DISCUSSION PAPER

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Multi-Project Baselines for the First Track of Joint Implementation?

Axel Michaelowa

Simon Schmitz

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Hamburgisches Welt-Wirtschafts-Archiv (HWWA)
Hamburg Institute of International Economics
Neuer Jungfernstieg 21 - 20347 Hamburg, Germany
Telefon: 040/428 34 355
Telefax: 040/428 34 451
e-mail: hwwa@hwwa.de
Internet: http://www.hwwa.de

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Somon Schmitz*
Axel Michaelowa**

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Hamburg Institute of International Economics (HWWA)
Neuer Jungfernstieg 21 - 20347 Hamburg, Germany
e-mail: hwwa@hwwa.de

* World Business Council for Sustainable Development, Geneva
** HWWA Hamburg Institute of International Economics

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ABSTRACT

The “first track” of Joint Implementation under the Kyoto Protocol gives host and investor countries total freedom in choosing a baseline for a project reducing or sequestering greenhouse gases. This is due to the fact that an overly generous granting of emission credits leads to a corresponding reduction of the host country’ s emission budget. Standardised, multi-project baselines can reduce transaction costs, especially in relatively homogeneous sectors such as electricity production or landfill methane collection. Host countries need capacity to calculate such baselines which currently does not exist. “Boundary organisations” can bridge the gap between technical analysis and strategic considerations. Interviews with government officials and other stakeholders in East European EU accession countries lead us to the conclusion that countries have not yet realised the chances and pitfalls of baseline definition under the first track, especially as they assume that the EU will define the “acquis communautaire” as the baseline. However, this would make international emissions trading more attractive than JI.

JEL-Classification: Q 25, O 13
Keywords: Joint Implementation, baselines, institutions, host countries

Axel Michaelowa
HWWA Hamburg Institute of International Economics, Research Programme International Climate Policy, axel.michaelowa@hwwa.de

Contents

Abbreviations

SBSTA – Subsidiary Body for Scientific and Technological Advice
AIJ – Activities Implemented Jointly
BASREC – Baltic Sea Region Energy Cooperation
CCAP – Center for Clean Air Policy
CDM – Clean Development Mechanism
COP/MOP – Conference of the Parties (to the UNFCCC) serving as the Meeting of the Parties (to the Kyoto Protocol (KP)). The first COP/MOP will take place after the KP enters into force. Delegates from Parties that have not ratified the KP will be able to participate as observers
EEA – European Environment Agency
EIT – Economies in Transition
EPA – U.S Environmental Protection Agency
ERU – Emission Reduction Unit
ERUPT - Emission Reduction Unit Procurement Tender
EU – European Union
GHG – Greenhouse gases
IEA – International Energy Agency
IETA – International Emissions Trading Association
JI – Joint Implementation
NGO – Non-governmental organization
NSS – National Strategy Study
MNC – Multi-National Company
OECD – Organization for Economic Cooperation and Development
PCF – Prototype Carbon Fund
REC – the Regional Environmental Center
UNEP – United Nations Environment Program
UNFCCC – United Nations Framework Convention on Climate Change
WRI – World Resources Institute

1. Introduction

1.1. The emerging global “carbon market” and the need for institution-building

The “baseline issue” treated here jumped onto the centre stage of international climate policy after the Kyoto Protocol (KP) was signed in 1997. This agreement sets binding constraints on greenhouse gas emissions of industrialised countries (the so-called Annex B countries) for the period 2008 - 2012. It includes the so-called “Kyoto Mechanisms” to ensure economic efficiency of climate change mitigation by allowing emissions to be reduced wherever reductions are cheapest. There are four Mechanisms: the Clean Development Mechanism (CDM), Joint Implementation (JI), International Emissions Trading (IET) and bubbles. A large part of their rules was agreed in the 2001 Marrakech Accords but specification of their details is still going on.

While bubbles and IET are instruments on the level of countries and do not involve concrete projects, CDM and JI allow Annex B countries to invest in projects that reduce emissions in other countries and generate emission *credits*. While the CDM)[1] applies to projects in developing countries without emission constraints JI)[2] projects are implemented in Annex B countries. Emission credits generated by JI or CDM projects (ERUs or CERs)[3] are tradable and fully fungible world wide. As CDM host countries have no targets, a thorough supervisory structure with an international “CDM Executive Board” and independent “Operational Entities” has been agreed to guarantee that CERs are real. JI has two distinct “tracks”. The first track is very liberal and leaves choice of crucial parameters such as baseline determination to the participating countries. It can only be used if the host country fulfils all – relatively stringent - reporting requirements for Annex B countries (see Table 1) as then the government can be expected to be alarmed when it oversells emission credits from JI projects on such a scale that its compliance is endangered. The second track is similar to the CDM and applies if the host country does not fulfil the reporting requirements; of course it can also be chosen voluntarily. It is overseen by a

[1] Article 12 of the KP
[2] Article 6 of the KP

"Supervisory Committee" and the Emission Reduction Units have to be certified by "Independent Entities". The more bureaucratic Track 2, provides extra institutional safeguards against host countries' non-compliance, in case they do not have the informational infrastructure to control compliance by themselves.

