European Union Network for
the Implementation and Enforcement
of Environmental Law

Options and Proposals for Consistency in the Implementation of the EU Emissions Trading Scheme

Summary Report

Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law is an informal network of the environmental authorities of EU Member States, acceding and candidate countries, and Norway. The European Commission is also a member of IMPEL and shares the chairmanship of its Plenary Meetings.

The network is commonly known as the IMPEL Network

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on certain of the technical and regulatory aspects of EU environmental legislation. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. It promotes the exchange of information and experience and the development of greater consistency of approach in the implementation, application and enforcement of environmental legislation, with special emphasis on Community environmental legislation. It provides a framework for policy makers, environmental inspectors and enforcement officers to exchange ideas, and encourages the development of enforcement structures and best practices.

Information on the IMPEL Network is also available through its web site at:
http://europa.eu.int/comm/environment/impel

Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme Summary Report	Number of the report 2006/13
Project Manager:– Lesley Ormerod, Environment Agency, England and Wales **Authors:-** Ian Skinner, Catherine Bowyer and Jason Anderson, Institute for European Environmental Policy	Report adopted at IMPEL Plenary Meeting in Berlin, June 2007
Project Group Members *See Annex 1.*	Number of Pages Report : Annexes :

Executive Summary

This report is a summary of the key findings of the IMPEL project 'Options and proposals for consistency in the EU Emissions Trading Scheme'. The project focussed on four key areas of the EU ETS, which were identified in a previous IMPEL EU ETS project that reported in 2005, i.e.

- Small installations;
- Verification;
- Compliance and enforcement; and
- Monitoring and reporting.

The project produced an overview of Member State regulatory practice during the first year of operation of the EU Emissions Trading Scheme. It also produced four good practice reports – one on each of the four key areas listed above. The reports are based on an analysis of the responses to a questionnaire completed by representatives of Member States' regulators. In the course of the project, there were two workshops, the first of which discussed a draft version of the questionnaire, while the second discussed the draft findings of the analysis. Good practice that was identified was integrated into the appropriate good practice report. Key findings include:

- In all Member States there are considerable concerns regarding the number of ***small installations*** covered by the EU ETS and the burden placed upon these by the scheme's requirements. Thus far regulators have adopted a variety of mechanisms in order to try to ease the burden placed on small installations, which are often not simple installations to regulate. Specific difficulties have been encountered particularly in relation to fragmented sites.
- In relation to ***verification***, in the first year of reporting the vast majority of emission reports were submitted on time and most were approved, although in some cases with comments and recommendations for improvement. Regulators noted that in year one their level of engagement in the verification process was higher than expected, however verification was considered to be an essential part of the compliance chain. In the short term regulators are keen that verification continually improves, initially focusing on technical issues and interpretation. In the longer term there is a desire for a more consistent and comparable approach across Member States. Several priority areas for improvement were identified.
- In relation to ***assessing compliance***, different approaches were taken in different

Member States, which reflected their respective regulatory traditions and the way in which they have chosen to implement the EU ETS. The project compared the proposed approach to environmental inspection outlined in the RMCEI with that undertaken in the EU ETS to date and made a number of recommendations

- In relation to ***enforcement***, experience so far has been largely positive, with few cases of non-compliance. This has been facilitated by a proactive approach on the part of many regulators, where requirements were communicated to operators in advance of deadlines and contact points, e.g. helpdesks, set up to facilitate the process.
- In relation to ***monitoring and reporting***, regulators took a largely pragmatic approach in the first phase, granting flexibility in monitoring and reporting plans, where appropriate, and granting a small number of derogations from the requirement to meet the highest tier. The revised Monitoring and Reporting Guidelines have addressed many issues of concern to regulators, but there is still scope for some clearer guidance on a number of issues, which will be taken forward in a follow-up project.

OPTIONS AND PROPOSALS FOR CONSISTENCY IN THE IMPLEMENTATION OF THE EU EMISSION TRADING SCHEME SUMMARY REPORT

Contents

Glossary of terms used

Competent authority:	The government department or agency designated under national law as being responsible for the implementation of the EU emissions trading Directive
Regulator:	The government department or agency that regulates installations covered by the EU emissions trading Directive

Note on the usage of 'England & Wales', 'Scotland' and 'UK' in the report:

In the United Kingdom (UK), land-based installations in the EU emissions trading scheme in England and Wales are regulated by the Environment Agency, while in Scotland, these installations are regulated by the Scottish Environmental Protection Agency (SEPA). Both the Environment Agency and SEPA are represented at IMPEL and were involved in the project on which this report was based. The regulators for Northern Ireland, the Department of the Environment, and for UK off-shore installations, an office of the Department of Trade and Industry, have not been involved in the project. In the text, therefore, the term 'UK' is not used; rather reference is made to 'England & Wales' or 'Scotland' when referring to installations regulated by either the Environment Agency or SEPA, respectively.

Introduction

1.1 Background to the report

Since its entry into force in 2003, achieving consistency in implementation of the regulatory aspects of the Directive[1] establishing the EU emissions trading scheme (EU ETS) have proved to be a major challenge for regulators. In recognition of this, a group of EU ETS regulators from different countries convened in March 2005 under the auspices of IMPEL to share experiences and identify good regulatory practice in relation to the EU ETS.

In December 2005, the report[2] resulting from this IMPEL Regulators' Group was adopted at the IMPEL plenary in Cardiff. It identified a number of short- and longer-term actions that the IMPEL EU ETS Group should take forward. One of these actions was a proposal for further work on identifying good practice in relation to particular aspects of the scheme. As a result, a second IMPEL project was funded to review the first year of operation of the EU ETS and to develop good practice in relation to four key areas:

- Small installations;
- Verification;
- Compliance and enforcement; and
- Monitoring and reporting.

The project was led by the Environment Agency of England and Wales and the Hungarian National Inspectorate for Environment, Nature and Water. The Environment Agency commissioned the Institute for European Environmental Policy (IEEP)[3] to assist with the work.

1.2 Methodology

In the first stage of the project in spring 2006, a **questionnaire was drafted**, which would ultimately be completed by representatives of the Member States' competent authorities and their colleagues, who were participating in the project (see Annex 1 for a list of the participants).

This questionnaire was the subject of a **workshop** of the IMPEL EU ETS group, which was hosted by the Hungarian National Inspectorate for Environment, Nature and Water in April 2006 in Budapest. As a result of the discussion at the workshop, the questionnaire was **finalised** (see Annex 2) and **circulated** to workshop participants for completion. The questionnaires were completed in the course of July and August 2006 and returned to IEEP for **analysis** and the identification of possible good practice.

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[1] Directive 2003/87/EC on Establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Council Directive 96/61/EC (OJ L275, 25.2.03)

[2] IMPEL (2005) *Identifying Good Regulatory Practice in the EU Emissions Trading Scheme*, report number 2004/11; see http://ec.europa.eu/environment/impel/pdf/good_practice.pdf

[3] www.ieep.eu

In September 2006, the Hungarian National Inspectorate hosted a **second workshop** in Budapest at which the results of the analysis were presented, possible examples of good practice discussed and future actions identified. **Draft final reports** were then produced in the course of September and October 2006. The **final reports** took on board the comments of the IMPEL EU ETS group and were finalised in the course of December 2006.

1.3 Format and structure of reports

This report provides a brief summary of the five reports produced by the project. The overview report focuses on the first year's experience and practice in relation to the various aspects of the emissions trading scheme. The other four reports are designed to be good practice guides relating to each of the four topic areas covered.

2 Small Installations and their Role in the EU ETS - key conclusions

Whilst the exact proportion of small installations, i.e. those emitting below 25,000 tonnes of CO_2 per year, varies considerably between Member States, most regulators are concerned about the burden posed by including these within the EU ETS, particularly the administrative burden and disproportionate costs of regulating such installations, both for the operators and the regulator.

The proportion of small installations operating within a given Member State ranged from 85% in Sweden to 20% in the Czech Republic. The mean average of figures provided is 58% of installations emitting less than 25,0000 tonnes of CO_2. In the UK 45% of installations emit less than 1% of the UK's total emissions.

Regulators reported that the following sectors were particularly problematic in that they contain a high number of small installations: combustion installations, district heating, ceramics, pulp and paper, and glass.

Small installations are not necessarily simple to regulate. Those installations with fragmented or satellite sites have proved particularly problematic given the difficulties in determining the boundary of an installation. Regulators also reported a shift in approach to such installations during the course of the EU ETS thus far; initially operators wanted as much of their activities included in a permit as possible but now increasingly are seeking to have satellite sites excluded from the scheme.

While many Member States are supportive of the 25000t of CO2 threshold proposed in the revised Monitoring and Reporting Guidelines (MRG) for small installations, they highlight the heterogeneity of this group. Installations falling below this threshold vary significantly in terms of total emission levels, uncertainty of emissions levels, complexity, operation type and the risk they pose. This diversity must be taken into account when considering how regulation might be adapted to reduce the burden posed. Member States support the idea of greater flexibility in terms of the regulation of small installations, but they do not support its broad brush application. A considered, common sense approach to implementation based on the risks associated with a particular installation or sector is considered good practice. This should take into consideration:

- the level of emissions from the installation in the context of its sector and the emission profile of the Member State in general;
- the type of flexibility being considered;
- the likelihood of an installation failing to comply with requirements; and
- the complexity of the installation, i.e. whether a simplified approach is practicable in terms of dealing with an installation.

Member States have identified three mechanisms for reducing the relative costs faced by small installations. Good practice approaches should take account of all of these:

- methods to reduce the burden of compliance i.e. their costs;
- enabling better market access, i.e. to increase the potential benefits; and
- increasing small installation understanding of the scheme and improving communication methods i.e. better advice and support to facilitate the achievement of the former points.

Specifically to reduce costs to the bioenergy sector, Member States feel that installations combusting primarily biomass should be excluded from the scheme. There would obviously have to be a mechanism by which these installations where reincorporated into the scheme, if they shift to burning other fuel types.

In order to take forward action on small installations it is considered good practice to conduct an assessment of the costs of compliance. Prior to the application of any flexibility it is also important to establish with certainty exactly who is classed as a small installation. Several Member States were concerned about installations that sit close to the 25000t threshold, and how to judge whether or not they are a small installation in a consistent manner. One good practice approach to this is to consider not only the current year's emissions but also those from the two previous years. If all three year's emissions are below the threshold then an installation can be considered small.

Reducing the burden has been identified as a priority action in terms of small installations, hence the emphasis placed within this report. It should be noted, however, that there are some areas of regulation that many Member States feel should not be subject to flexibility. Importantly, it was underlined that enforcement activity, in the event of non compliance, should not be relaxed.

Flexibility in terms of the verification process was also controversial. Verification is important in terms of ensuring accuracy of reporting under the scheme and that appropriate numbers of emission allowances are surrendered. Some Member States supported flexibility in terms of verification while others did not. Key options for flexibility relate to: relaxing the requirement for a site visit as part of the verification process; allowing operators to 'self declare' emission levels; and the Competent Authority providing verification services. It was finally concluded that a good practice approach would allow the former two options, so long as an installation met a series of criteria and requirements. These criteria are presented in sections 4.2 and 3.1.2 respectively.

Monitoring and reporting requirements under the EU ETS are presented in the Commissions Monitoring and Reporting Guidelines (MRG). In the first year many Member States implemented provisions to reduce the burden of monitoring and reporting upon small installations. In response to this the recently revised MRG formally allows Member States to provide flexibility for small installations in relation to specific issues. Given the diversity of installations within this grouping, the IMPEL group felt it essential to develop good practice approaches to ensure the appropriate implementation of these provisions. The small installations good practice guide[4] includes a table detailing the options for flexibility outlined in the MRG and a short summary of the good practice approach to implemented proposed by the IMPEL EU ETS group.

[4] Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme; Report 2 - Good Practice in Regulating Small Installations

3 Verification – Learning from year one experiences - key conclusions

Member State efforts thus far have highlighted the importance of accreditation and accreditation bodies. In the vast majority of Member States verifiers cannot operate without being accredited either by the body for that Member State or, in some cases, a recognised body from another Member State. In order to get the systems operational, in the first phase some Member States have operated temporary systems of accreditation or 'accreditation light'; these will, however, be phased out in 2007.

Regulators had to dedicate more time than initially anticipated to the verification process thus far. The first round of verification for 2005 emissions resulted in significant numbers of applications for permit variations in many Member States. Reasons for these include: operators not having understood the requirements of the Monitoring and Reporting Guidelines (MRG); improvements having been made to monitoring methods; identification of additional sources by the verifier; and methods in the monitoring plan differing from those actually in use. Early engagement between the operator and verifier was considered fundamental to successful and efficient implementation.

