# The Kyoto Protocol: Pulling Verification Together

## Key Issues for the 13th Meetings of the Subsidiary Bodies of the Convention on Climate Change Lyon, September 2000

**VERTIC Briefing Paper 00/4**

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### Executive Summary

- Decisions taken at the Sixth Conference of the Parties to the 1992 Framework Convention on Climate Change in November 2000 must ensure that an effective, efficient and transparent verification system is developed for the 1997 Kyoto Protocol.
- This will require careful consideration of a number of issues by delegates to the Thirteenth Meetings of the Subsidiary Bodies to the Convention. Elements of the verification system will be discussed by groups negotiating Articles 5, 7 and 8 of the Protocol, the Joint Working Group on Compliance, and the Mechanisms group. Negotiations on Land-Use, Land-Use Change and Forestry, and Policies and Measures will also be highly relevant.
- Priority must be given to developing guidelines for reporting and reviewing national systems, national registries and national communications.
- Parties should also consider means for reporting on and reviewing Article 3.2 of the Protocol, which requires that parties show demonstrable progress in implementing the Protocol by 2005.
- It is important that parties build capacity to report on their implementation of the Protocol prior to the start of the first commitment period in 2008. To this end all Annex I parties should be subject to a mandatory pre-commitment period review of compliance with Articles 5 and 7. This may form part of an eligibility check for participation in the Kyoto Mechanisms.
- Given that monitoring and reporting are important to the integrity of the Protocol, parties should give further thought to potential consequences for non-compliance with Articles 5 and 7.
- Pulling together a coherent and watertight verification system for the Protocol will require the attention of delegates across the negotiating groups in Lyon. Not all the detail needs to be agreed right now, but it is vital that a number of essential issues are agreed to build a framework.


VERTIC briefing paper

## INTRODUCTION

The sixth Conference of the Parties (COP6) to the 1992 Framework Convention on Climate Change must take decisions that will decide the future nature of the 1997 Kyoto Protocol. Therefore at the Thirteenth Meetings of the Subsidiary Bodies to the Convention (SB13) in Lyon—the final meetings of the Subsidiary Bodies before COP6—negotiations and decision-making need to be prioritised more than ever.

Every stakeholder in the climate regime may have a different view of an ideal Kyoto Protocol. For governments, one priority is to ensure that their economic competitiveness will not be hampered by 'free-riders'—states that benefit from reduced global greenhouse gas (GHG) emissions but do not themselves take actions to cut emissions. The business world is keen that the Protocol enhances, rather than impedes, business opportunities, while environmental organisations insist that the Protocol must have integrity and meet its stated aim – to prevent man-made climate change. All of these concerns can be met if an effective, efficient and transparent verification system is developed for the Protocol. Decisions must be taken at COP6 to ensure that this is achieved.

Verification is the process of gathering, processing and using information to make a judgement about compliance or non-compliance by parties to an agreement. The aim of verification is to establish or increase confidence that a treaty is being implemented fairly and effectively by all parties. It does this through:

- detecting non-compliance
- deterring parties which might be tempted not to comply
- providing compliant parties with the opportunity to convincingly demonstrate their compliance.

In the case of the Kyoto Protocol, the verification system should provide assurance that parties are taking action to meet their commitments to reduce GHG emissions, according to the rules of the Protocol. Specifically, it should verify the authenticity of GHG emissions reductions claimed by developed countries, listed in Annex I to the Convention, to meet their emission reduction commitments under Article 3.1.

Verification should apply whether the reductions are made as a result of domestic polices and measures or under the Kyoto mechanisms (Emissions trading, Joint Implementation and the Clean Development Mechanism). This will ensure that parties do not 'cheat the atmosphere' by claiming fictitious or exaggerated emissions reductions.

Assessing compliance with the Kyoto Protocol will be based on parties monitoring their own emissions of greenhouse gases (Article 5.1), and reporting on all aspects of their implementation of the Protocol (Article 7). This information will be reviewed according to Article 8. Guidelines for the operation of these articles, to be adopted at COP6, will provide the framework for the verification system. However, decisions at COP6 on the nature of the compliance system (Article 18) and the rules for the Kyoto Mechanisms (Articles 6, 12 and 17) will provide links to the verification system. The outcomes of negotiations on the use of land-use change and forestry activities to meet emission reduction commitments (Articles 3.3 and 3.4) and implementation of policies and measures (Article 2) will also have an impact on the nature of the verification system.