Table 1 : Requirements for the two JI tracks

Requirements for JI host countries	Track 1	Track 2
Ratification of the Kyoto Protocol	+	+
Established assigned amounts	+	+
National system for 1) the estimation of emissions and 2) the development of a national inventory	+	
National registry for tracking AAUs, ERUs RMUs etc.	+	+
Annual submission of inventories	+	
Supplementary information[4]	+	
Designated National Authority (DNA) in place	+	+
National guidelines and procedures for approving JI projects	+	

Adapted from *The Marrakech Accords and Declaration (*UNFCCC, 2001*)*

JI projects are likely to be hosted mostly in the Economies in Transition (EITs) in Central and Eastern Europe, since the marginal GHG abatement cost is comparatively lower there than in most industrialised countries. To garner the potential for emission reductions before 2008, some countries already now invite investments into "early JI" emission reduction projects and grant post-2008 emission rights from their budgets for the pre-2008 reductions.

While in the last years the CDM has attracted a lot of negotiators' and analysts' attention, JI has been sidelined. This may be due to the fact that JI generates ERUs only from 2008 while CERs can be created already now. We want to discuss the question of baseline determination in the context of the JI first track and the resulting institutional requirements.

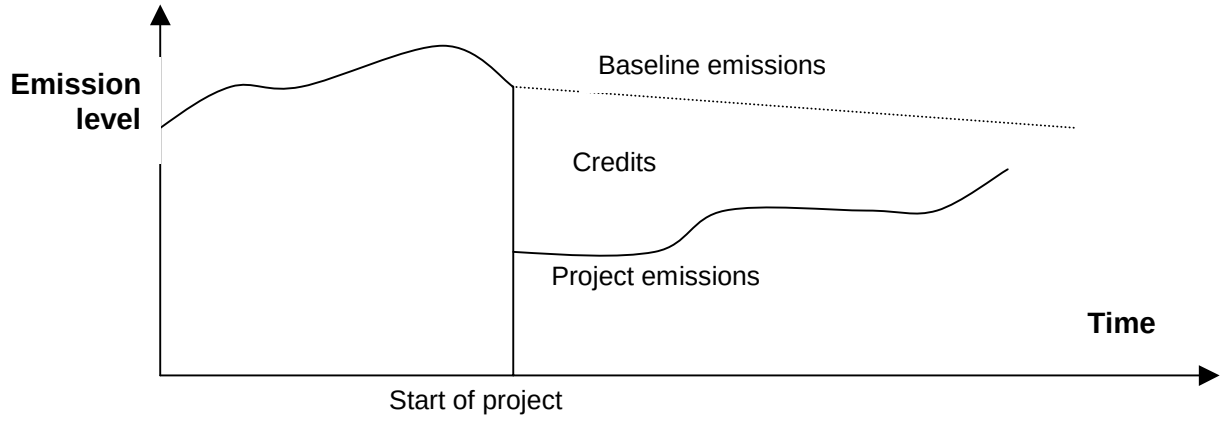
[3] The "Kyoto jargon" for these emission credits is either Emission Reduction Units (ERUs), for credits generated by JI, or Certified Emission Reductions (CERs), for credits generated by the CDM. They are measured in tons of CO_2 equivalent.

[4] To be elaborated on further in international climate negotiations.

1.2. What is a baseline and why is it needed?

The overarching requirement for GHG reduction projects is that they generate "reductions in emissions that are additional to any that would otherwise occur".[5] . The crucial question then is how "additional" is the project to what would "otherwise" have happened? The baseline is the "otherwise", the counterfactual scenario for the level of greenhouse gas emissions without the project, indicated by the dotted line in Figure 1.[6]

Figure 1: The principle of a baseline



There has been a heated argument about the ways for additionality determination. While some observers (Greiner and Michaelowa 2003) argue for a check whether the project would be economically attractive without the emission credits others say that baseline definition would automatically specify additionality (Jepma 2003).

1.3. Baseline institutions in the first track JI compared to second track and CDM: different incentive structures

Under JI, any ERU "sold" to the investor government will be subtracted from the host country's overall allowance.[7] As under the first track the baseline is open to