A very high proportion of verified emission reports were received before the March 2006 deadline – up to 100% in some Member States. While there were few emission reports that verifiers failed to approve, many were verified with comments, and the majority of regulators were relatively pleased with the information contained in the reports and verification opinion statements. It was highlighted that it is important to put in place systems to ensure the quality of submissions and many made use of templates, standard formats and other guidance to encourage appropriate submissions.

Given that verification is such an important process in terms of ensuring the accuracy of reporting under the EU ETS regulators feel, it is vital that the system be continually improved. In terms of short term improvements, regulators recommended the clarification of technical issues and improved processes to ensure more timely engagement between operators and verifiers. Importantly, there was also a desire to move towards more consistent European approaches specifically in terms of materiality, the interpretation of verification requirements, improving verification opinion statements and QA/QC procedures.

In terms of improving verification for phase II of the EU ETS, there was a desire to increase consistency of approach and to see more comparable activities across the EU. All regulators are keen to have a robust system of verification in which they can have confidence across the EU 25. It is felt that increasing commonality, the sharing of and building on good practice is the way to move this forward. There is a desire that, as systems develop they move closer together rather than further apart.

While many project participants supported a move towards a more standardised approach, many were not supportive of a total harmonisation of verification requirements across Member States.

When considering verification it is vital to view this essential process, as only one part of the broader compliance and enforcement system ensuring the appropriate implementation of a credible EU ETS. As such, there is no one good practice

approach to the way regulators make use of verification, as the most desirable will depend upon the construct of the wider system. There are, however, different elements that any verification system should incorporate in order to fulfil its role effectively, to add value to and confidence in implementation of the EU ETS.

From a regulators perspective, although at times the verification process may appear more distant than some other aspects of compliance and enforcement activity, it is important that there is confidence in the verification process and the verifiers conducting it. The roles and responsibilities within the verification process must be clearly set out. Ideally a strong accreditation body will support the regulator to ensure the quality of the verification processes. If this is not possible other systems to support the process and ensure quality of emissions reporting should be put in place.

Communication between the regulator and both the operator and verifier is essential. The regulator has an important role in terms of educating these other parties and advising them in relation to verification requirements. The resources and tools must be in place to ensure the regulator is able and available to provide this important supporting role. This report provides some guidance as to instances and particular issues in relation to which operators and verifiers may need support.

Reliable findings from verification should be fed back into the broader permitting, compliance and enforcement processes in order to gain the most regulatory value from this process. It is desirable to make active use of the outcomes of verification; verification opinion statements (VOS) for reporting the findings to the regulator should be developed in order to allow a level of reporting that facilitates this. In order to support this interaction, the development of standard VOS for use by verifiers and clear guidance to inform their activities is essential.

In terms of the quality of the verification process, the regulator has an important role. Regulators should put in place an assessment procedure in order to check the outputs of the verification process. Unless it is possible, based on resources, to check all VOS submitted by operators, the selection process to identify the VOS for review should be systematic and based on clear and transparent criteria. When assessing the VOS it is important to put in place criteria to determine the quality of the VOS, and if it is necessary to review outputs in more detail, the verifiers report. Having clear and transparent procedures in place, which are notified to verifiers in advance, supports the feedback processes. It importantly, also, allows a platform for appropriate authorities to take forward any disciplinary action against poorly performing verifiers. It is desirable to use all the tools available to regulators to enable a system where by standards of verification are high and continual improvement is enabled. This improvement relates to the quality of verifiers, but also to the quality of other processes that might be informed by verification ie operator monitoring and reporting, permit construction, approaches to inspection etc.

During the project the IMPEL group put forward some tools, criteria and ideas designed to help regulators deal with the verification processes. The IMPEL group also considers that the verification good practice guide[5] and the tools within it should help move towards greater common understanding regarding how verification is dealt

[5] Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme; Report 3: Verification

with in different Member States. It is also hoped that the tools will represent a first step towards a more consistent approach to dealing with verification across all Member States. Greater consistency in terms of approach to verification is deemed desirable by the group; however, many feel that there are limits to the development of a completely harmonised approach to verification across the entire scheme. It was commented that had a common system been put in place at the commencement of the EU ETS, this would have been desirable. Now the regulatory systems have been constructed and Member States have developed their own systems, however, it is felt that the best approach to improving the systems is to work together to develop common processes and tools. This allows regulators to work within the confines of their particular system structure but in a way that can be considered good practice. It was felt that efforts to develop commonality should focus on achieving greater quality and confidence in the verification systems, not purely on developing identical/harmonised approaches in Member States. More details regarding the IMPEL groups views on the issue of harmonisation can be found in the overview report.

The key elements relating to verification, highlighted by Member State regulators as areas for future improvement, were as follows. Several of these have been considered, at least in part within this report in order to start a process of improvement e.g. the first point. In relation to others regulators would like to see further work in order to develop acceptable approaches.

- Improved documentation – this point relates to improving submissions received by regulators, resulting from the verification process. Work on the standardisation of the Verification Opinion Statement should aid this. There is, however, potentially future work in terms of providing guidance to verifiers etc and potentially a role for a standard Europe wide guidance. One point highlighted is that little use has been made of Commission materials supplied thus far.
- Ensure the process is clear and transparent – communication is essential within a system such as the EU ETS, which relies upon numerous different parties working together. A key element of this is that processes should be transparent; it must be clear why a regulator is operating in a certain way or what they are asking for. This reduces tension and allows confidence in processes to be built. An important element in need of improvement is the approaches taken to QA/QC. This is not addressed in this report but could be a potential topic for future work.
- Harmonisation of the work of verification bodies – while many Member States do not feel it is desirable to have one system of verification across the EU, it is desirable to work towards more common approaches, to bring systems closer together rather than allowing them to drift further apart.
- Improved evaluation of performance – proper evaluation of outputs of verification is essential. This report provides some guidance regarding how this might be taken forward. It is desirable, however, that future work be completed building upon this.
- Improved M&R plans based on verification comments – making the use of feedback from the verification process is important in terms of continual improvement within the system
- Earlier engagement between the operator and verifiers – this is seen as key to a successful verification process and has been particularly problematic during year one.

4 Assessing Compliance in the EU ETS - key conclusions:

Member States interpret the term ‘inspection’ to mean different activities: some equate an inspection with a site visit; while for others a site visit is not a necessary part of an inspection.

The rationale underlying site visits by inspectors, and how these were linked to the work of the verifier, differed between countries. Three distinct approaches, on which there were variations, were identified: the regulator and verifier covered similar ground on their respective visits; both undertook site visits, but the focus was on minimising the duplication of effort; and only the verifier visits the site.

To date, few formal risk assessments had been undertaken to inform compliance assessments, although informal risk assessments were often undertaken, e.g. focus was on larger emitters, or those installations where there was a particular cause for concern. More formal risk assessments to inform compliance and planned.

The benefits of site visits are recognised; some countries were planning to visit all installations, while others were focusing on visiting a fixed proportion. A number of countries had not yet visited any installation, but most were planning to do so at some point.

In some countries, there was an inspection protocol to inform site visits and a common format for reporting on the results of site visits. The results were recorded – sometimes onto a database – and the results communicated to the operator.

A pro-active approach was taken to ensuring that operators submitted their annual emissions reports on time, e.g. prior and timely communication of deadlines and subsequent reminders. In the event that a deadline was missed, a similar pro-active approach was taken, accompanied by the threat of sanctions, e.g. fines, if appropriate.

In the event of the non-submission of an emissions report, some regulators can engage an external body to estimate emissions, while others can estimate an installation’s emissions, themselves.

Many countries also reviewed the emissions figures presented in the Verification Opinion Statements (VOSs) and some undertook cross-checks of these emissions with other data on emissions, e.g. the permit, to ensure consistency.

To date, there are few examples of sanctions being brought against operators; in some cases, there has been enforcement action, but no cases had yet led to a fine, for example, although a couple of fines were expected to be levied in the near future.

A proactive approach was taken to ensuring that operators surrendered their allowances on time. Operators were informed of their responsibilities in advance of the deadline and helpdesks were set up to enable any problems to be addressed.

The number of allowances surrendered was checked with other data, e.g. the data held in the registry or that given in the VOS, to ensure that the correct number of allowances had been surrendered.

The project identified good practice in relation to compliance and enforcement in the context of the regulation of the EU ETS. This practice could be summarised, as follows:

Defining the terms

- 'Inspection' or 'compliance assessment' should mean the definition used by RMCEI.
- 'Site visit' should mean a visit to the site by the competent authority for the purposes of assessing compliance.
- 'Verification site visit' should mean a visit to the site for the purposes of verification.

Activities that might form part of an inspection or compliance assessments

a) Checking and promoting compliance of the controlled installations with the EU emissions trading Directive, as it has been transposed into national law and interpreted in Commission or national guidance;
b) Monitoring the operation of the controlled installations to ensure that they are in accordance with the requirements of the EU ETS in order to determine whether further inspection or enforcement action is required to secure compliance.

Inspections might consist of the following activities:

- Site visits;
- Checking of environmental data management systems and procedures;
- Consideration of environmental audit reports and statements;
- Consideration and verification of any self monitoring carried out by or on behalf of operators of controlled installations;
- Assessing the activities and operations carried out at the controlled installation;
- Checking the premises and relevant equipment (including the adequacy with which it is maintained) and the adequacy of the environmental management at the site;
- Checking the relevant records kept by the operators of controlled installations;
- Checking the installation's permit to ensure that the activities described therein reflect the reality of the site; and
- Checking the installation's emissions report.

Planning inspections/compliance assessments

Produce a plan for the purposes of compliance assessment based on a formal risk assessment, which might take into account the following criteria:

- The **complexity** of the installation;
- The **total greenhouse gas emissions** of the installation compared to the total number of allowances issued in the country;
- The **time required** for the compliance assessment;
- The **compliance history** of the installation; and
- **Data** on and from previous compliance assessments.

Each plan should include at least the following information:

- The **geographical area** covered by the plan, as the responsibility for assessing compliance falls to different organisations – some regional, some national – in different countries;
- The **time period** that it covers, e.g. a year, a particular phase of the EU ETS;
- Include a list, or at least a reference to where a list can be found, of **installations covered by the plan**;
- Set out the approach to **routine inspections**, including the procedures for undertaking the risk assessment and the criteria to be used in the assessment;
- Set out the procedures for instigating and undertaking **non-routine inspections**, such as responding to concerns raised by the verifier or regulators of other environmental regimes, or responding to the receipt of poor or inconsistent information;
- The procedures for the **co-ordination of the compliance assessment activities** of the inspection authorities, if there is more than one authority involved; and
- The procedures for **revising the plan**.

Programmes of compliance assessments should then be developed, based on this plan, to set out which installations should be visited, when, by whom and which other resources are necessary.

Planning and undertaking site visits

In order to prepare for a site visit, the following actions should be undertaken:

- **Review the documentation** relating to, and produced for the installation, such as those noted, above, before visiting the installation;
- **Consult with colleagues**, including potentially those from other offices, to obtain a broader view on the installation and its operator;
- **Review relevant health and safety information;**
- Decide in advance which of the **operator's staff should be spoken to**, and inform the operator, if the visit is announced; and
- **Assess the time** that different aspects of the visit might take, and identify where any problems may arise, in order to prioritise activities once on site.

During a site visit, the following might be checked:

- Definition of the installation and activities;

- List of emission sources and fuel streams;
- List of tiers to be applied for activity data;
- Uncertainty analysis for metering/measurement equipment;
- Description of the type of measurement systems;
- Calibration/maintenance of measurement systems;
- Description of approach to sampling;
- QA and QC procedures for data management;
- Record keeping;
- Information on responsibilities; and
- Assessment of operator improvement programmes.

Reporting and use of the results of, or outputs from, inspections

- A **common format** for recording the results of inspections;
- **Communication of the results** to the operator in a suitable format, e.g. full or summary report or letter;
- Deciding on and agreement with the operator on **any remedial action** that needs to be taken; and
- Considering whether there is a need to **communicate the results to any other body.**

5 Monitoring and reporting in the EU ETS - key conclusions

The requirements of the Monitoring and Reporting Guidelines (MRG) have generally been incorporated into installation level monitoring and reporting plans (MRPs). Many Member States provided for some flexibility in the MRPs where, for example, the requirements of the MRG were not clear.