A key priority for SB13 must be to recognise the importance of these links between negotiating groups in the development of a coherent verification system. This will enable governments to take home from COP6 a treaty regime that is, at least in principle, verifiable.

## PURPOSE OF THE KYOTO PROTOCOL VERIFICATION SYSTEM

The verification system should allow the assessment of compliance by Annex I parties with:

- emissions reduction and limitation commitments under Article 3.1
- monitoring and reporting commitments under Articles 5 and 7
- other commitments under the Protocol.

The relative importance of these requirements, and the means by which they are achieved, will vary over time. During the pre-commitment period the emphasis should be on facilitating compliance, particularly with Articles 5 and 7.

Verifying compliance with Articles 5 and 7 will continue throughout the commitment period, but the review system will necessarily be quicker given that parties will have started to participate in the Kyoto mechanisms. Penalties for non-compliance with Articles 5 and 7 should be applied from the start of the commitment period.

Implementation of all the other Protocol commitments, and any additional rules regarding participation in the Kyoto mechanisms, by parties should also be reviewed during the commitment period. Emissions reductions credits generated under the Kyoto mechanisms should also be subject to verification.

At the end of the commitment period the focus should shift to verifying compliance with Article 3.1.



## VERIFICATION DURING THE PRE-COMMITMENT PERIOD

If the first commitment period is to have integrity, parties must be required to demonstrate in advance that they have adequate systems in place to provide the information with which to judge compliance with the Protocol. COP6 should take a decision requiring all parties to be subject to a mandatory pre-commitment period review of the following items:

- national system
- latest annual inventory and inventory report
- national registry
- base year inventory
- assigned amount for the first commitment period
- national communication.

Parties at SB13 need to agree how this information should be reported, and a deadline for its submission that would allow the review to be completed by 2007. Guidelines need to be agreed to cover the review of these elements both prior to and during the commitment period.

Such a review would have an important facilitative function, as the exchange of views between reviewers and national experts would offer an opportunity to discuss implementation problems and consider solutions. This would build confidence in the regime. However there should be penalties for those parties still in non-compliance with reporting requirements by the start of the commitment period.

### National systems and inventories

Parties to the Protocol will be required to produce and report their national GHG inventories according to various guidelines. First, they should use the revised 1996 'Guidelines for National Greenhouse Gas Inventories' devised by the Intergovernmental Panel on Climate Change (IPCC) for producing their emissions estimates. They should also apply 'good practice' as defined in the IPCC 2000 report, 'Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories'. Good practice is intended to assist parties in preparing high quality inventories in which uncertainties are reduced as far as possible. At SB13 parties also need to agree on reporting guidelines under Article 7, including guidelines for reporting inventories. An important issue for discussion should be the content and structure of the national inventory report. The guidelines may be finalised after the trial period for reporting and reviewing inventories under the Convention finishes in 2002. However, decisions at SB13 should ensure that disagregated information and a clear explanation of methodologies is provided in the national inventory and the national inventory report.

In addition, guidelines under Article 5.1 of the Protocol will outline the 'national system' required to produce an inventory. The guidelines, which were agreed at SB12, will cover the legal, institutional and procedural arrangements within an Annex I Party for estimating GHG emissions by sources and removals by sinks, as well as arrangements for reporting and archiving inventory information.

Assessing compliance with Article 5.1 will perhaps be the most critical component of the pre-commitment period review. This is because inventory problems are generally caused by inadequate national arrangements for producing the inventory. According to Article 5.1, the national system must be in place by 2007. Given the importance of meeting these guidelines, parties should be required to have their national system both established and reviewed, by 2007.

A priority for SB 13 must be to negotiate guidelines for the review of national systems. To date this subject has received scant attention. Assessing compliance with Article 5.1 could prove tricky because although the guidelines for national systems, which were agreed at SB12, include some mandatory elements exact details are left for states to implement according to their national circumstances. Review of parties' national systems will therefore require discussion with national personnel and consideration of records and written procedures in order to assess whether the performance of the mandatory elements given in the guidelines.