[5] This is the provision for JI in the KP and the Marrakech Accords (MA); for the CDM it is very similar, i.e. "additional to emissions that would occur without the certified project activity".
[6] As indicated in Figure 1, the credits accruing from a project will be the difference between baseline emissions and project emissions; high baselines thus result in a big amount of reduction.
[7] This allowance is made up of Assigned Amount Units, AAUs

interpretation by the different participants, the host government should have an incentive to keep baselines low: by selling more ERUs for JI projects than emissions are likely to be reduced by the projects, the host government simply looses assets. In the CDM on which the baseline debate has centred so far, the incentive structure is much different: the host government would be happy with overly high baselines since those would attract investment for CDM projects. In the CDM the host government would not loose assets or have to worry about compliance with a Kyoto target (since it has no target), and the projects would earn CERs for largely business-as-usual, high-emitting activities, which clearly would not do much to reduce emissions. This so-called "baseline inflation" or "gaming"[8] problem in the CDM has not been resolved and is often thought to threaten the credibility of the Kyoto Protocol: Overly lax (high) baselines will simply increase global emissions, since excess credits will enable increased emissions without truly compensating emissions reductions. In so doing, lax baselines might undermine the credibility of CER trading, which is essential for its success" (OECD, 2002a: 11; see also Michaelowa (2001), Michaelowa and Sugiyama (2001) and Matsuo (1999)). This is one of the reasons for the establishment of a very bureaucratic CDM process that involves various decision points at which public comments are invited, independent review of baselines is required and ultimately decided on by the CDM Executive Board, an international supervision body. For the second track of JI, a similar structure has been agreed as it is feared that host countries that do not fulfil the reporting requirements do not keep track of their emissions and behave like countries without targets.

To be able to negotiate first track JI baselines effectively, host governments need to build effective institutions. The paper will first illustrate the theoretical arguments for adopting so-called multi-project baselines[9], in order to then investigate empirically whether such an approach might actually be adopted by host governments.[10] This investigation will be based on a survey of government representatives in JI host countries. We conclude that there is in fact no ready solution available for JI. While multi-project baselines can reduce transaction costs for developers and provide host countries with considerable benefits in terms of the control of their Kyoto target, the

[8] "Gaming" in the literature refers to self-interested behaviour on the part of the project developer which leads to overstated baselines; see section 4.3 for more details

[9] For a thorough discussion of what exactly multi-project baselines are, see section 5

[10] This question has, to our knowledge, been somewhat neglected in the literature. A rare exception, focussing on Poland, is Center for Clean Air Policy (CCAP) (2001); However, it explores options for the government rather theoretically. Moreover, one of the authors of this study stated that the work in this direction has somewhat "fallen

resources and capacity needed on the part of technical expertise and decision-making processes in governments is yet to be developed.

2. Empirical research

The empirical research is based on a set of interviews with representatives from JI host governments (Section 6). The structure of section 6 was followed loosely in these interviews. One key representative from a JI investor government has also been interviewed on a more informal basis. See Table 2 and 3 for a list of interviewees.

A more diffuse remainder of empirical analysis is based on informal conversations and own observations within the "GHG Protocol Initiative, Project Module", a multi-stakeholder process coordinated by the World Business Council for Sustainable Development (WBCSD), a business association, and the World Resources Institute (WRI), an environmental NGO. This process is currently under development[11] and aims at providing guidance on a project-specific basis for any business that intends to develop GHG reduction projects.[12] See Table 4 for a list of personal communications. The results from this will be interspersed in Sections 4 to 7.

It should be noted that it was not possible to address too many technical details relating to different types of projects. The study thus contains only one illustration of the electricity generation and waste management sector respectively (Box 1), both of which are considered to have considerable potential under JI.

through the crack" (Interview 10) since Poland is now concentrating on developing a domestic emissions trading scheme rather than developing JI procedures.

[11] The conclusions drawn from (and possible errors made in the analysis of) this case study are in no way the conclusions drawn by any of the contributors to this initiative.

[12] It thus aims at providing guidance also under JI and the CDM. WBCSD/WRI (2000) is the result of the "predecessor" process and defines a widely cited standard for GHG accounting in corporations. This makes it an already effective institution for transactions under GHG emissions trading schemes among companies. Such trading schemes are also likely to be part of IET, the regime established by the KP.

Table 2: List of interviewees in JI host countries (government or working with/for government)

Interview number	Country	Organisation	Position of interviewee
1	Bulgaria	Ministry of Environment and Water	Environental Policy Expert
2	Bulgaria	Energy Institute: Private Consulting Firm	Executive Director
3	Bulgaria	EnEffect: NGO for Energy Efficiency	Programme Manager
4	Czech Republic	Private Consulting Company	Senior Analyst
5	Hungary	Ministry for Environment	Environmental Expert
6	Latvia	Ministry of Environmental Protection and Regional Development	Senior Official
7	Latvia	University	Technical Professor
8	Slovakia	Ministry for Environment	Climate Change Expert
9	Slovakia	Center for Clean Air Policy	Climate Change Policy Analyst

Table 3: Informal interview with investor government representative

Interview number	Country	Organisation	Position of interviewee
10	The Netherlands	Senter: Executing Agency of the Ministry of Economic Affairs, Unit Central and Eastern Europe	Manager, ERUPT program

Table 4: Other personal communications (PC)