Derogations from meeting the highest tier were only given to a small minority of installations (typically less than 3%).

Many Member States developed the use of IT systems in the first phase of the EU ETS; some systems were more developed and integrated than others. Operators have generally welcomed the IT systems in place. There was support for the development of common IT tools, which is being taken forward in another project.

The revised MRG (MRG 2007) have taken on board many of the concerns raised in the course of the previous IMPEL EU ETS project (which reported in 2005). However, a number of issues were still open to some degree of interpretation and it was agreed that these should be taken forward in a follow-up project.

This report has identified good practice in relation to monitoring and reporting in the context of the regulation of the EU ETS. This practice could be summarised, as set out below:

Monitoring and reporting requirements

- While making the monitoring and reporting plan *legally* part of permit is good practice, as it ensures that operators are clear as to the monitoring and reporting requirements that have been placed on the installations, it is also good practice to make the administration of the scheme as efficient as possible. Hence, keeping the MRP physically separate from the permit to enable easier updating is also good practice. When resources are limited, it could be considered good practice to adopt a more flexible approach to smaller emitters in order to reduce the administrative burden on both operator and regulator.
- If a trading system leaves room for interpretation of monitoring and reporting requirements at either the national or the regional level, it is beneficial for the regulator to provide additional guidance for operators to ensure as much as possible a level playing field between the operators. The use of the internet to communicate guidance to operators is also good practice. It is also beneficial if the inspector has a good understanding of the industrial sector to which the installation belongs and is aware of the standards that can be expected for the sector concerned.
- It is generally good practice to produce guidance on issues that the regulator considers may be problematic for the operator, such as on assessing uncertainty. The format that such guidance should take depends on the nature of the relationship between the operator and regulator, as well as any parallel guidance that has been produced. It may also facilitate electronic handling of data.

Assessing operators' monitoring and reporting plans

- The provision of a template that operators can use ensures that the monitoring and reporting plans submitted by operators will be consistent and comparable. This facilitates uniformity in the regulators' assessment of such plans, as the format in which the plan is submitted will be familiar to the assessors and promotes comparisons with other MRPs. It also facilitates possibilities for electronic handling of the information received.

- While the requirements of the MRG need to be enforced in the long run, if resources limit the level of investigation that can be applied to every MRP immediately, it is good practice to apply a higher level of investigation for large emitters, as, from the environmental perspective, it is the emissions from these installations that need to be monitored most closely. The use of specialists to assess the approach proposed by large emitters could also be seen to be good practice, particularly when this expertise is not present in-house or is limited. Finally, it is also good practice to focus on the assessment of key parts of the system, e.g. the data management systems, particularly when resources are limited.

- Assessing the uncertainty calculations of large emitters is good practice, as a small error in terms of the percentage uncertainty calculated will be equivalent to a significantly larger amount of CO_2 emissions than would be the case for the same percentage error for a small emitter. Agreeing a common approach between the regulators is important. The use of training, either for regional regulators or external expertise, is another way of attempting to ensure a consistent approach. Also, given that the assessment of the MRPs supplied by operators will take place over a relatively short time period (i.e. just after the deadline for their submission), the use of external expertise to facilitate this process is also good practice, provided a consistent approach is ensured.

- It is good practice to take a pragmatic approach in the absence of clearer guidance. In this respect, making decisions on a site-by site basis seems sensible as long as a common set of criteria are used. An inability to meet the required tier for a particular aspect of monitoring should also be seen in the context of the ability or not of the installation to meet the overall level of uncertainty required. For example, if a failure to meet the highest tier level on one particular aspect of monitoring does not affect the installation's ability to meet the overall level of uncertainty required, then arguably these is no major cause for concern. It could also be considered that an unreasonable cost would be incurred if the changes to the installation that are required to meet the highest tier necessitate the temporary closure of the installation. A range of costs might be taken into account when assessing whether any costs incurred might be considered to be unreasonable, such as the costs of additional investment, the costs of the associated resources (e.g. to integrate the new equipment into existing systems) and any additional costs associated with analysis.

Annex 1: Participants in the Workshops

Title	First name	Surname	Address	Country
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European Union Network for
the Implementation and Enforcement
of Environmental Law

Options and Proposals for Consistency in the Implementation of the EU Emissions Trading Scheme

Report 1: Overview of Member State Practice

Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law is an informal network of the environmental authorities of EU Member States, acceding and candidate countries, and Norway. The European Commission is also a member of IMPEL and shares the chairmanship of its Plenary Meetings.

The network is commonly known as the IMPEL Network

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on certain of the technical and regulatory aspects of EU environmental legislation. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. It promotes the exchange of information and experience and the development of greater consistency of approach in the implementation, application and enforcement of environmental legislation, with special emphasis on Community environmental legislation. It provides a framework for policy makers, environmental inspectors and enforcement officers to exchange ideas, and encourages the development of enforcement structures and best practices.

Information on the IMPEL Network is also available through its web site at:
http://europa.eu.int/comm/environment/impel

Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme; Report 1: Overview of Member State Practice	Number of the report 2006/13
Project Manager:– Lesley Ormerod, Environment Agency, England and Wales **Authors:-** Ian Skinner, Catherine Bowyer and Jason Anderson, Institute for European Environmental Policy (www.ieep.eu)	Report adopted at IMPEL Plenary Meeting in Berlin, May 2007
Project Group Members *See Annex 1.*	Number of Pages Report : 31 Annexes : 27

Executive Summary

This report is an overview of Member State regulatory practice in the context of the EU Emissions Trading Scheme produced by the IMPEL EU ETS project 'Options and proposals for consistency in the EU Emissions Trading Scheme'. It focuses on four key areas of the EU ETS, which were identified in a previous IMPEL EU ETS project that reported in 2005, i.e.

- Small installations;
- Verification;
- Compliance and enforcement; and
- Monitoring and reporting.

In addition, the project produced four good practice reports – one on each of the four key areas listed above. The reports are based on an analysis of the responses to a questionnaire completed by representatives of Member States' regulators. In the course of the project, there were two workshops, the first of which discussed a draft version of the questionnaire, while the second discussed the draft findings of the analysis. Good practice that was identified was integrated into the appropriate good practice report; general practice is covered this report, the key findings of which include:

- In all Member States there are considerable concerns regarding the number of ***small installations*** covered by the EU ETS and the burden placed upon these by the scheme's requirements. Thus far regulators have adopted a variety of mechanisms in order to try to ease the burden placed on small installations, which are often not simple installations to regulate. Specific difficulties have been encountered particularly in relation to fragmented sites. It was concluded that it is desirable to work towards more common approaches for dealing specifically with very small installations.
- In relation to ***verification***, in the first year of reporting the vast majority of emission reports were submitted on time and most were approved, although in some cases with comments and recommendations for improvement. Regulators noted that in year one their level of engagement in the verification process was higher than expected, as, for example, considerable time had to be devoted to amending permits. In the short term regulators are keen that verification continually improves, initially focusing on technical issues and interpretation. In the longer term there is a desire for a more consistent and comparable approach across Member States to be developed by building on best practice experiences and the sharing of lessons, for example. The majority of regulators, however, were not in favour of the total harmonisation of verification across the EU.

- In relation to ***assessing compliance***, different approaches were taken in different Member States, which reflected their respective regulatory traditions and the way in which they have chosen to implement the EU ETS. Experience with the first phase of the EU ETS (i.e. from 2005 to 2007) is being used to inform the future approach to assessing compliance.
- In relation to ***enforcement***, experience so far has been largely positive, with few cases of non-compliance. This has been facilitated by a proactive approach on the part of many regulators, where requirements were communicated to operators in advance of deadlines and contact points, e.g. helpdesks, set up to facilitate the process.
- In relation to ***monitoring and reporting***, regulators took a largely pragmatic approach in the first phase, granting flexibility in monitoring and reporting plans, where appropriate, and granting a small number of derogations from the requirement to meet the highest tier. The revised Monitoring and Reporting Guidelines have addressed many issues of concern to regulators, but there is still scope for some clearer guidance on a number of issues, which will be taken forward in a follow-up project.

OPTIONS AND PROPOSALS FOR CONSISTENCY IN THE IMPLEMENTATION OF THE EU EMISSION TRADING SCHEME; REPORT 1: OVERVIEW OF MEMBER STATE PRACTICE

Contents

Glossary of terms used

Competent authority:	The government department or agency designated under national law as being responsible for the implementation of the EU emissions trading Directive
Regulator:	The government department or agency that regulates installations covered by the EU emissions trading Directive

Note on the usage of 'England & Wales', 'Scotland' and 'UK' in the report:

In the United Kingdom (UK), land-based installations in the EU emissions trading scheme in England and Wales are regulated by the Environment Agency, while in Scotland, these installations are regulated by the Scottish Environmental Protection Agency (SEPA). Both the Environment Agency and SEPA are represented at IMPEL and were involved in the project on which this report was based. The regulators for Northern Ireland, the Department of the Environment, and for UK off-shore installations, an office of the Department of Trade and Industry, have not been involved in the project. In the text, therefore, the term 'UK' is not used; rather reference is made to 'England & Wales' or 'Scotland' when referring to installations regulated by either the Environment Agency or SEPA, respectively.

1 Introduction

1.1 Background to the report

Since its entry into force in 2003, achieving consistency in implementation of the regulatory aspects of the Directive[1] establishing the EU emissions trading scheme (EU ETS) have proved to be a major challenge for regulators. In recognition of this, a group of EU ETS regulators from different countries convened in March 2005 under the auspices of IMPEL to share experiences and identify good regulatory practice in relation to the EU ETS.

In December 2005, the report[2] resulting from this IMPEL Regulators' Group was adopted at the IMPEL plenary in Cardiff. It identified a number of short- and longer-term actions that the IMPEL EU ETS Group should take forward. One of these actions was a proposal for further work on identifying good practice in relation to particular aspects of the scheme. As a result, a second IMPEL project was funded to review the first year of operation of the EU ETS and to develop good practice in relation to four key areas:

- Small installations;
- Verification;
- Compliance and enforcement; and
- Monitoring and reporting.

In the course of the work on which the 2005 IMPEL report was based, the issue of the inclusion and treatment of ***small installations*** in the EU ETS was raised repeatedly. Around half of the installations covered by the EU ETS emit less than 25,000 tonnes of CO_2 per year, and they account for a relatively small proportion (less than 5%) of total emissions, whereas around a third of the installations are responsible for the vast majority of emissions. Moreover, in some countries and as a result of the national legislation implementing the Directive, small installations had been exempted from the scheme, while in other countries strong political pressure emerged to do so. As a result of the sometimes extensive national and EU-wide discussions, the revised MRG will allow regulatory authorities to treat small installations in a less strict manner in some instances, e.g. with respect to monitoring and reporting requirements. However, some project participants were of the opinion that still further flexibility in relation to the treatment of small installations would be beneficial. Hence, the treatment of small installations was chosen as the fourth and final topic to be examined in this second IMPEL project.

The 2005 report covered all the regulatory aspects of EU ETS from permitting, monitoring and reporting to verification and compliance and enforcement. However, at that time, there was still a relative lack of experience with respect to ***verification*** and ***compliance and enforcement***, so there was little practice on which the regulatory authorities could report. Hence, it was decided that the second project should gather

[1] Directive 2003/87/EC on Establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Council Directive 96/61/EC (OJ L275, 25.2.03)

[2] IMPEL (2005) *Identifying Good Regulatory Practice in the EU Emissions Trading Scheme*, report number 2004/11; see http://ec.europa.eu/environment/impel/pdf/good_practice.pdf

information on practice in relation to these two issues, as more experience will have been accumulated.

Finally, in the course of the first IMPEL EU ETS project, ***monitoring and reporting*** was examined in great detail, as it had been a major focus of the work of the regulatory authorities in the time immediately preceding the project, i.e. late 2004 and early 2005. Many of the actions identified in the course of that first IMPEL project were focused on improving monitoring and reporting. Subsequently regulatory authorities worked together to provide input into the revision of the European Commission's Monitoring and Reporting Guidelines[3]. However, there were a number of outstanding issues that were considered to be relevant for further investigation in relation to monitoring and reporting. Hence, it was decided that the second IMPEL project should further investigate some of these monitoring and reporting issues.

The project was led by the Environment Agency of England and Wales and the Hungarian National Inspectorate for Environment, Nature and Water. The Environment Agency commissioned the Institute for European Environmental Policy (IEEP)[4] to assist with the work.