Submission of a national inventory will be vital to properly review much of each party's national system. For example, assessment of implementation of quality control procedures and identification of key source categories can only be achieved when an inventory is submitted. For this reason an annual inventory must be submitted as part of the pre-commitment period review.

Similar problems might be encountered with regard to reviewing annual inventories. The IPCC 1996 guidelines provide a number of alternative methods for the calculation of emissions from each source. Alternatively, parties are able to use their own method provided it is transparent. This flexibility is necessary to account for national differences, but it could lead to disputes over the interpretation of these guidelines during the review process.

### Base year inventory

A crucial component of the pre-commitment period review will be reviewing the base year inventory, which will determine the party's assigned amount for the commitment period. Review teams may have to deal

with large gaps in these inventories where activity data is not available for the base year (because it was not required to be collected at that time). Although not a priority for SB13, parties will need to consider how to deal with this issue at some point.

**National registry**

The national registry will provide the means for a party to account for its assigned amounts. It will be needed to track changes to a party's assigned amount due to transfers and acquisitions under the Kyoto mechanisms. Even parties that do not wish to take part in the mechanisms will need a registry, for example, for retiring assigned amount units throughout the commitment period. Again, there has been very little formal discussion so far on guidelines for reporting and reviewing national registries and this should be done at SB13.

**National communications and demonstrable progress**

The elements of the pre-commitment period review described so far will ensure that parties have adequate systems in place to provide the information with which to judge compliance with Article 3.1. They are also necessary for parties to participate in the Kyoto mechanisms with any integrity. However, parties to the Protocol are also required to periodically report on their implementation of other commitments in a national communication.

Regardless of whether a national communication is specifically required in the pre-commitment period review, parties are likely to have to submit a national communication under the Protocol before 2008. This is because, according to the Protocol, the first national communication due under the Convention after the Protocol enters into force should incorporate the information necessary to demonstrate compliance with Protocol commitments. This is likely to be the fourth national communication, which is due between 2004 and 2006.

In addition, Article 3.2 of the Protocol requires parties to have made 'demonstrable progress' in achieving their commitments under the Protocol by 2005. The importance of this review cannot be overstated – it may be the only opportunity to properly assess parties' implementation of the Protocol before 2015 when parties will be assessed for compliance with Article 3.1. Yet there has been very little formal discussion on the procedures for reporting and reviewing demonstrable progress and this must be a priority for SB13.

Parties first need to define what they mean by demonstrable progress. It will then be possible to consider what should be reported and reviewed. Demonstrable progress should refer to all commitments under the Protocol. Clear criteria will be required against which to measure this. It will be difficult to assess some of the commitments in an objective and transparent manner. For example, it would be hard to objectively assess progress on Article 2.3, which states that parties must 'strive to implement policies and measures in such a way as to minimise the adverse effects'. However, review of other commitments is possible, such as those contained in Article 2.1, which deals with policies and measures. The pre-commitment period review of compliance with Articles 5 and 7 could also contribute to the review of demonstrable progress.

The national communication could provide some of the information required to assess demonstrable progress. It might then make sense to take a decision requiring the fourth national communication to be reported in 2004. Further information related to the review of demonstrable progress should be attached to this national communication.

## CONSEQUENCES FOR NON-COMPLIANCE WITH ARTICLES 5 AND 7

Unlike some other multilateral agreements, verification of the Kyoto Protocol will rely almost entirely on self-reporting by parties. Consequences of non-compliance with monitoring and reporting requirements must then be a central issue. This should be explicitly discussed at SB13.

A facilitative approach will clearly be very important, especially during the pre-commitment period, and this needs to be considered in much more detail. For example, would facilitative assistance be applied via the Article 8 review process, the compliance process or the multilateral consultative process under the Convention? What would be the role of on-going multilateral facilitation schemes?

However, parties also need to consider punitive consequences for non-compliance with Articles 5 and 7. The main option currently under discussion is loss of access to the Kyoto mechanisms. The 'adjustment' process provided for in Article 5.1 could also be used to deal with some reporting problems. These options will be discussed in more detail below.

