11.pdf>>

Kebe, A., V. Bellassen and A. Leseur (2011). Voluntary Carbon Offsetting by Local Authorities: Practices and Lessons, CDC Climat, Climate Report 29.

Local authorities (regions, departments, metropolitan areas and towns) are increasingly involved in defining and implementing policies to combat climate change. This is not a simple task, as beyond emissions generated by their administrative services, most GHG emissions in their territorial jurisdiction are beyond their direct control. Often given responsibility for the emissions of all actors within their administrative boundaries, different local authorities are restricted in their ability to foster reductions through their attributed jurisdictional competencies.

This Climate Report presents ten case studies in order to better understand how and why local authorities use this instrument. Local authorities that sell carbon credits account for a very small percentage – just 3% – of voluntary offset projects. Their typical profile is that of a US local authority, which is implementing a methane elimination project at its waste disposal site, primarily in order to anticipate future regulation and to obtain a source of additional financing.

Local authorities' share of the demand for voluntary credits is harder to quantify. The case studies nonetheless shed some light on the determining factor for a successful offset programme: namely a carefully designed project rooted in the local authority specific context and is shared by local players. In fact, the vast majority of local authorities prefer to buy carbon credits generated by projects implemented within their jurisdiction, in order to maximise other economic, social and environmental benefits than the simple reduction of GHG emissions. The choice of the financing vehicle (dedicated framework, tender or tax) depends on the size of the offset programme and on the type of projects targeted. It has no determining impact on the success and sustainability of the offset programme.

<http://www.cdclimat.com/IMG/pdf/11-09-30_climate_report_29_voluntary_carbon_offsetting_by_local_authorities.pdf>

Meckling, J. (2011). Carbon Coalitions: Business, Climate Politics and the Rise of Emissions Trading. The MIT Press. ISBN-10: 0-262-51633-0.

Over the past decade, carbon trading has emerged to a market worth USD 144 billion in 2009. Carbon trading represents the largest manifestation of the trend toward market-based environmental governance. This book analyses the rise of carbon trading and the role business played in making this policy instrument a central pillar of global climate governance.

It is explained how a transnational coalition of firms and a few market-oriented environmental groups actively promoted international emissions trading as a compromise policy solution in a situation of political stalemate. The coalition sidelined not only environmental groups that favored taxation and command-and-control regulation but also business interests that rejected any emission controls. Considering the sources of business influence, the book emphasises the importance of political opportunities (policy crises and norms), coalition resources (funding and legitimacy), and political strategy (mobilising state allies and multilevel advocacy).

Three case studies are discussed: the internationalisation of emissions trading in the Kyoto Protocol (1989–2000); the creation of the EU Emissions

Trading System (1998–2008); and the re-emergence of emissions trading in the USA (2001–2009).

<<http://mitpress.mit.edu/catalog/item/default.asp?type=2&tid=12743>>

Mehling, M., A. Merrill, and K. Upston-Hooper (Eds.) (2011). Improving the Clean Development Mechanism - Options and Challenges Post-2012. approx. Nov. 2011, ISBN 978-3-86965-023-4.

With a substantial project pipeline and more than 500 million CERs issued to date, the CDM has rapidly become a central pillar of the international carbon market. While this success testifies to its appeal for investors and project developers, growing criticism has been directed against a number of perceived shortcomings, from disappointing environmental and development benefits to cumbersome approval procedures and flawed governance structures.

This book contains a collection of essays, written by twenty recognised experts, which aim at identifying challenges and opportunities on the path towards CDM reform. Recommendations for improvement are complemented by case studies in a wide range of sectors and geographic settings.

Sépibus, J. de and A. Tuerk (2011). New Market-based Mechanisms post-2012: Institutional Options and Governance Challenges when Establishing a Sectoral Crediting Mechanism. Climate Economics at the NCCR Climate, in co-operation with Climate Strategies, Research Paper 2011/06.

The Cancun Agreements provide that the introduction of the new market-based mechanisms (NMMs) will be examined at the next COP in Durban. NMMs refer, in particular, to sector-based crediting. There is not yet sufficient consensus on how NMMs could be governed and which role the UN should play.

While some countries including Japan and Australia favour more decentralised governance models with only minimum criteria defined by the UN and a strong role of bilateral co-operation, the EU still has a preference for more centralised UN-based governance.

This paper gives an overview of current country positions, discusses pros and cons of different NMM accounting and governance frameworks. It also examines to what extent the CDM provides a suitable model for centrally governed sectoral crediting mechanisms. It concludes that also decentralised approaches require minimum regulatory standards to be agreed upon under the UN to guarantee the environmental integrity of the NMMs.

<http://www.nccr-climate.unibe.ch/research_articles/working_papers/papers/paper201106.pdf>

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

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Abbreviations

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

JIQ Meeting Planner

7-18 November 2011, World Bank Institute

E-learning Course on "CDM Programme of Activities (PoA): Challenges and Opportunities"

Contact: <http://einstitute.worldbank.org/ei/course/cdm-programme-activities-challenges-and-opportunities>

14 November 2011, Dexter House, Tower Hill, London

EU-ETS & Pricing Carbon during the Great Policy Divide

Contact: conferences@environmental-finance.com

15 November 2011, UEA London Study Centre, London, UK

Carbon Markets for the Poor: A Contradiction in Terms?

Contact: www.clean-development.com

21-23 November 2011, Groningen, The Netherlands

Energy Delta Convention 2011

Contact: Groningen Energy and Sustainability Programme, GESP, tel.: +31 (0)50 363 4219, e-mail: info@energyconvention.nl

28 November - 9 December 2011, Durban, South Africa

COP 17 and CMP 7 (UNFCCC)

Contact: http://unfccc.int/meetings/unfccc_calendar/items/2655.php