1.2 Methodology

In the first stage of the project in spring 2006, a **questionnaire was drafted**, which would ultimately be completed by representatives of the Member States' competent authorities and their colleagues, who were participating in the project (see Annex 1 for a list of the participants). The questions were developed with the joint aim of identifying Member States' experience with the various issues and with the identification of good practice, particularly in relation to verification and compliance and enforcement.

This questionnaire was the subject of a **workshop** of the IMPEL EU ETS group, which was hosted by the Hungarian National Inspectorate for Environment, Nature and Water in April 2006 in Budapest. As a result of the discussion at the workshop, the questionnaire was **finalised** (see Annex 2) and **circulated** to workshop participants for completion. The questionnaires were completed in the course of July and August 2006 and returned to IEEP for **analysis** and the identification of possible good practice.

In September 2006, the Hungarian National Inspectorate hosted a **second workshop** in Budapest at which the results of the analysis were presented, possible examples of good practice discussed and future actions identified. **Draft final reports** were then produced in the course of September and October 2006. The **final reports** took on board the comments of the IMPEL EU ETS group and were finalised in the course of December 2006.

[3] Commission Decision of 29/01/2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC

[4] www.ieep.eu

1.3 Format and structure of reports

This report is the first of five reports produced by the project. It focuses on the first year's experience and practice in relation to the various aspects of the emissions trading scheme. The other four reports are designed to be good practice guides relating to each of the four topic areas covered.

2 Small Installations and their Role in the EU ETS

Annex 1 of Directive 2003/87 sets out the types of activities to be included in the remit of the EU ETS. While the types of operation are set out, there is no *de minimus* set for carbon dioxide (CO_2) emissions, i.e. all operators conducting the activities listed are legally required to take part in the EU ETS no matter how large or small their emissions burden. This has led to a large number of smaller emitters within the scheme (see Section 2.1) 'Small installations', for the purposes of the IMPEL group's work, are considered to be those with average emissions of less than 25,000 tonnes of CO_2 equivalent per year. This was selected to be consistent with the definition used within the revised MRG[5].

The proportion of small installations varies considerably between Member States, but most are concerned regarding the burden posed by including such a broad range of installations under the same scheme. Concerns focus primarily around the administrative burden of regulating such installations, both for the operators and for the regulator, when compared to any potential benefit resulting from emissions reductions. It should also be noted that smaller installations do not necessarily represent simple installations. Regulators have encountered specific difficulties regarding how to define the scope of these installations and how to regulate them (see Section 2.2).

The accompanying report on good practice in the regulation of small installations provides details regarding potential measures that might be implemented in order to reduce levels of burden[6]. Conclusions are based upon practice in the first year, thus allowing good practice to be suggested. During year one many Member States implemented measures intended to ease the burden upon small installations. Notably these provide flexibility in terms of approaches to monitoring and reporting and to verification. More limited use has also been made in terms of flexibility relating to enforcement. Finally, several regulators have attempted to reduce the cost of compliance, directly, for example via reducing payments required to issue a permit for an installation.

While the majority of Member States attempted to adapt the EU ETS framework to enable its more appropriate application to small installations, some took more expansive steps to deal with this issue. In the first phase of the EU ETS, Member States were able to apply to the European Commission for permission to temporarily exclude certain installations from the scheme. Using this provision the Netherlands opted out all its small installations and Poland opted out 212 small ceramics installations with average annual emissions of 5000 tonnes CO2. These installations will, however, need to be incorporated into the scheme as of 1 January 2008.

[5] The monitoring and reporting guidelines were adopted by the Commission in 2004, but following activity in the first year are being amended in time for the second phase of the EU ETS

[6] IMPEL (2006a) *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme, Report 2: Good Practice in Regulating Small Installations*; see http://ec.europa.eu/environment/impel/index.htm

2.1 Characterising Small Installations

Much work has been conducted in order to try to estimate the proportion of installations covered by the EU ETS that could be considered to be small. In their questionnaire responses, members of the IMPEL Regulatory Group indicated that proportion of installations classified as small ranged from 85% in Sweden, through around 80% in Scotland and 70% in Portugal to 58% in Hungary (approximately 4.5% of total emissions), 55% in Ireland, 53% in Germany and only 20% in the Czech Republic (less than 1% of total emissions). The mean average of these figures ***is 58% of installations emitting less than 25,000 tonnes of CO_2***[7]. Additionally, while work in the UK does not provide a specific percentage considered as small, it does conclude that 45% of installations emit less than 1% of UK total emissions. While only contributing a small proportion of emissions, this 45% is considered to account for about 60% of the compliance costs. Similarly, in Germany, the 53% of installations emitting less than 25,000 tonnes of CO_2 account for 1.8% of total emissions.

Small installations represent a particular problem in the following sectors: combustion installations; district heating combustion units; ceramics; pulp and paper; and glass. Austria provided a useful breakdown of the percentage of small installations present in key sectors. This demonstrates, more specifically, the spread of such installations across the sectors:

- 57% of combustion plants;
- 6% of cement/line installations;
- 43% of glass installations;
- 86% of ceramic installations; and
- 25% of paper installations.

2.2 Problematic Small Installations

Of the Member States that responded to the questionnaire regarding small installations, all experienced problems specific to this category during the first year. Key problematic installations highlighted were:

- Universities and hospitals, both incorporated due to their often limited combustion activity;
- Ceramics installations, the group of small installations most commonly reported as problematic;
- District heating;
- Installations combusting biofuels;
- Sites owned by defence ministries;
- Shopping centres; and
- Small glass installations.

Case examples of problematic installations are presented in Box 2.1. These demonstrate the types of situations being faced by regulators across Member States.

[7] It should be noted that this is based on figures from eight Member States

A key area of concern and debate amongst regulators, especially at the second workshop, was fragmented sites (discussed in Box 2.2). Regulators have adopted different approaches to identifying the boundary of this class of small installation, i.e. what can be regulated under a specific permit. A shift in the approach by operators to these fragmented sites has been noted since the commencement of the scheme. Initially, many wanted as much of their activity included in a permit as possible, in order to receive the maximum number of allowances. Since the operation of the scheme commenced, however, operators are increasingly seeking to have satellite sites excluded from the scheme. This is thought to be a consequence of a lack of financial benefit linked to the scheme and a realisation of the level of administrative effort required.

In order to overcome the problems presented, regulators have attempted to develop appropriate solutions. Such approaches have taken into consideration the constraints imposed by the Directive's requirements, the MRG and also the regulatory system adopted by the specific Member State. The IMPEL group considers it desirable to work towards more common approaches for dealing specifically with these very small sources.

Box 2.1: Examples of problems encountered in relation to small installations

- The lack of a *de minimis* in relation to combustion activity is considered to be the cause of problems regarding the regulation of hospitals and universities. Even very small levels of combustion are covered by the scheme.
- Understanding how to treat standby capacity – this problem was specifically cited in relation to hospitals and district heating.
- A lack of dedicated and qualified personnel to enable appropriate monitoring and reporting in small installations, specifically in relation to hospitals in several Member States. More generally there have been problems in terms of operator information across smaller installations.
- Fragmented sites specifically in relation to universities, hospitals (particularly older ones which have acquired additional buildings as they have grown) and district heating (see Box 2.2).
- When there are numerous meters that relate to the same site.
- One meter covering more than one installation – this has occurred specifically in the case of ceramics. In this case it is difficult to attribute emissions. Importantly, however, given the low allocation for such installations, it is not possible to justify the investment in new, separate meters.
- Biomass installations, which must still monitor and report on their emissions but do not receive allowances increasing the burden.

One Member State reported encountering significant resentment from some smaller emitters to the point where it has affected communication and flow of information between the regulator and the operator and has added considerably to time spent dealing with permit applications, variations etc.

Box 2.2: Fragmented installations and satellite sites

In year one, addressing fragmented installations or those with satellite sites has proved problematic given difficulties in defining the boundary of an installation. For example, in

Ireland there were cases where an installation may have up to 75 small combustion units, e.g. parts of a university. These are constantly changing and there is insufficient resource available to allow such an installation to actively participate in the scheme. When permitting in 2004, universities wanted all elements of their systems to be covered by one permit, e.g. the main campus, but also boilers on other sites. It was decided that anything above a kilometre distant from the main site would not be included unless physically connected.

The issue of satellite sites has also caused difficulty in defining the installation boundaries for the district heating sector. At the September workshop participants discussed how this issue might be dealt with and how an installation boundary might be set. In England and Wales, in some cases satellite sites received a separate permit, but only when the separate site exceeds the 20MW threshold for entry into the scheme. In general terms the approach taken in similar to that in Ireland. For example, in England and Wales there are a number of installations where they might have in excess of 300 small boilers which are included in, for example, halls of residence. Distance has been used to define whether a satellite building should be included in the permit, however, the operator's own definition has also been used

For example university web sites will describe in detail what is included in the campus and this has been used as a guide. Where a building is outlying and some distance away this is taken on a case-by-case basis. In the event that the outlying buildings are physically connected, for example by steam line, these have been included as part of the broader installation. As a general rule distance and the level of connectivity are primary considerations.

In Sweden, the smaller plants in the extensive district heating sector were opted into the EU ETS (some of the larger plants were automatically included) and the intensive approach taken was that every boiler – or several boilers at the same plant – was treated as a single installation. This means that there are approximately 700 district heating installations in Sweden. In the Netherlands, definitions are based on those used under the regulation of the Integrated Pollution Prevention and Control (IPPC) Directive, however, this is not appropriate for all small installations, as smaller combustion installations covered by the EU ETS can be below the threshold for inclusion in IPPC.

In the Netherlands, the approach taken was based on the level of control over the function of an installation. For example, if a boiler is needed for the function of the installation, i.e. it has an essential role, this will be considered as one installation as the operator of the boiler is indirectly controlling the broader installation. An example of this in practice is in a paper mill, where the operator argued that it should not be included in the scheme as a boiler providing input to the mill is operated separately. It was considered that the mill and the boiler were one installation given that the mill could not operate without the input from the boiler. It should be noted that this approach is fundamental to the definition of who the operator is, hence also applies to larger installations.

3 Verification – Learning from year one experiences

3.1 Introducing the institutional structures

Under Directive 2003/87, each year the operator of an installation must submit a report to the relevant competent authority stating the emissions for the previous year. The number of allowances to be surrendered by an operator to cover the installation's emissions is based on these figures. Given their importance it is essential to ensure the quality and accuracy of the emissions reports. The Directive therefore requires that the emission reports are verified by a verifier who is accredited as competent and independent. For a report to qualify as 'satisfactory' the verification process must confirm that the data reported by the operator is free from material misstatements and has been produced in accordance with the permit and monitoring and reporting plan[8]. The verifier produces a report stating the validation process undertaken and, whether, based on this, the operator's emissions report can be classed as 'satisfactory' from the perspective of the verifier.

In the majority of Member States verifiers operate as part of a verification body, i.e. an organisation accredited to conduct verification under the EU ETS. The number of verification bodies operating within Member States varies considerably with 5 in the Netherlands, 11 in England and Wales and 19 in Italy. In Germany verifiers are accredited as an independent person with approximately 180 individuals approved. At present verifiers are normally indigenous to the Member State in which they operate, although it is possible for non indigenous verifiers to undertake verification. Having international verifiers is considered beneficial to multinational companies, allowing them to employ the same verification body for all their installations. However, some Member States have experienced difficulties with non indigenous verifiers. These arise from differences in interpretation: England and Wales reported that some verifiers assumed that the UK requirements were the same as in their home country when in fact, due to the way the EU ETS has been set up, these vary. Language barriers presented some problems. Several Member States reported concerns in the supervision of non indigenous verifiers. When a verification body has been accredited outside a particular Member State an additional step in terms of communication is required in order to deliver feedback and, importantly, to present any complaints regarding the quality of performance. Finally, concerns were expressed regarding competition between indigenous and non indigenous verifiers. In some Member States certain verifiers have greater experience of the scheme either due to involvement in other Member State systems or due to involvement in baseline verification processes.

The accreditation process is a vital mechanism intended to ensure the quality of the service provided by verifiers. In the vast majority of Member States verifiers cannot operate without being accredited by an accreditation body – either the body for that Member State or, in some cases, a recognised body from another Member State. In the first year, due to time constraints, several Member States operated temporary or 'accreditation-light' systems. In Italy, the temporary acceptance process has been limited to bodies already acting as ISO or EMAS verifiers and accounting firms. Meanwhile, in the Czech Republic they operated a 'light accreditation' with verifiers

[8] Verification Reference Model - A model describing best practice and mandatory statements in Member States' organisation of the EU ETS verification, PricewaterhouseCoopers in support of the European Commission, December 2005

being authorised after examination by an authorisation committee working for the Ministry of the Environment rather than an accreditation body. Under this scheme verifiers received a temporary authorisation which expires at the end of 2007.