PC number	Country where based	Organisation	Position of person talked to	Type of perspective
12	UK	Environmental Consulting firm	Consultant	Verifier/Validator
13	UK	Accounting and Audit company	Consultant, Sustainability Advisory Services	Verifier/Validator
14	Norway	Verfication company	Environmental Consultant	Verifier/Validator
15	UK	MNC in the oil and gas industry	Climate Change Expert	Project developer
16	UK	MNC in the oil and gas industry	Environmental Expert	Project developer
17	South Africa	Resource Recovery Firm (methane capture)	Manager	Project developer
18	USA	MNC in the oil and gas industry	Climate Change Officer	Project developer
19	Austria	United Nations Industrial Development Organisation (UNIDO)	Environmental Policy Expert	International Organisation
20	USA	World Resources Institute (WRI)	Senior Associate, Sustainable Enterprise Program	NGO
21	Switzerland	World Business Council for Sustainable Development	Research Assistant, GHG Protocol	Business association

3. The setting for the baseline game: actors, dimensions and criteria for evaluation

3.1. Actors

The market for ERUs involves governments, businesses and possibly a range of other stakeholders. After all, the main GHG emitters are private companies that are registered in some country. Project developers will mostly be such private companies, and they will be able to either sell ERUs on to their government or, if they are regulated by their government, use it as an allowance to comply with those domestic regulations.

Host country governments, when hosting JI projects, sell ERUs to the investor government in exchange for the reduction in GHG emissions that the project causes (and the technology installed by the project developer). The host country government has both an incentive to attract investment to the country through JI and, as pointed out above, not to "oversell" ERUs from projects.

3.2. The wealth of baseline approaches

There is an enormous variety of baseline methods. They can…

- be based on either historical, current or forecasted future values (in some cases even ex-post data can be used to determine the baseline, see Box 1 on landfill gas projects)
- be static or change over time (i.e. if technology is assumed to improve as time goes by)
- have either a long or short "life"; If a baseline has a life time of 10 years, then 10 years after the project start no more reduction credits can be earned from the project
- refer to different spatial scales in determining business-as-usual: what would otherwise happen might be determined by looking at sectoral, national or global developments,
- refer to different technologies in determining business-as-usual: (e.g. coal for gas projects or other gas projects for gas projects),

- determine business-as-usual by referring to what would be a financially most attractive alternative (investment assessment)
- determine business-as-usual by referring to what is required by law (regulatory assessment)

3.3. Criteria for the evaluation of baseline methodologies: trade-offs and harmonies[13]

Assumptions are likely to come from all of economic, technological, regulatory and financial analysis, making baseline setting a rather interdisciplinary task. Especially in case of limited data availability, the art of assumption-setting becomes crucial. Methods and assumptions have to be specified clearly and to be made accessible for review.

As discussed above, overly lax (high) baselines (in other words, they are not *stringent* enough) will allow a project to generate a lot of emission credits without causing emissions reductions. This would go against the host country's interest since it would take credits away from it without entailing the claimed reductions. The host country would thus face a higher risk of not complying with its Kyoto target. This can also happen through so-called "cherry-picking" which involves crediting in JI projects of "no-regrets" opportunities. While a lot of credits would have been sold in such projects, the host country would be left only with expensive abatement options. Concerns about additionality, stringency or environmental risk naturally go against the desire of the project developer (PD) to have the highest financial return possible from the sale of emission reductions and thus to overstate the baseline when developing a project-specific scenario or to "free-ride" when he is allowed to use a multi-project baseline which is actually too high when applied to the project. Predictability of credits to be obtained is important to business since GHG projects are risky investments. Business will also argue for low transaction cost which promotes standardisation.

[13] These criteria are among the most common ones listed in most guidelines and papers on baselines. See, e.g. OECD (2002), PCF (2000), Lazarus et al. (2001)

4. Decisionmaking on multi-project vs. project-specific baselines

> "The criteria that establish valid baselines […] set the standards that define CERs as a commodity. Putting in place a common set of environmental criteria is crucial. […] Standard-oriented baselines that rely on […] multi-project and sector baselines can potentially reduce development costs. Moreover, experience from commodity markets shows that private associations can be useful in developing standards and in disseminating best practices (PCFplus, 2001: 16)".[14]

There are two approaches, multi-project and project-specific, that can be used to establish baselines. These are two extremes of a "spectrum".

Project-specific approaches evaluate emission reductions generated from projects on a case-by-case basis, with project-specific assumptions for all key parameters; while this approach is fundamentally open-ended (Lazarus et al, 2001) some level of standardisation can be achieved in terms of the procedures and steps to be taken for the baseline assessment. The World Business Council for Sustainable Development and the World Resources Institute (NGO) jointly convene a multi-stakeholder process developing standards/guidance for GHG accounting. They have already established a standard for corporate accounting of GHGs, now the process for the "Project Module" is under development. The purpose of the GHG Protocol is to provide project developers with a toolbox that can help them to identify the baseline scenario and calculate emission reductions on a project-specific basis. Tools can include investment analysis, regulatory analysis or the control-group approach. Governments could accept baselines set up under the Protocol if industry commits to credible self control.