Parties should also discuss whether they need to develop further consequences for non-compliance with Articles 5 and 7. They should also consider whether different consequences should apply to different types of non-compliance. For example, would a party that submitted a sub-standard national communication be treated in the same way as one that submitted a GHG inventory with missing data?



**Adjustments**

Article 5.2 of the Protocol allows for the 'adjustment' of inventories where parties have provided figures that were not produced according to agreed guidelines. Adjustments could also possibly be used where data are missing altogether and where figures have unacceptably high uncertainty.

Much of the purpose of adjustments is to build confidence in the emissions inventories. They could also provide a figure with which to assess compliance with Article 3.1, and to communicate to the compliance body, in a quantitative way, the extent of the problem with an inventory.

Adjustments should provide a 'conservative' estimate of the emissions estimates in question, meaning that they will be lower than expected for the base year and higher than expected for subsequent years. In this sense they could constitute a penalty for non-compliance with Articles 5 and 7. One advantage of this procedure is that adjustments could be automatically applied in certain circumstances during the Article 8 review – without recourse to the compliance body.

It does not seem possible, or necessary, for parties to agree on the exact methods for calculating adjustments by COP6. The priority now is to agree on the elements required to establish a transparent and well documented procedure. An important question will be who should apply the adjustment. It has been suggested that the party should apply the adjustment. VERTIC would recommend that the adjustment is carried out by independent inventory experts, whether they be part of the review team, or separate from it. Application of the adjustment by experts, rather than the party has the following benefits:

- it ensures consistent application of adjustments
- it leaves no opportunity for delaying tactics
- it provides the required incentive for parties to provide their own figures in the first place.

Parties also need to discuss the extent to which adjustments can be used to correct inventory problems. It could be difficult to use adjustments to deal with qualitative problems, such as lack of transparency in the inventory.

Furthermore, if application of an adjustment prevents a formal finding by the compliance body of non-compliance with Articles 5 and 7, there would need to be some kind of threshold of seriousness (either in terms of number or size of problems) above which the inventory problems were not adjusted. Serious and persistent problems must be dealt with by the compliance body.

Special consideration needs to be given to how adjustments should be used in the pre-commitment period. Where base year inventories have not been prepared and reported according to guidelines, adjustments should be applied. However, it is likely that in many cases the problem will be that of gaps in the inventory caused by missing activity data. Parties cannot be penalised for not having data that they were not required to collect in 1990 – it would be unfair to apply conservative adjustments in such cases. Parties need to decide how to deal with this problem.

**Mechanisms eligibility**

According to the draft text on the Kyoto mechanisms, parties that are not in compliance with Articles 5 and 7 will not be eligible to participate in the mechanisms.

This could constitute an important penalty for non-compliance with Articles 5 and 7, and will be a key issue for SB12 to consider. It is important to realise that there are two different approaches to considering mechanisms eligibility.

The first approach considers compliance with Articles 5 and 7 to be fundamental to verification of the Protocol. If a party is in non-compliance with Articles 5 and 7 it will not be possible to assess its compliance with Article 3.1 and other commitments. An easily enforceable penalty for such non-compliance is loss of access to the mechanisms. This would mean that a party is not able to transfer or acquire emission reduction credits. This could be applied prior to or during the commitment period. However, it only constitutes a penalty to those parties that want to use the mechanisms. Furthermore, there is a danger that barring a party from using emissions reductions generated under the mechanisms to reach its commitments would result in non-compliance with Article 3.1, which clearly defeats the whole aim of the Protocol.

The second approach considers that properly functioning national monitoring and reporting requirements are necessary for credible participation in the mechanisms. There is debate over the extent to which this is true, given that most of the emissions credits that will be transferred will be made at the project or private entity level. For emissions trading the argument is relatively simple – a party clearly cannot trade in parts of assigned amounts unless it knows what its assigned amount is, and what emissions it has made. A party's assigned amount can only be fixed once its base year emissions inventory has been reviewed. For Joint Implementation (JI) and the Clean Development Mechanism (CDM) the situation is more complicated. It can be argued that so long as the projects generating these credits are subject to stringent verification, national compliance with Articles 5 and 7

is irrelevant. However, this is not entirely true. For example, a proper project baseline under JI should be based on the national emissions inventory of the host country. Furthermore, if parties are to change their assigned amount by transferring or acquiring emissions credits using the mechanism, they need to be in compliance with the guidelines for national registries according to Article 7.