There is considerable diversity in terms of the type of organisation that act as accreditation bodies across the EU. These are detailed in Annex 3 and range from government departments to independent agencies.

See Section 2.2 of the accompanying report on good practice in verification for further details regarding verification and accreditation bodies in year one[9].

3.2 A summary of year one activity

Prior to the commencement of the EU ETS, regulators had expected engagement with verifiers to be limited. This has not proved to be the case. During this first period of trading the learning curve has been steep – not only for the regulator but also the verifiers and operators. High levels of engagement from the regulatory agencies were, therefore, necessary in order to educate the verification bodies and to generate consistent interpretation and understanding of technical requirements. This support was of particular importance in relation to the MRG. A key challenge in year one has been to ensure that operators and verifiers engage with each other early enough in order to enable a smooth work flow and submission of reports[10].

Numerous regulators reported high levels of activity in year one in response to the need to vary permits as a consequence of the verification process, i.e. as verifiers discovered errors and inconsistencies in plans and permits. As a result of verification, monitoring and reporting plans in particular have been updated to better reflect the actual situation at an installation. This permit variation process has taken up considerable resources on the part of the regulators. In England and Wales, over one third (approximately 200) of permits needed variation, while in Scotland around half (43 permits) did. In Hungary it was estimated that around 15% of permits needed amendments prior to the final verification. Other Member States reported lower rates of variations, but many noted the additional pressure that had been placed on resources as a result of the need for variations. Key reasons for variations included:

- Operators had not understood specific requirements under the MRG;
- Improvements in monitoring methods after the plans had been developed;
- Identification of additional sources;
- The methods used for monitoring differed from those in the monitoring and reporting plan; and
- Changes to metering or minor emission points.

Ultimately the verification process is intended to lead to the provision of a high quality emissions report and verification opinion statement to the regulator. Member States reported that in year one a very high proportion, over 95% and in some cases 100%, of emissions reports had been received before the end of March deadline. The

[9] IMPEL (2006b) *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme, Report 3: Good Practice in Verification*; see http://ec.europa.eu/environment/impel/index.htm

[10] See IMPEL (2006b) *Op. cit.* for details

receipt of these reports was generally unproblematic, although some Member States did report some technical glitches that slowed the process. For example problems were encountered in accessing the registry; there were limitations in the electronic systems used and infrastructure; and the delivery of paper copies had been slow. Many Member States have developed IT systems to allow this process of report submission to be completed efficiently and to allow information submitted to be stored in such a way that allows easy access.

In the majority of Member States verifiers can either approve emission reports or approve them with comments. In the first year many Member States received a high percentage of reports with comments from verifiers, e.g. 63% in England and Wales, 83% in Scotland, 52% in Sweden, and an estimated 50% in Austria. Issues that may lead to a report being verified with comments are considered not to impact materially on the level of emissions of the plant but none the less need to be noted, i.e. areas for improvement. A very small number of emission reports failed to be verified in the first year, e.g. 0.01% in Sweden and 1.3% in England and Wales. In some Member States no unverified reports, were received. Box 3.1 presents a list of reasons given by verifiers as to why reports were not verified in year one.

Box 3.1: Reasons reported for emission reports failing to be verified

- Lack of calibration evidence (small emitters)
- Failure to supply sufficient information to the verifier (small emitters)
- Lack of verifiable information
- Closure of installations
- Data not free of inconsistencies and material misstatements
- Collection of data not carried out in accordance with applicable scientific standards
- Company not aware of the verification procedures
- Concerns over specific emission factors for solid fuel

A large proportion of regulators reported that the information contained in reports and verification opinion statements met with their expectations. This does not mean, however, that the regulators have not had to put in efforts to ensure the quality of these submissions. For example, Sweden had to contact about 50 installations to ensure that the emissions reports were completed appropriately, while Germany contacted 300 operators (out of 1849 installations). Only Hungary commented that they were unhappy with the information received, as only 23% of emissions reports were felt to be complete and in some cases requests for further information were necessary.

In order to ensure the quality of submissions many Member States have employed measures such as:

- Use of standard verification opinion statements;
- Standard verification reporting forms and guidance;
- Interactive IT systems;
- Quick verification guides for operators; and
- Meetings and seminars with verifiers and operators.

In order to evaluate the quality of the verification opinion statements that had been received, many regulators had decided to conduct a review of the process. Many of these were still ongoing at the time Member States submitted the information for this report, however, work that had been completed highlighted that there is a need for greater attention to detail on the part of the verifier. Additionally, more consideration needs to be given to the use of standard verification opinion statements (VOSs), as, even in those Member States with standard VOSs, regulators had identified differences in reports deriving from different verification bodies as a result of slightly different approaches that had been undertaken. Many Member States have used this assessment process to provide feedback regarding the performance of verifiers. The review and assessment process plus its possible future improvement are discussed in detail in the accompanying report on good practice in verification[11].

In summary the key problems regulators reported facing in the first year in relation to verification were as follows:

- Ensuring engagement between operators and verifiers early enough;
- A lack of operator preparation;
- Coping with the demands for permit variations;
- A lack of awareness on the part of verifiers regarding what exactly they needed to do;
- Inconsistency in terms of the approach taken by verifiers;
- A lack of resources available to the regulator to deal with these problems;
- M&R plans for complex installations proved to be not detailed enough;
- Difficulty in terms of defining the treatment of errors and uncertainty; and
- Errors in verification reports.

There are still some important areas for improvement in the future. Despite these difficulties, however, the majority of Member States commented that they have confidence in the verification system and felt that it delivered the outputs anticipated in year one. Many were pleased with the verification process in year one citing that installations were generally verified on time, that the vast majority of reports were verified, that the quality of reports was generally high and that guidance/templates were produced in a timely manner to help support operators and verifiers. Box 3.2 presents some key lessons regulators feel have been learnt during this first period. These should be built upon as systems are developed into the future.

3.3 Taking verification forward

Within the questionnaire and during the workshops regulators were asked to consider how verification might be improved in future, both in the short and medium term. In the short term key foci were: the clarification of technical issues; and improving the processes to ensure more timely engagement between operators and verifiers. Importantly, a desire to move towards more consistent European approaches in the short term was expressed, i.e. in terms of the approach to materiality, the interpretation of verification requirements; improving verification opinion statements and QA/QC procedures.

[11] IMPEL (2006b) *Op. cit.*

Box 3.2: Lessons Learnt from the First Year of Verification

Member States put forward a variety of key lessons learnt including the following:

- Despite early preparation of guidance and reporting templates it was still difficult to encourage and track early engagement of verification bodies with operators.
- Earlier involvement of verification bodies in scrutinising M&R plans – even during or as soon as possible after determination - would have allowed testing of practicality and identification of improvements sooner rather than later allowing improved methodologies to be implemented sooner. Early contact between operator and verifier is very important; the verifying process has to start early.
- Verification involved much more work than anyone envisaged.
- Need for a database system – some Member States have not yet put in place a full database system to process and track developments in terms of permitting and verification and ensure responses are easy to log and access in future. It was felt that developing such a system would increase the efficiency of dealing with verified reports and ensuring that activities become more systematised.
- Need for strict rules regarding conflict of interests and verification process i.e. to ensure that verifiers are truly independent and remain so.
- Start early, use staged verification. Collect the required information throughout the year and not just at the end.
- Need for operators to read the permits and understand the conditions.
- To use as many communication methods as possible e.g. additional guidance, helpdesk, FAQs.

The desire to increase consistency in verification was also an important feature of the recommendations to improve for phase II of the EU ETS. Many expressed the desire to see more comparable activities in terms of verification across the EU. Additionally, many wanted to see improved guidance and to gain a greater understanding of verification approaches being utilised across the Member States. It was commented that given there is, in theory, a common requirement for monitoring and reporting set in the MRG, then a common approach to verification is also logical. Importantly, all regulators are keen to have a robust system of verification that they can have confidence in across the EU 25. Increasing commonality and building on good practice is a way to move towards this.

While most regulators supported movement towards a more standardised approach to verification, many were not supportive of total harmonisation of verification requirements across Member States. When asked about the possibility of an EU wide system for verification many raised concerns. Specific concerns expressed included:

- The need to retain the ability to take into consideration different national and local conditions, i.e. local environmental sensitivities, the nature of the industry and importantly the legal infrastructure within a Member State; and
- That in order to gain agreement on a common system it is likely that a compromise deal might result meaning that the common standard is weaker than the systems currently in place in particular Member States. It was

considered important that there is not a downward trend in terms of standards as verification is such a fundamental part of ensuring the quality regulation of the EU ETS.

Importantly, several felt that if a common system had been a feature of the EU ETS from the commencement of trading they would have been supportive. It was, however, felt that imposing a common system after Member States had developed their own approaches would not be productive. There is, however, a shared desire that as the verification system develops, any changes should encourage Member States to bring their approaches closer together rather than to let them diverge further[12]. It should be noted that Member States have highlighted some specific elements and processes that might be suitable candidates for developing specific common tools and approaches to verification. Common approaches could be developed based on perceived good practices and act as a mechanism for helping the convergence of Member State reporting requirements, procedures and approaches. The possibilities for this are explored in report 3 of this series on verification[12].

[12] See IMPEL (2006b) *Op. cit* where some initial ideas and structures to aid implementation of verification are suggested, which are designed to move towards greater commonality of approach.

4 Assessing Compliance in the EU ETS

Undertaking inspections is one of the ways in which competent authorities can ensure that installations in the EU ETS are in compliance with its requirements. Hence, it is important that competent authorities in different Member States take a common approach to inspection. In the course of the previous IMPEL EU ETS project, which reported in 2005, it became clear that the approach taken to inspections differed significantly in different countries.

There were mixed responses to the relevant question in the questionnaire regarding the need for a standardised approach to inspection. A couple of respondents argued that a standard approach was not possible because, for example, every installation is different and because different countries take different approaches to inspection. Others suggested that some degree of standardisation would be useful, while recognising that the adoption of a fully standardised approach across the EU would not be possible. It was suggested that a clear set of principles, building blocks or a checklist would be useful. The accompanying report on compliance and enforcement aims to provide such an approach[13].

4.1 Member States' approaches to inspections

The responses to the relevant question revealed that the term 'inspection' in relation to the EU ETS, is taken to mean different activities in different countries. Five respondents – from England & Wales, Scotland, Netherlands, Norway and Ireland – responded that inspections under the EU ETS consisted of dedicated site visits. In Portugal and the Czech Republic, compliance with the requirements of the EU ETS was assessed as part of a more general site visit that checked compliance with a wide range of environmental legislation. In other countries – Hungary, Sweden, Germany and Finland – inspections had thus far (i.e. by the summer of 2006) consisted only of desk-based reviews, although it was planned to undertake some site visits at a later date. In Austria, however, site visits by competent authorities for the purposes of the EU ETS were not undertaken, as it was considered that this would be double-counting (considering that verifiers already undertake site visits for the purposes of verification).

The discussion at the second workshop revealed that there were distinctly different rationales and interpretations in Member States regarding the way inspections and site visits were undertaken, and how these were linked to the work of the verifier. Three distinctly different approaches were identified, in which:

i) Site visits by the regulator and verifier covered much the same ground;
ii) Both the regulator and the verifier undertook site visits, but the focus was on minimising the duplication of effort; and
iii) Only the verifier visited the site (see Box 4.1 for details).

[13] IMPEL (2006c) *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme, Report 4: Good Practice in Compliance and Enforcement*; see http://ec.europa.eu/environment/impel/index.htm

The approach taken in different countries is also linked to the resources that the regulator has at its disposal and therefore to the proportion of installations that a regulator visits annually.

Box 4.1: Assessing compliance in the Netherlands, UK and Germany

There are distinctly different approaches in different countries in relation to the way in which site visits for the purposes of compliance assessment overlap with the work of verifiers, i.e. those independent organisations and individuals that visit installations in order to verify that the installation has reported the correct level of emissions. At the end of each year, an operator has to prepare an emissions report, which has to be approved by an accredited verifier, before being forwarded to the competent authority. As part of this process the verifier visits the installation. However, the approach that is subsequently taken by the regulator varies between different countries.