Multi-project approaches can be applied to many different projects of a similar type. They can be at many levels of aggregation such as by technology or sector (see "baseline dimensions"), with multi-project figures or assumptions for all key parameters; the baseline is equivalent to an "activity standard" or policy target that is aggregated at a certain level (PROBASE 2003). Although baselines that could be applied to more than one project may be costly to develop at the outset (i.e. for the scheme administrator), they could lead to economies of scale and facilitate project preparation once initial guidance is established. Now, it is quite straightforward that,

for project developers, in weighing up transaction costs and credits, what counts is the money that comes out in the bottom line (PC 17). Thus the use of a multi-project baseline will not always result in the satisfaction of the project developer, as is shown by this example: “When using CERUPT[15] country guidelines, we found out that they were so conservative that we estimated that we would be generating 30% less CERs using it than if we used our project-specific baseline (also conservative), which is a big financial impact on a small project that benefits from the revenue from CERs. So, we have tried to calculate it by assessing current and projected supply to the grid, and applying emission factors. In the future, were there to be a more appropriate standardised baseline, we would consider using it, to reduce on transaction costs in terms of time, effort and money (PC 16).

Theoretically, nearly all multi-project baselines are hybrid baselines, a mixture between the two approaches, meaning that some key parameters are project-specific, and others standardised. An example for a hybrid baseline would be a benchmark that indicates emissions per unit of some service that the project provides (e.g. 1 t CO_2/MWh of electricity). In practice, however, most hybrid baselines that have any standardised parameters are referred to as multi-project baselines. Project types where reductions are likely to be the same across projects (homogeneity of the sector) and projects that have system-wide effects are more suitable for multi-project baselines than highly site-specific projects. Multi-project baselines would also be more transparent.

When using a project-specific baseline the project developer has to provide a proposal on what the baseline emissions are. This creates potential for gaming. Multi-project baselines are determined up-front by the governing authority, and enforced if some project falls into a particular category for which the multi-project baseline has been developed. “Multi-project baselines require that an institution with appropriate authority and know-how (programme administration, government and international bodies) has the resources and is willing to conduct the necessary analysis to establish the benchmarks and algorithms” (Lazarus et al. 2001, p. 24).

[14] Even though this quote refers to CERs (i.e. CDM credits), it should be clear that it applies just as well to ERUs.
[15] CERUPT is a Dutch tender programme to buy CERs.

5. What to make of counterfactuality: analytical challenge, impossibility or decision?

Governments can only negotiate baselines under JI if they have technical expertise and are willing to make a judgement about future action. Judgements about what *will* be done in the future, to some extent, are informed by judgements of what *should* be done in the future (Ott and Sachs, 2000). This makes the baseline not only a matter of uncertainty but also one of decision. It will always remain subject to often diverging interests and demands of different players, such as project developers, governments and local NGOs. Thus the problem of determining the baseline rules is as much of an exercise in bargaining as it is a technical one.

Box 1: Technical vs. political factors in baseline-setting: two analogous examples

Landfill gas

A potential GHG reduction project could consist of capturing[16] methane (CH_4) emissions from landfills. Those would be flared off, which converts methane into CO_2 and thus reduces GHG emissions. If it can be assumed that the methane flared would have otherwise vented into the air, the baseline emissions are simply the amount of methane flared (i.e. the baseline can be measured ex-post). However, this cannot always be assumed, for two very different reasons: one is a technical one, and stems from the fact every landfill has some sort of cover material (e.g. grass or other), which reduces the amount of methane that evades from the landfill. The factors (relating to the cover material) which determine this "methane attenuation" are not yet well understood.[17] The second reason is that a policy decision could actually require the capture of methane from landfills. Both issues raise some uncertainty, as to what the exact reductions are. Only in the first instance can technical reasoning be of any help in reducing uncertainty.

Electricity for the grid

The extensive literature on baselines for projects that save or displace[18] electricity production from high-emitting sources seems to have reached a consensus which focuses on the "combined margin" approach.[19] The combination consists of two "margins" which serve as reference points in calculating electricity baselines:

Operating margin. This is used to calculate the electricity saved or displaced which would have "otherwise" been produced by the electricity grid. Most electricity grids are fed by various power plants. Across power plants, GHG emissions per unit of output (or carbon intensity, measured in tCO_2/kWh) vary considerably. Now what is the exact carbon intensity of the electricity which would have otherwise been produced by the grid?[20] For valid economic reasons, it is not accurate to assume that this is equal to the average carbon intensity of the grid. Mostly those power plants that have low running costs (which happen to be wind, hydro or nuclear plants since they comparatively low fuel costs (OECD, 2002a) will keep running when new electricity is produced (or less demanded) while those with high running costs (like most fossil fuel plants) will produce less. Again, the causal connection here is not well-understood so that the determination of the operating margin baseline yields considerable uncertainty.[21]

Build margin. Especially if the life of the baseline is long, then the electricity saved or displaced which would have "otherwise been produced by the electricity grid" could have been produced by a newly built power plant. I.e. the assumption that the grid's composition will stay as it is (as assumed under the operating margin) can be wrong. The OECD (2002) paper suggests various statistical and modelling related methodologies to account for the build margin, but in any case energy policy and other political considerations will play a large role in this respect.
Hence, here again, there is two different sources of uncertainty, one only could possibly be solved through technical reasoning, the other involves decisions.