Taking this approach to its logical conclusion, an eligibility check for the mechanisms should encompass much more than compliance with Articles 5 and 7. For a party to take part in emissions trading should require a domestic system for registering transactions, monitoring industry emissions and enforcing industry emission limits. This would ensure that the party does not oversell emissions credits, leaving itself in non-compliance with Article 3.1 at the end of the commitment period. The complexity of these eligibility requirements would depend on the extent to which private entities are able to participate in the mechanisms. If parties do not meet these requirements, they should not be able to transfer emissions credits, although they could acquire them from a party that has met the eligibility requirements.

Parties should also consider whether such requirements would be reported and reviewed according to Articles 7 and 8, or some other process.

SB13 needs to carefully consider these approaches to eligibility to participate in the mechanisms. It might be possible that both approaches could be applied, and this would provide the strongest verification system.

## VERIFICATION DURING THE COMMITMENT PERIOD

According to the Protocol, during the commitment period parties should annually report the necessary information to assess compliance with Article 3. This would also be reviewed annually. In addition parties must periodically submit national communications. These should include the necessary information to demonstrate compliance with other commitments under the Protocol.

SB13 will need to agree a timetable for reporting and reviewing the information required during the commitment period.

### Annual Review

The purpose of the annual review will be two-fold. First, it will aim to establish the emissions and assigned amount data for that year. This data will be used to assess compliance with Article 3.1 at the end of the commitment period. Second the review will aim to check that the party is still in compliance with Articles 5 and 7. Parties are agreed that since states will be trading during the commitment period, the annual assessment of compliance with Articles 5 and 7 must be 'expedited'. This could be facilitated in two ways – there could be an expedited review procedure under Article 8, and there could be an expedited procedure for the compliance body to come to a decision under Article 18. Presumably both should be used.

Parties have made a great deal of progress on the annual review of inventories, and this should be less of a priority for SB12 then other elements of the verification system. However, an outstanding issue that will need discussion across the negotiating groups is how compliance problems will be passed from the review teams to the compliance body. Clearly the final compliance finding should rest with the compliance body. The role of expert review teams and the UNFCCC Secretariat should be depoliticised as much as possible. However, it is precisely these bodies that will first receive, and have the capacity to understand, the information on a party's compliance. The report of every party's review should be passed to the compliance body for its scrutiny, but the review teams will have to highlight clearly where compliance problems might exist, and the potential scale of the problem.

The latest draft guidelines for Article 8 suggest that the review teams will classify problems as 'first order' and 'other'. Some 'first order' problems could be identified during the initial checks on the inventory. In an expedited review process, these problems could be relayed directly to the compliance body. The drawback with this approach is that a party would not have a chance to react to the finding before it went to the compliance body. Apart from concerns regarding sovereignty this could have practical consequences - the compliance procedure could become clogged with simple errors that could be easily rectified by the party concerned. Nevertheless, such a system would ensure that parties clearly in non-compliance with Articles 5 and 7 were quickly prevented from participating in the mechanisms. It should be noted that the initial checks on inventories are likely to be carried out by the UNFCCC Secretariat, and the Joint Working Group on Compliance should take this into account when it considers who should be able to refer problems to the compliance system.

It is important that problems described as 'other' are also considered by the compliance body, especially if they are persistent. The final review report should be formatted in such a way that the compliance body can easily understand the overall level of compliance of a party with Articles 5 and 7.

### Periodic review

Most attention to date has been given to the annual reporting and review of national inventories. A priority for SB13 must be to discuss the guidelines for reporting and reviewing national systems, national registries and national communications. At the very least, it is necessary for parties to agree on what elements should be reported and when and how.

### Verifying emissions reductions under the Kyoto mechanisms

During the commitment period, and prior to it in the case of the CDM, emissions reductions will be generated by the Kyoto Mechanisms. It is vital that, like the emissions reductions resulting from domestic action recorded in national inventories, these reductions are subject to an effective, efficient and transparent verification system.