In the Netherlands, the inspectors of the Netherlands Emissions Authority (NEa) visit complex installations every year, and simple installations at least once in the course of the first phase of the EU ETS. The inspectors and verifiers both check whether the data in the emissions report are calculated according to the validated monitoring plan, which is included in the permit. However, there is a difference in the way in which the inspector and verifier approach their respective visits to the installation. The verifier, whom the operator pays, approaches their visit from an attitude of trust in the operator's monitoring system and in what the operator has stated in their emissions report. However, it is the operator's prime responsibility to prove that the emissions report reflects the CO_2 data for the installation and that these are calculated according to the validated monitoring plan. An inspector approaches their visit to the installation with distrust in the operator's compliance with the monitoring and reporting requirements: trust is considered to be good, but control is better. Unlike the verifier, the inspector has the power by law to look at (confidential) emission and source stream information in the installation.

In the UK, the approach taken to the work of the regulator and that of the verifier is that the two should not overlap excessively, while recognising that some overlap is unavoidable and indeed necessary. When visiting a site, the regulator's main considerations are to ensure that the scope of the installation and its activities are defined correctly in the permit, that the lists of emissions sources and fuel/raw material flows are correct and that the permitted tiers have been applied. In addition, the regulator checks that the measurement/monitoring devices listed in the permit are checked to see whether they are in place, that their serial numbers matched those listed in the permit, and that these are calibrated and maintained properly. Finally, the regulator checks that any improvements have been taken.

Verifiers in the UK also check many of these aspects of the EU ETS, but they also ensure that the stated actions in relation to sampling, testing, inspections, calibrations, quality control and record retention have actually happened, that the necessary procedures are in place and abided with, that competencies and responsibilities have been defined and finally that arrangements are in place to retain all appropriate records for 10 years.

In Germany, the regulator has not yet visited any site. In the course of their site visits, verifiers are expected to: check whether all fuel/raw material flows are included in the emissions report; that the tiers that have been applied are those required by the permit; that the necessary measurement/monitoring devices are in place, calibrated and maintained properly; and that the stated actions in relation to sampling, quality control and record retention have been appropriate. The verifier is expected to perform this task with professional scepticism (i.e. *not trust*) and has to demand the information and documents deemed necessary to fulfil their obligations. Information and documents that were not disclosed have to be reported to the competent authority, as long as this does not prevent the verifier from signing the report. The competent authority in each of the Länder checks a random sample of the emissions reports produced and inform the German Emissions Trading Agency (DEHSt) of the result of this analysis. The DEHSt reviews another sample of the emissions reports and all the verification reports. At present these checks are undertaken only by desk reviews. Additional site visits might be carried out by the DEHSt in future years. The target, however, would be in the first place to control the quality of verifications (i.e. control of controllers). There would, therefore, not be a duplication of the work of the verifier.

4.2 Member States' approaches to site visits

Prior to the summer of 2006, few countries had undertaken formal risk assessments to inform their compliance assessments due mainly to a lack of resources or knowledge. Having said that, many countries had undertaken informal risk assessments, e.g. by focussing on large emitters, complex installations or installations where there was a particular concern. In some countries, the approach taken is to ensure that the installations that are visited represent a range of sectors and types of installations, while in other countries installations are chosen at random. Site visits are also triggered if the quality of the reports or information that is received from the operator is poor or inconsistent.

The approach to site visits is likely to evolve as more experience with regulating the ETS is amassed. In Finland, a formal risk assessment will be undertaken to identify which installations will be subject to a site visit, while in Portugal a more detailed inspection strategy will be developed on the basis of an analysis of information that has been provided – by operators and verifiers – to the competent authority and information that will be provided to the inspection authority (IGAOT). In other countries, the choice of installation to visit will be based on problems found in verification, e.g. those installations for which their emissions have not been verified. In the Netherlands, it is anticipated that the focus will shift to the more complex installations.

All respondents recognised the benefits of site visits. From the perspective of ensuring compliance, it was considered that a site visit enabled issues to be checked that were not possible to check by a desk-based study alone. Site visits are an opportunity to investigate actual or potential compliance issues and a means of checking the quality of the work of the verifiers. However, they have a broader role to play than simply improving the chances of compliance. Some respondents saw site visits as an opportunity to increase the credibility and profile of the ETS, while others suggested that they might lead to better communication between regulator and operator. Site

visits are also an opportunity for both the regulator and operator to inform each other of recent developments, as well as to educate each other of the legislative requirements and the associated environmental concerns, on the one hand, and of the installation's operations and procedures, on the other.

The approach taken by countries to undertaking site visits under the EU ETS varies significantly. The Netherlands, Norway and Ireland, for example, are planning to visit all sites covered by the EU ETS in the course of the first phase of the scheme and are currently on course to achieve this. In Hungary, there is a requirement enforced by law to review all permits once within 5 years, at which point a site visit may be required, although none had been visited to date. In England & Wales and Scotland, on the other hand, the regulator is aiming to visit 5% of installations annually. In other countries, such as Portugal and the Czech Republic site visits for the purposes of EU ETS are undertaken as part of a more general site visit to check compliance with a range of environmental legislation; in this way 58% of sites have been visited in Portugal, for example. Neither Sweden nor Finland has yet visited any installation, although both are planning to visit a relatively small, but as yet undetermined, proportion of installations. For some countries (e.g. the Netherlands, Hungary and the Czech Republic), a site visit was felt necessary to check compliance, whereas for others, e.g. Sweden, Finland, Portugal, Austria and Germany, it was not. About half of the respondents that answered felt that they had sufficient resources to visit the planned number of installations, whereas the other half felt that their resources were insufficient to enable them to visit as many installations as they would have liked.

For those countries that have undertaken site visits to date, the basis of these varies. In the Netherlands, the reality of the site is checked against both the permit and monitoring plan; while in the Czech Republic and Poland, the reality is checked against the permit conditions. Elsewhere, site visits check a different set of information, e.g. in Portugal the scope is currently limited to the definition of the installation and activities, the list of emissions sources and fuel streams, and to checking that the emissions reports and verification documents have been submitted. England & Wales, the Netherlands, Ireland and Poland have an 'inspection' protocol for site visits, while in Norway a site-specific protocol is prepared before a visit. In Sweden, a protocol will be developed before site visits begin.

4.3 The results of site visits

A few countries – England & Wales, the Netherlands, Norway and Ireland – have a common format for reporting the results of site visits, while Hungary intends to develop one prior to the commencement of site visits. In the Netherlands, it was noted that the reporting of the results of the site visit is linked to the inspection protocol on which inspectors based their visits. The inspectors make a note of the issues identified in the course of an inspection within the framework of the protocol, put these into a letter, which is then forwarded to the operator of the installation.

In Portugal, the operators receive the inspector's full report and they are entitled to appeal against its findings. If it is not possible to reach an agreement, a legal case might ensue. It is anticipated that a similar approach will also be taken in Sweden. In Ireland, site visits are often combined with visits for other purposes, and there is

usually a report that can be completed and agreed with the operator, while the inspector is still on site. This report is made available to the public.

In England & Wales, the details of the site visit are entered into a database. This entry includes a summary of the visit, any non-compliance identified and any subsequent actions that have been agreed with the operator. Any items requiring action by the operator, or any significant findings, are then communicated to the operator in writing. Consideration is also given to whether there is a need to communicate the findings of the site visit to any other body.

5 Enforcing the EU ETS: Instigating sanctions and surrendering allowances

In relation to enforcement, the focus of the project was on enforcement strategies, generally, and on the instigation of sanctions. Additionally, given that the allowances for emissions in the first year of Phase I of the emissions trading scheme had just been surrendered, the enforcement of this aspect of the scheme was also reviewed.

5.1 Ensuring that emission reports were submitted on time

As the first deadline for the submission of operators' annual emissions report was relatively recent at the time of the project on which this report is based, questions were asked specifically about the experience with this aspect of the scheme. Some respondents underlined that efforts had been made prior to the deadline to ensure that the emissions reports were submitted on time (e.g. Netherlands and England & Wales). Once the deadline passes, in some countries an official notice is sent out immediately (e.g. in Norway and Hungary) followed potentially by fines; elsewhere fines are automatically imposed in the event of non-submission (e.g. Portugal, Czech Republic). In Sweden, operators that had not submitted a report on time were contacted by phone and from next year fines can be levied for the late submission of reports.

In most cases, at least 95%, if not all, emission reports were received on time, and these accounted for roughly the same proportion of emissions. Only in Hungary (70%), England & Wales (88.3%) and Norway (65%) were these proportions lower, although in the latter case this accounted for 91.5% of verified emissions. In Hungary, national legislation postponed the deadline for submitting the reports, and by the end of April 2006, reports accounting for 97% of emissions had been received. Similarly 99.6% of reports had been received in England & Wales by the end of April.

In the event of non-receipt of an emissions report, there appear to be broadly two approaches to estimating emissions. In Hungary, the competent authority can commission a verification body to undertake the estimation process, while elsewhere it is the responsibility of the competent authority to estimate emissions. The competent authority estimates emissions in the following ways:

- In Sweden, the Environmental Protection Agency undertakes the estimation on the basis of what is reasonable given what is known about the installation.
- In the Netherlands, Ireland and Austria the installation is visited, its data checked and emissions estimated.
- In England & Wales and Scotland, it is the regulator's responsibility to determine emissions; in England & Wales, the Environment Agency can either determine the emissions themselves or engage an independent expert to undertake the determination on their behalf (for which the operator would have to pay).

In Finland, the competent authority does not have the power to estimate emissions.

In several countries, some if not all of the Verification Opinion Statements (VOSs), prepared by verifiers for each installation (see Section 3.2 for further information on these), were checked by, either:

- Desk-based review (e.g. in Portugal, Germany and the Netherlands), possibly followed by a site visit (e.g. in Sweden) or a review of the reporting form against permit requirements (England and Wales).
- The IT system, e.g. in Finland.
- Cross-checks to compare the data in the VOS with that available from the allocation process (e.g. in Austria, Germany and the Czech Republic).

Several respondents underlined that a proactive, preventative approach was taken with respect to non-compliance with deadlines. For example, emails were often sent as reminders prior to the passing of the deadline (e.g. the Netherlands). In England & Wales, emails were sent and phone calls made prior to the deadline and then reminder letters were sent once the deadline had passed, while Norway gave a reminder, either by email or phone; in the Czech Republic, the operator is contacted. Portugal appears to be the only country in which a fine is given automatically for missing a deadline; elsewhere (e.g. in Hungary), the competent authority was not too hard on deadlines in the first phase. In Ireland, leeway was given to one operator that was late in returning a verified report; in future years, the competent authority will not be so lenient. In Sweden, no fine was applied in 2006, but from 2007 onwards fees for the late submission of reports will be charged.

5.2 Instigation of sanctions

In most countries infringements and sanctions are set out in national law, while, in some cases, the scale of the sanction can be decided by a court (e.g. in Sweden). Sanctions vary and are usually fines, but sanctions can go further in some Member States. For example, in Portugal, sanctions range from paying fines, through the confiscation of equipment and the withdrawal of any state support to the suspension of the activity and the closure of the installation.

In several countries, e.g. Norway, Czech Republic and Austria, to date there have been no cases of non-compliance, and no sanctions have yet been applied in Finland, either. Elsewhere, there have been some cases of non-compliance (see Table 5.1).

Table 5.1: Selected cases of non-compliance	
Scotland	Only one case of non-compliance, where the regulator had to determine emissions; an improvement plan for future years was initiated to ensure that the situation does not arise again
Hungary	Around five cases of non-compliance, but only in one case – for the operation of an installation without a permit – a sanction was applied so far
Portugal	There have been three cases where an installation has failed to deliver its emissions report and the verifier's report on time and it is expected that a fine will be levied
Netherlands	There were 22 formal announcements of the intention to enforce issued for five different offences: • Late submission of CO_2 monitoring plan (7 cases); • Violation of CO_2 permit requirements on monitoring (2); • Not applying for a review or update of permit in time (2); • Not submitting a verified emission report in time (9); and

	• Not surrendering a sufficient number of allowances (2). In nine of these cases, a periodic payment was imposed, but not collected; however, no fine was eventually imposed as all installations eventually complied with the relevant requirements.
Sweden	The competent authority had to determine emissions in 11 cases where an installation had not had its emission report verified; six of these were for biomass users, which had zero emissions
England and Wales	• Thirteen warning letters were sent for the late submission of the annual emissions report (after a period of grace). • Seven for submitting unverified reports; one report was then still outstanding and the nature of further enforcement action had yet to be determined. • 130 warning letters were sent for failing to submit an annual improvement report on time (no period of grace allowed). • In three cases, queries raised during the compilation of the annual emissions report raised concerns in the Environment Agency that the installation in question may have not been in compliance with the MRP; in each case the verifier recommended that the operator obtain a variation to the existing permit.