[16] Landfill gas can also be used for electricity generation, see next example.
[17] Expert estimates suggest that up to 15% of methane could be captured by cover material
[18] GHG reduction projects in the electricity sector can occur either in electricity generation or in energy efficiency (saving electricity, as it were).
[19] For a recent summary of the literature and newest technical refinements, see OECD (2002).
[20] …but now has been produced or saved by the project
[21] If "dispatch data" that is necessary to determine these connections is not available (which may be the case in some countries or where companies simply do not want to divulge this information) , so tne authors of OECD (2002: Footnote 28) state, ""The issue of which resources to exclude [from the baseline, i.e. those with low running costs that will run anyway] likely deserves closer examination, which could be done through case studies, for example".

6. The potential for multi-project baselines set by JI host governments

This section will set out the main results from the interview survey carried out with JI government representatives[22]. It looks at the motivations and barriers as perceived by host government representatives, as well as issues relating to the technical paradigm. Finally, some results are presented regarding the question of what project types, in addition to electricity projects, would lend themselves to a multi-project baseline approach. It should be said up-front that in no country surveyed there is an approved multi-project methodology in place for any project type.[23] Reasons for this vary significantly, as does the enthusiasm regarding the suggestion that there could be one.

Surprisingly enough, in several countries (Latvia, Bulgaria and Hungary) there didn't even seem to be full understanding of what the difference between track 1 and 2 JI is, whereas this was all too clear for the Dutch government: "If they fully comply with all the criteria then everything would be much less hassle for us. Regarding multi-project baselines, we would just make a deal and that's it!" (Interview 10). This situation certainly highlights the need for more capacity-building in some JI governments, where the priority of fulfilling the track 1 requirements doesn't seem to have been realised.

6.1. Motivations

Conflicts of interest

A clear motivation for host governments is to reinstate their position in the decision-making process on baselines vis-à-vis the investor government. This can be made very clear by referring to their reaction to a multi-project baseline that has already been developed for electricity projects by the Dutch government as part of the

[22] As can be seen from Table 2, interviewees also included professionals in private firms or NGOs working closely together with the government. When considered relevant, this distinction in perspective will be emphasised.

[23] It should be noted that Bulgaria seems to be quite far in developing an energy sector scenario with the help of an economic model. For Poland an external suggestion which has apparently not been taken up is CCAP (2001)

guidelines under their ERUPT scheme.[24] The Dutch have supplied such baselines for each EIT.

While one interviewee stated that the fact that the Dutch government had taken the initiative "is very nice of them, but it doesn't work quite like that" (Interview 4), another, in charge of the calculations with a national energy model, said that "I have no idea how they did that but these figures are certainly wrong" (Interview 2)[25].

This indicates clearly that losses in accuracy can bring up conflicts.[26] While it wasn't exactly clear in any country whether the figures calculated by the Dutch were too high or too low, the "host government also has the responsibility to ensure that there is a safety margin for compliance under the KP. The host countries should take the initiative themselves" (Interview 4, and others), since there is a definite "conflict of interest" (Interview 3).

When indirectly confronted with this, the representative of the Dutch government replied that "we have chosen those factors only by lack of something else, it is a starting point, nothing more" (Interview 10).

Impact on transaction costs

The general direction is that wherever a lot of projects are expected and there is a lot of interest from investors, it was agreed that in order to attract more investment, a multi-project baseline for the power sector was urgently needed. This type of comment came in particular from Latvia, Bulgaria and Hungary (Interviews 1, 2, 3, 5, 6 and 7), where the interest perceived from industry and thus expected project flows were said to be high.[27] Recommendations and sector scenarios provided by the government would "already minimise the paperwork", and "if the investor wants to come up with something else, then they can see if they want to spend half a year on a baseline study…" (Interview 4).[28]

[24] See tables B1 and B2 in Ministry of Economic Affairs of the Netherlands (2000). It is explicitly stated therein that aggregate data from the International Energy Agency (IEA) was taken and then a combined margin approach was applied (see Box 1).

[25] The same judgement was expressed in Interview 1.

[26] See also the results from Interview 16, where it becomes clear that the Dutch multi-project baseline failed in terms of accuracy in the CDM as well.

[27] The representative from Hungary said that she does not "agree with approving every single project on its own" (Interview 5).

[28] Comments to the same effect were made in Interview 3: "if the project developer wanted to use something else then the multi-project baseline they would have to provide some justification for that".

However, the conclusion that multi-project baselines are needed to attract investors depends greatly on the expected flows of projects.[29] In an important comment, the professional interviewed at UNIDO said that "transaction costs will come down in any case, and the whole issue might take care of itself. It will be some sort of evolving process with incremental improvements" (Interview 19). This suggests some potential of the project-specific approach in terms of standardisation and learning-by-doing.