Emissions trading this will require stringent domestic systems for monitoring entities' emissions and enforcing emissions caps. For JI and the CDM, a crucial issue is the establishment of a reliable emissions baseline. International guidance will be required to ensure consistency in baseline determination across countries and sectors. Although the details need not be addressed at COP6, provision should be made for such guidelines to be developed. The methods for setting baselines must be verifiable. This means that enough disaggregated activity data and emissions factors needs to be supplied to check the emissions claimed.

## END OF THE COMMITMENT PERIOD

At the end of each commitment period there will be a compilation and accounting of each party's assigned amount and emissions data. These will be used to assess compliance with Article 3.1.

It is clear that a party will not be able to tell if it is in compliance with its emissions reduction commitments under Article 3.1 until the final annual inventory for the commitment period has been submitted and reviewed. This is not likely to be completed until 2015 (for the first commitment period). At this time parties that find themselves in non-compliance will probably be given a limited 'grace period' to bring themselves into compliance by buying emissions credits.

The Joint Working Group on Compliance needs to take this delay into account when considering consequences of non-compliance with Article 3.1. For example, consequences based on repaying excess emissions in the first commitment period by decreasing the assigned amount for a subsequent commitment period, would have to apply to the third commitment period rather than the second.

One potential way to encourage faster reporting of final inventories by parties is to use this 'grace period' as a carrot. This is possible if the grace period for each party began as soon as its Article 8 review is completed, rather than waiting for all the reviews to be completed. The idea is that a party that reports early is reviewed earlier. This would give it quicker access to the market to buy up emissions reduction credits should it find itself in non-compliance. This idea might be worth exploring, but clearly parties would need assurance that early reporting really would result in the review being completed earlier. This would partly depend on whether all parties could be reviewed in the same time period (so a party that reported later would not have its review completed earlier).

## CONCLUSIONS

The first priority for parties in Lyon must be to agree guidelines under Article 7 for parties to report on implementation of Protocol. Only when parties have agreed what is to be reported, and when, can they sensibly complete work on review guidelines.

Reporting in the pre-commitment period should provide the information required for two linked, but independent, reviews: a review of compliance with Articles 5 and 7, and a review of demonstrable progress. It is important that the guidelines clearly outline how both of these reporting requirements will be met. The fourth national communication due under the Convention, could be used for reporting some of the information required for both these reviews. If it is to be used for this purpose it should be submitted in 2004. However, further information will be required and parties need to decide how it will be reported.

It is important to note the differences between these two reviews. The review of compliance with Articles 5 and 7 will aim to encourage all parties to comply with monitoring and reporting commitments by 2007. While this review will be facilitative, consequences should be applied to parties that do not comply by 2007. Parties need to think carefully about what these consequences might be and how they should be linked to eligibility requirements for the mechanisms. However, the review of demonstrable progress will be an opportunity for parties to share information on planned and executed actions to implement the Protocol.

With regard to guidelines for review, the priority for discussion must be the guidelines for the review of national systems. National systems are the means for producing national inventories and it is important that they are reviewed thoroughly prior to the commitment period. This will require the submission of an annual inventory and inventory report.

The Kyoto mechanisms provide a further verification challenge. Lyon participants should consider what monitoring and reporting capabilities parties should

demonstrate in order to be eligible to participate in the mechanisms, and the extent to which details of JI and CDM projects should be reported and reviewed at the international level. Decisions on the CDM and JI project cycle should provide for the development of standardised procedures for calculating emissions baselines.

It is clear that although a great deal has already been achieved this year, much more work is required. It is becoming increasingly difficult for different groups to make progress without understanding decisions and discussions taking place in other groups. This is especially true for groups discussing Articles 5, 7 and 8, the compliance procedure and the mechanisms. VERTIC suggests therefore that a joint meeting of these groups is held as soon as possible.

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This briefing paper draws on presentations and discussions at the VERTIC workshop, *Developing Verification Systems for the Kyoto Protocol,* held in London on 28 July 2000. Further information on the workshop, including summaries of the presentations, are available on the VERTIC website. The site also has briefing papers written for earlier meetings of the Subsidiary bodies and Conferences of the Parties.

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VERTIC

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