5.3 Surrendering allowances

Directive 2003/87 requires that by 30 April of the following year operators of the installations covered by the EU ETS surrender allowances equal to the previous year's verified total emissions of the installation. Given that this date occurred only a couple of months prior to the completion of the questionnaires, this issue was chosen as a focus for some of the questions on enforcement in the questionnaire that was completed as part of the project.

Competent authorities took a largely proactive approach to ensuring that operators surrendered their allowances on time. For example, some set up helpdesks and provided information, including templates on the web, that operators could consult if they had any problems or concerns. Competent authorities were also proactive in contacting operators prior to the deadline, e.g. through emails, letters and telephone calls to inform operators of the approaching deadline. Some competent authorities also organised seminars for operators to inform them of the deadline and of the action required of them.

Competent authorities in different countries used a number of different, but broadly comparable, methods to ensure that operators had surrendered the correct number of allowances. The main way was to compare the number of allowances surrendered with information recorded in the registry, which is the principal mechanism in which the issuing, holding, transfer and cancellation of allowances is recorded. This was often undertaken by comparing the values reported in the VOS (e.g. in UK, Finland and Hungary), or in the case of Norway, the values set out in an 'allowance surrender' form sent to the competent authority, with those recorded in the registry. In Austria, the information contained in the registry's verified emissions table is compared with the emissions recorded in the country's electronic reporting system. In the Netherlands, the level of emissions is fed into the registry by the operator, then

validated by the verifier and then checked against the emissions report and the initial allocation. While, in Portugal the numbers in various reports, e.g. the emissions report, verified emissions in the registry and in the VOS, are checked for consistency, and any inconsistencies that are identified are checked with operators and verifiers.

6 Monitoring and reporting in the EU ETS

The issue of monitoring and reporting was addressed in considerable detail in a previous IMPEL report on good practice in emissions trading[14]. In that project, there was a lot of discussion on the European Commission's Decision establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC[15], otherwise known as the 'Monitoring and Reporting Guidelines' (MRG). During the course of the second half of 2005 and the first six months of 2006 the MRG have been thoroughly revised, and members of the IMPEL Regulator's Group have contributed to the review process. This project therefore focuses on particular issues that were considered to be still outstanding after the previous work and after the revision of the MRG.

The good practice elements that have been identified in the course of the project on which this report is based are reported upon in the parallel report on monitoring and reporting[16]. This chapter begins by giving an overview of relevant aspects of Member State practice in monitoring and reporting (Section 6.1). Section 6.2 then discusses the development and use of IT systems for the purposes of monitoring and reporting, whilst Section 6.3 discusses the views of the participants with respect to the future of monitoring and reporting within the emissions trading scheme.

6.1 Member States approach to monitoring and reporting

In most Member States, the requirements of the MRG have been incorporated into installation level monitoring and reporting plans (MRPs). There is however a large variety in the detail and scope of the MRPs in the individual Member States. In Germany, the MRG have been implemented by a national binding rule directly applicable to the individual installations. In Norway, which is not part of the EU ETS, rules for monitoring and reporting, which are based on the MRG adapted to Norwegian conditions, are laid down in the national legislation and not in installation-specific MRPs. Most Member States included some flexibility in the respective MRPs. For example, in Sweden it was found that the prescribed approach did not work well for biomass, so the regional competent authorities were advised to accept an operator's general description of how they planned to monitor the use of biomass. In England & Wales and Scotland, the approach to smaller emitters, e.g. hospitals and universities, was more flexible, as operators of several boilers were sometimes allowed to group these together for the purposes of reporting. In Hungary and Finland, flexibility was allowed in relation to the requirements to use an ISO 17025 accredited laboratory for the analysis of fuels. In Hungary, the requirement to use such labs was loosened to require at least four control analyses a year in addition to analyses made in non ISO 17025 labs, while in Finland labs undertaking such analysis can use any documented standard, as there were no labs in Finland accredited to ISO 17025. Additionally, for Finnish installations using only one type of solid fuel, the 'energy-balance method' has been accepted, as long as the minimum uncertainty requirement

[14] IMPEL (2005) *Op. cit.*

[15] Commission Decision of 29/01/2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC

[16] IMPEL (2006d) *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme, Report 5: Good Practice in Monitoring and Reporting*; see http://ec.europa.eu/environment/impel/index.htm

required was reached; national oxidation and emissions factors have also been accepted.

Most countries make the MRPs publicly available, some via a website (e.g. Scotland, Finland, Portugal and Hungary), while others make these available on request (e.g. the Netherlands, England & Wales and Ireland). Neither Austria, Czech Republic, Poland nor Germany make M&R plans publicly available for a number of reasons, including that there was no perceived benefit of doing this; that the plans are complex or that they contain confidential information.

A key aspect of monitoring set out by the MRG is the tier system, which defines the level to which an operator has to go in relation to certain aspects of monitoring – in general, the higher the tier the greater the accuracy (i.e. the lower level of uncertainty) that is required. Larger emitters are expected to achieve highest tiers more immediately than lower emitters. The original MRG requires operators to apply the highest listed tiers in all cases unless they can demonstrate to the satisfaction of the competent authority that this is technically not feasible or would lead to unreasonably high costs[17]. In this case, the next tier down that is technically feasible and of reasonable cost may be agreed with the competent authority. Where necessary, the tier levels listed in MRG Table 1 should be applied, as a minimum. It should be noted that the revised MRG does provide some additional flexibility for a more lenient regime regarding tier compliance especially for smaller installations[18].

The number of installations for which a derogation from meeting the highest tier listed in the MRG was granted was minimal in those countries for which figures were available. In the majority of these, the proportion of installations for which such a derogation was granted was no more then 3% of installations (e.g. 1% in Sweden, 2% in Scotland and Hungary and 3% in the Netherlands). However, in a number of other countries the figure was slightly greater, e.g. in the Czech Republic it was 5%, in Ireland 9%, (but this only represented nine installations), and in Germany and Italy an estimated 10%. In most cases, the installations benefiting from derogations are the larger, complex installations such as refineries, large chemical and iron/steel plants.

6.2 Systems for monitoring and reporting: The use of IT

The first phase of the EU ETS has seen the development of a number of different IT systems. In Finland, an internet-based permitting, monitoring, verification and emission reporting system has been developed, while both in Austria and Germany there are also well-developed IT systems. In Austria, templates for emissions reports and verification reports have been developed, and an internet portal is in use which contains basic information. It can be used for the purposes of a range of environmental legislation as well as a dedicated ETS section where emission and verification reports are managed. In England & Wales, there are electronic forms for a number of different activities including reporting, applying for permits and permit variations, and new entrant applications. There is also a permitting database into which the operator information is inserted – this might be extended in the future to allow an operator to submit its annual report directly into the database. Once there is

[17] See, for example, Section 4.2.2.1.4 of the original MRG
[18] See Section 5.2 of the revised MRG, expected to be published in 2007

sufficient data, the database will also allow the generation of summary information, including past emission trends. In Sweden, Portugal, Norway, the Czech Republic, Hungary and Italy, electronic forms have been created for the purposes of emissions reporting, as they have in Ireland, where emissions reports can also be partly validated using an IT tool.

Operators have generally welcomed the IT systems for monitoring and reporting, and any negative comments are being taken on board in the revisions of existing systems. In Austria an evaluation questionnaire has been distributed. A number of project participants reported complaints about the user-friendliness of some of the software or forms that have been used in their countries while the speed of access to some systems has been an issue for some operators. In others the lack of flexibility was the main problem, as operators would prefer forms that are more specific to them. Improvements to existing systems include:

- More user-friendly systems;
- Simplifying some of the forms;
- A simpler and better integrated system;
- Development of a database system;
- Integration with the registry;
- The use of electronic signatures;
- The development of IT systems that allow greater localisation of the reports for operators; and
- A more general integration of e-government systems, including harmonisation with IPPC.

There was wide support for the development of common IT tools – only one respondent replied that they did not see any scope for improvement. Respondents from England & Wales, Sweden and Finland suggested that the system in use in Finland could be developed. Several respondents noted that while a degree of harmonisation would be useful, complete standardisation was not. It was argued that the development of one single system could lead to a monopoly and undermine the initial aim of creating a cost-effective system. Other respondents supported the development of a web-based tool, the agreement of a European standard for such software, or the development of a tool to calculate the cost effectiveness of tier requirements.

In the discussion about the development of IT systems in the second workshop, it was noted that there was a parallel project (ETSWAP[19]) that aims to set up a common core of IT systems for Member States to use. In the early stages of this project, the plan is to identify how such a common core might best be achieved. The plan was that the common core would provide a basis on which Member states could build in order to adapt the system to their particular circumstances.

[19] EU-ETS Automation Workflow Project, undertaken by PricewaterhouseCoopers and sponsored by the Dutch Ministry of Housing, Spatial Planning and Environment (VROM).

6.3 The future of monitoring and reporting

At the second workshop, there was extensive discussion of the revised MRG, on the basis of a paper prepared by the Netherlands Ministry of Housing, Spatial Planning and the Environment (VROM). It was generally agreed that the revised MRG had taken on board regulators' concerns in many respects, including many of the issues raised in the course of IMPEL's previous project on the EU ETS. However, the group felt there was still scope for further interpretation.

For example, the revised guidelines allow for information, such as the energy content supplied by the manufacturers of commercially-traded fuels, to be used in the estimations of an installation's emissions. However, the term 'commercially-traded' was not defined further, and it was suggested at the workshop that the meaning of this term was not as clear as it might be. For example, it was not clear whether the coke oven gas sold by a steel installation to a power station was considered to be commercially-traded. Hence, it was agreed that a list of examples of what regulators could agree on to be commercially-traded fuels should be developed, agreed and distributed.

As noted above, 'unreasonable costs' had been defined by the revised MRG, but it was considered that there was still some ambiguity in the definition. Hence, it was agreed that regulators should provide examples of what they consider should be considered to be unreasonable costs and that a small group of volunteers should develop high level criteria to formalise the approach to unreasonable costs. This could then be circulated and agreed by regulators. Similarly, the revised MRG had clarified the term 'uncertainty'. However, it was agreed that there was still a need to develop a standard uncertainty tool at the European level that regulators could share with industry. It was also agreed that with the help of industry a list should be drawn up of good practice in relation to the determination of activity-specific data and factors, as well as of sampling methods and frequencies.

The other aspect of the MRG on which it was considered that action was needed was in relation to the standardisation of the approach taken towards granting operators exemptions from meeting the highest tier listed in the MRG. Of the twelve EU Member States participating in the workshop, representatives of nine felt that it was important to harmonise the approach taken by Member States towards the granting of such exemptions; one of the other three thought it desirable, but not possible. Hence, the majority was in favour of some degree of standardisation of approach. However, it was also recognised that it was not practical or indeed desirable for a full standardisation of the approach, due to the existence of different national circumstances. In response to the questionnaire, a number of different approaches to standardising the approach to granting exemptions were suggested, for example:

- By consistent verification;
- Sharing information about specific cases and solutions adopted;
- Workshops for those assessing and validating MR plans;
- Sharing national guidance or producing (IMPEL) guidance;
- Harmonised approaches consisting of:
    - Using the fallback approach;
    - Summing uncertainties of several sources within one stream;

- Using the principle of cost-effectiveness; and
- Assuming uncertainties of several measuring principles.

At the second project workshop, there was an extensive discussion on how a standardisation of approaches towards the granting of exemptions from tier requirements could be achieved. It was agreed that some forum in which Member States could share practices and experience would be useful. It was considered that a more sophisticated approach than a simple email forum was needed, as it would be beneficial to be able to refer to particular examples, so a database of such examples might be more appropriate. The purpose of the proposed forum would not be to discuss particular cases that needed urgent attention; rather it could be an on-going process over years (e.g. a series of workshops every 6 months).

Within an individual Member State, it is possible to assess good practice, and therefore whether the highest tier could be met, within a particular sector by comparing the approaches taken by operators of similar installations. However, at present, it is not easy to compare similar installations in different Member States. This forum would therefore be particularly useful when, within a particular country, there is no comparable peer against which the performance of a particular installation can be measured. It was agreed that a balance needed to be struck between sharing information that would be useful without attempting to develop guidance that would risk being too high level.