6.2. Decisions vs. technical analysis

The Bulgarian government interviewee stated that even with a model for the energy sector in place, there was still great uncertainties regarding the business-as-usual scenario, since the closure of the second unit of a nuclear power plant was still being negotiated with the EU (Interview 1).[30] If the closure was to happen then the fuel mix of the electricity sector was going to become much more carbon-intense since new coal plants would have to be built.[31]

The interviewee from the Bulgarian Energy Institute, which is in charge of all technical analysis for the government, confirmed that even though macro-economic modelling was used for the energy sector, they could only "follow what the government decides on. The decision to close the first nuclear unit is the main reason for our revision of the baseline we are developing" (Interview 2).[32]

In the light of this example, it was also clearly stated by Interviewee 3 that "the calculations are easy, it is the strategies and the political decisions that are the challenge in doing these types of baselines".

It emerges also that "a national political decision for any baseline would be preferable" (see also BASREC, 2002: Box 7 on page 80) both from the host country (Interview 2) and the investor country point of view in terms of credibility: "If host countries were to make a decision on multi-project baselines then please let that not

[29] More on this in the section on barriers
[30] The first unit is decided to be closed by the end of 2002 (Interview 2)
[31] The situation is very similar in Latvia which imports electricity from Lithuania, where a Czernobyl-type nuclear plant will be closed down in 2005 (Interview 7).
[32] Note that according to operating margin considerations (see Box 1) the baseline then still "depends on the operation of the other nuclear plants" (Interview 2), which emphasises the need for some expertise in what impact energy sector decisions have.

be made by one person in some ministry. They would also have to refer to reliable data and argue a plausible case".[33]

Another issue clearly emerging from the survey is that even when decided on a multi-project baseline, the result would not be free of negotiation also with potential investors: the "baseline is a matter of decision and thus a matter of negotiation/deal between government and business" (Interview 4).

When asked about the potential for a multi-project approach for small-scale energy efficiency activities[34], the Slovakian representative replied that the viability of this would depend on whether it was going to be acceptable to the investors (Interview 8). A fact that is very relevant here is that the energy sector in the EITs has in the meantime been largely privatised[35] which means that discussions with the industry would be inevitable when setting up business-as-usual for this sector. PC 19 further brought out that electricity companies in Russia, operating in a multiplicity of grids, know definitely more about what would happen otherwise than the government does. These points illustrate that the "government governance" of baseline-setting does depend on the control already influenced over the sector in question. A related point was made by the Hungarian interviewee: the legal status of a multi-project baseline should not be just a recommendation, since "even regulations are hard to implement" (Interview 5).

6.3. Barriers

Resources, funding and capacity

The absolute key barrier to the government taking any kind of initiative on baseline-setting is that resources of various types are either decided not to be made available or they are just missing.

The first case illustrates the obvious point that in some instances it simply "wouldn't be wise to spend public money on a huge organisational apparatus if we do not even expect many projects in any one category" (Interview 8). There is also still uncertainty about the price of credits and thus about investment flows into the country (Interview

[33] Note that this comment on the part of the Dutch representative is based on the assumption that host governments would not qualify for track 1 JI. See next section.

[34] Large facilities will most probably be covered under an emissions trading scheme in Slovakia.

4). These are more the concerns of countries that have decided, for reasons elaborated on below, to shift away from JI altogether (Czech Republic and Slovakia in this study).

In Latvia, the interest in JI is apparently great but resources were limited to one person working on JI that had to deal with all other international environmental conventions (Interview 6). A university institute is providing back-up.

In Bulgaria, a private company (the Energy Institute) is dealing with the development of the national inventory and estimations for different sectors (Interview 2) since the government is underfunded. Here, it was felt that generally the interest in JI is very high but due to other political necessities in a financially difficult situation for the country the capacity to manage JI was still very low indeed. There is still is no JI strategy on the table even though it is clear that one is needed (Interview 2), and an application has been made to the World Bank to provide a national strategy study (NSS). The NGO contacted (EnEffect) is fully supportive of all the government is doing on JI and has involved one person in building the national registry in an OECD project (Interview3).

Hungary seems to be the most advanced in terms of technical capacity to implement a JI strategy, which has been re-submitted at least to the Ministry of Environment Committee for approval. Funding would be available to pay a consulting firm to carry out a study about sectoral scenarios and the possible development of multi-project baselines. However, there are other significant barriers.

Agency interdependence and coordination with other policy areas

The outside comment from the UNIDO interviewee (Interview 19) that "government agencies will always be too uncoordinated to develop multi-project baselines" is not quite born out in the empirical evidence: the representative from Hungary (Interview 5) emphasises the fact that a multi-project energy baseline would have to be coordinated with the national energy policy, which would likely take some time but should be feasible. Bulgaria seems to be the best illustration where on the one hand there is a complaint that "the issue of climate change never really comes onto the same table [between ministries]" (Interview 1) but on the other hand the Energy Institute Director claims that his organisation is trying to be some sort of mediator

[35] For example in Hungary, certain parts are still in the hands of the public sector (Interview 5)

between ministry of energy and ministry of the environment. This approach might be a starting point for overcoming the gap between technical analysis and decision-making.

Ratification and political will

As indicated by a comment from a consultant working together with JI governments that “someone on a high level needs to decide something, otherwise nothing will move there” (Interview 12), political will behind JI and its implementation is crucial. For example in both Hungary and Bulgaria, it was said that ratification of the KP should change the political inertia. The Hungarian representative said that now it was only a matter of pushing their proposal for JI guidelines through, and agreed that an amendment suggesting a multi-project baseline for the energy sector might be feasible.

Revision of baselines

As regards uncertainty, it was generally agreed that the crediting life of the baseline should be rather short since otherwise political agreement might be even more difficult. Obviously frequent baseline renewal increases transaction costs, but for example the experience in Latvia showed that some baselines developed under AIJ simply “turned out to be wrong” (Interview 8). “The first thing is to agree on the revision (Interview 5)”.

6.4. Project coverage

There is two project types other than the electricity sector which seems to yield some potential for being covered by a multi-project baseline. This is on account of their homogeneity. Firstly, a lot of small energy efficiency projects in schools and hospitals could be carried out in a “very uniform way” (Interview 4).
The other sector is waste management, where government scenarios stating that methane capture is not likely to occur could potentially increase certainty for

investors. Since the financial situation is quite bad in this sector in any case (Interview 1) it could replace resource-intense investment analysis. However, this really goes only for Bulgaria and Latvia, which will not be under EU legislation (which requires methane capture from landfills) for another 5 years. In addition, the waste sector in Bulgaria is under the control of the Ministry of Environment exclusively and would thus warrant easier political handling of a baseline decision.

For all other project types the expected volume of projects was not expected to be high enough to justify multi-project baselines. In particular, industrial plants all have specific and varying technologies, so that the project-specific approach is regarded as appropriate. The same applies to boilers in small companies (Interview 9).

6.5. EU accession issues

As is well-documented only for the Czech Republic (PCFPlus, 2002), EU accession and the resulting requirement for EITs to implement the *acquis communautaire*[36] is likely to be a "severe drawback to JI" (Interview 10), since many of the resulting regulations would make potential JI projects "business-as-usual" (see also Fernandez and Michaelowa 2002). This assumes that the EU as an investor will ask for a baseline reflecting the acquis. However, the EU would punish itself by such an approach and so political discussions are to be expected if abatement costs within the EU 15 turn out to be high,

7. Conclusions

It would certainly be beneficial for governments that plan to host JI projects to start acting their part in the game, which will otherwise be dominated by investors and donor countries against their interest (even if compliance is not necessarily endangered in the host countries).

As appealing as they might seem in theoretical and intellectual terms, it has become clear from the empirical analysis that multi-project baselines also provide no easy way out of the baseline game. Overall, they only seem to provide moderate potential

[36] The bulk of EU regulations including environmental Directives such as the Directive on Integrated Pollution Prevention and Control (IPPC)

to save overall transaction costs, depending on how much project flow is expected in a given type.

While in the electricity sector a policy decision on baselines might be feasible and desirable in some countries (i.e. mainly Bulgaria and Hungary of the ones surveyed), it emerges here also that these attempts at a more centralised governance will not be able to escape the need to involve negotiations in some way, be it with the industry concerned or with the investor country. On the other hand, these negotiations might be the closest to "common sense" as one can get.

Both technical expertise and a strategy on the part of the host government would be required to make a multi-project baseline work. Going along with this, the two main barriers perceived at this point in time are on the one hand the technical capacity and the resources within government agencies, and on the other hand the slowness in higher tiers of government to become mobilised in taking a decision.

Recommendations for JI policy

- It should not go unnoted that first track JI, in making for more of a direct bargaining process between the parties, has the biggest potential of saving transaction costs. Investments in national systems and registries would certainly a wise priority for any JI government now since 1) these are also the requirements for IET and 2) in the context of EU accession high benefits from JI might only be accessible in the short term. The host countries should press the EU for a clear decision whether the "acquis" defines the baseline. If yes, investment in JI capacity building and baseline definition would be misguided as emissions trading is more attractive.
- JI governments need more support from international organisations and donor countries. Current capacity-building efforts need to be continued.[37]
- "Boundary organisations" such as the Energy Institute in Bulgaria should be established to bridge the gap between technical analysis and strategic considerations.

On a final note, domestic emissions trading linked internationally might be a very viable option already now for all those countries that have some regulatory capacity in place. This will and should ultimately be the way to finish the game with

[37] see Levina 2002

counterfactuals, giving business flexibility and the government real control of the overall target.

If it is very hard to decide and bargain over what should happen, why spend so much time on trying to decide on something that isn't going to happen anyway?

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