Hence, it was agreed that the following issues in relation to monitoring and reporting would benefit from further attention:

- Commercially traded fuels – bring together and distribute examples of what might be considered to be 'commercially-traded' fuels.
- Unreasonable costs – Member States should provide examples; on the basis of these high level criteria should be developed.
- Uncertainty – There is a need to develop a (simple) tool at the European level.
- Activity specific data and factors – A list of good practice should be drawn up.
- Sampling methods and frequency.
- Standardising approaches to granting exemptions from the requirement to meet the highest tier listed in the MRG.

7 Summary

In summary, therefore, in relation to ***small installations***:

- Whilst the exact proportion of small installations, i.e. those emitting below 25,000 tonnes of CO_2 per year, varies considerably between Member States, most regulators ate concerned about the burden posed by including these within the EU ETS, particularly the administrative burden of regulating such installations, both for the operators and the regulator.
- The proportion of small installations operating within a given Member State ranged from 85% in Sweden to 20% in the Czech Republic. The mean average of figures provided is 58% of installations emitting less than 25,0000 tonnes of CO_2. In the UK 45% of installations emit less than 1% of the UK's total emissions.
- Regulators reported that the following sectors were particularly problematic in that they contain a high number of small installations: combustion installations, district heating, ceramics, pulp and paper, and glass.
- Small installations are not necessarily simple to regulate. Those installations with fragmented or satellite sites have proved particularly problematic given the difficulties in determining the boundary of an installation. Regulators also reported a shift in approach to such installations during the course of the EU ETS thus far; initially operators wanted as much of their activities included in a permit as possible but now increasingly are seeking to have satellite sites excluded from the scheme.
- Regulators have attempted to develop their own solutions to the problems posed by small installations. The project participants consider it desirable to work towards more common approaches for dealing specifically with these very small sources.

In relation to ***verification***:

- Member State efforts thus far have highlighted the importance of accreditation and accreditation bodies. In the vast majority of Member States verifiers cannot operate without being accredited either by the body for that Member State or, in some cases, a recognised body from another Member State. In order to get the systems operational, in the first phase some Member States have operated temporary systems of accreditation or 'accreditation light'; these will, however, be phased out in 2007.
- Regulators have had to dedicate more time than initially anticipated to the verification process thus far. The first round of verification for 2005 emissions has resulted in significant numbers of applications for permit variations in many Member States. Reasons for these variations include: operators not having understood the requirements of the Monitoring and Reporting Guidelines (MRG); improvements having been made to monitoring methods; identification of additional sources by the verifier; and methods in the monitoring plan differing from those actually in use. Early engagement between the operator and verifier was considered fundamental to successful and efficient implementation.
- A very high proportion of verified emission reports were received before the March 2006 deadline – up to 100% in some Member States. While there were

few emission reports that verifiers failed to approve, many were verified with comments, i.e. recommendations for improvement or issues that do not impact materially on the level of emissions.

- The majority of regulators were relatively pleased with the information contained in the reports and verification opinion statements. It was highlighted that it is important to put in place systems to ensure the quality of submissions and many made use of templates, standard formats and other guidance to encourage appropriate submissions.
- Given that verification is such an important process in terms of ensuring the accuracy of reporting under the EU ETS regulators feel, it is vital that the system be continually improved. In terms of short term improvements, regulators recommended the clarification of technical issues and improved processes to ensure more timely engagement between operators and verifiers. Importantly, there was also a desire to move towards more consistent European approaches specifically in terms of materiality, the interpretation of verification requirements, improving verification opinion statements and QA/QC procedures.
- In terms of improving verification for phase II of the EU ETS, there was a desire to increase consistency of approach and to see more comparable activities across the EU. All regulators are keen to have a robust system of verification in which they can have confidence across the EU 25. It is felt that increasing commonality, the sharing of and building on good practice is the way to move this forward. There is a desire that, as systems develop they move closer together rather than further apart.
- While many project participants supported a move towards a more standardised approach, many were not supportive of a total harmonisation of verification requirements across Member States.

In relation to ***assessing compliance in the EU ETS***:

- While it is clearly important to have a consistent, standardised approach to assessing compliance *within* any particular country, it was less clear whether there needs to be such an approach *between* countries. It was generally agreed that some degree of standardisation would be useful, while recognising that a fully standardised approach across the EU would not be possible or desirable.
- Member States interpret the term 'inspection' to mean different activities: some equate an inspection with a site visit; while for others a site visit is not a necessary part of an inspection.
- The rationale underlying site visits by inspectors, and how these were linked to the work of the verifier, differed between countries. Three distinct approaches, on which there were variations, were identified: the regulator and verifier covered similar ground on their respective visits; both undertook site visits, but the focus was on minimising the duplication of effort; and only the verifier visits the site.
- To date, few formal risk assessments had been undertaken to inform compliance assessments, although informal risk assessments were often undertaken, e.g. focus was on larger emitters, or those installations where there was a particular cause for concern. More formal risk assessments to inform compliance and planned.

- The benefits of site visits are recognised; some countries were planning to visit all installations, while others were focusing on visiting a fixed proportion. A number of countries had not yet visited any installation, but most were planning to do so at some point.
- In some countries, there was an inspection protocol to inform site visits and a common format for reporting on the results of site visits. The results were recorded – sometimes onto a database – and the results, or at least a summary, of these, were communicated to the operator.

In relation to ***enforcing the EU ETS***:

- A pro-active approach was taken to ensuring that operators submitted their annual emissions reports on time, e.g. prior and timely communication of deadlines and subsequent reminders. In the event that a deadline was missed, a similar pro-active approach was taken, accompanied by the threat of sanctions, e.g. fines, if appropriate.
- In most cases, the majority of emissions reports were received on time; and virtually all very soon after the deadline.
- In the event of the non-submission of an emissions report, some regulators can engage an external body to estimate emissions, while others can estimate an installation's emissions, themselves.
- Many countries also reviewed the emissions figures presented in the Verification Opinion Statements (VOSs) and some undertook cross-checks of these emissions with other data on emissions, e.g. the permit, to ensure consistency.
- To date, there are few examples of sanctions being brought against operators; in some cases, there has been enforcement action, but no cases had yet led to a fine, for example, although a couple of fines were expected to be levied in the near future.
- A proactive approach was taken to ensuring that operators surrendered their allowances on time. Operators were informed of their responsibilities in advance of the deadline and helpdesks were set up to enable any problems to be addressed.
- The number of allowances surrendered was checked with other data, e.g. the data held in the registry or that given in the VOS, to ensure that the correct number of allowances had been surrendered.

And finally, in relation to ***monitoring and reporting***:

- The requirements of the MRG have generally been incorporated into installation level monitoring and reporting plans (MRPs). Many Member States provided for some flexibility in the MRPs where, for example, the requirements of the MRG were not clear.
- Most countries made MRPs publicly available; although some only did this on request, while others did not make these public.
- Derogations from meeting the highest tier were only given to a small minority of installations (typically less than 3%).

- Many Member States developed the use of IT systems in the first phase of the EU ETS; some systems were more developed and integrated than others. Operators have generally welcomed the IT systems in place.
- There was support for the development of common IT tools, which is being taken forward in another project.
- The revised MRG (MRG 2) have taken on board many of the concerns raised in the course of the previous IMPEL EU ETS project (which reported in 2005). However, a number of issues were still open to some degree of interpretation and it was agreed that these should be taken forward in a follow-up project.

Annex 1: Participants in the Workshops

Title	First name	Surname	Address	Country
Ms	Lesley	Ormerod	Environment Agency, England and Wales Richard Fairclough House Knutsford Road Latchford Warrington WA4 1HG	England and Wales
Mr	Mike	Cunningham	Scottish Environment Protection Agency Erskine Court The Castle Business Park Stirling FK9 4TR	Scotland
Mr	Marc	Kierans	Irish Environmental Protection Agency Richview Clonskeagh Dublin 14	Ireland
Mr	Mariano	Morazzo	Ministry for the Environment and Territory Via Cristoforo Colombo 44 I - 00147 Rome	Italy
Mr	Jan	van der Plas	Department for Compliance and Enforcement, de Nederlandse Emissieautoriteit Centre Court Prinses Beatrixlaan 2, 2595 AL Den Haag P.O box 91503	Netherlands
Ms	Ana	Tete Garcia	Inspector for the Environment Inspectorate General for the Environment Rua de O Seculo No 63 1249-033 Lisboa	Portugal
Ms	Ulla	Jennische	Naturvårdsverket/ Swedish EPA Klimatenheten / Climate Unit 10648 Stockholm	Sweden
Mr	Jaroslav	Suchy	Climate Change Department Ministry of the Environment of the Czech Republic Vršovická 65 Praha 10, 100 10	Czech Republic
Mr	Rüdiger	Schweer	Referatsleiter II 7 Klimaschutz Hessisches Ministerium für Umwelt, ländlichen Raum und Verbraucherschutz Mainzer Straße 80 D-65189 Wiesbaden	Germany

Ms	Ana	Paczosa	Department of Environmental Protection Instruments Ministry of Environment 52/54 Wawelska Street 00-922 Warsaw	Poland
Mr	Mikko	Äikäs	Energy Market Authority Lintulahdenkatu 10 FIN-00500 Helsinki	Finland
Ms	Daniela	Panait	Ministry of Environment and Water Management, Romania Directorate for Environment Policies, Atmosphere Protection, Climate Change Libertatii Blvd, 10-12, sector 5, Bucharest, RO 040129	Romania
Mr	Matej	Gasperic	Ministry of the Environment and Spatial Planning Dunajska 48 1000 Ljubljana	Slovenia
Ms	Adrienn	Borsy-Dunai	National Inspectorate for Environment, Nature and Water Hungary 1539 Budapest PO Box 675	Hungary
Mr	Akos	Dénes	Emission Trading Dept National Inspectorate for Environment, Nature and Water Budapest Meszaros str. 58/a. Hungary 1016	Hungary
Dr	Ian	Skinner	Institute for European Environmental Policy (IEEP) 28, Queen Anne's Gate London, SW1H 9AB	UK
Ms	Catherine	Bowyer	Institute for European Environmental Policy (IEEP) 28, Queen Anne's Gate London, SW1H 9AB	UK
Dr	Rob	Gemmill	Industry Regulation Process Technical Services Environment Agency Olton Court 10 Warwick Road Olton, Solihull. B92 7HX	England and Wales
Ms	Lorraine	Powell	Emissions Trading Compliance/Assessment Team Environment Agency Richard Fairclough House Knutsford Road Latchford Warrington WA4 1HG	England and Wales

Mr	Chris	Dekkers	Directorate of Climate Change and Industry - IPC 650 Ministry of Housing, Spatial Planning and the Environment (VROM) P.O.Box 30945, 2500 GX The Hague, Netherlands	Netherlands
Mr	Jarno	Ilme	Energy Market Authority Lintulahdenkatu 10 FIN-00500 Helsinki	Finland
Mr	George Nicholas	Nelson	Norwegian Pollution Control Authority Oslo	Norway

Annex 2: Questionnaire used in the project

IMPEL project on

Options and proposals for consistency in the implementation of the EU emission trading scheme

Questionnaire for Members of the IMPEL Support Group on Emission Trading

Introduction

Competent authorities have now had nearly 18 months of experience in regulating operators and installations that are included in the EU emissions trading scheme. An IMPEL project in 2004/5 reviewed regulatory practice in relation to the EU ETS[20]. This report came up with a number of recommendations for short-term action, which have been taken forward by the IMPEL Support Group on emission trading. In addition, the report concluded that for some regulatory tasks, there had not yet been enough experience – at that time – to identify good examples of regulatory practice.

The aim of this project, of which this questionnaire is an integral part, is to build on the previous work by reviewing in more detail those regulatory tasks that were not covered in detail last time, but with which there has been a significant amount of new experience over the last 18 months. Hence, the project focuses on monitoring, verification, compliance and enforcement, and small installations. The aims of the project, in relation to these aspects of regulatory practice, are as follows:

- To review and produce a summary report of regulatory practice in Member States during the first year of the EU ETS;
- To produce good practice guides covering the regulatory practices reviewed; and
- Where possible to produce templates and guidance to simplify participation in the scheme, particularly for Small Installations.

These outputs will be developed on the basis of the responses to this questionnaire and feedback obtained at IMPEL workshops in April and September 2006. Therefore, your responses to this questionnaire are an essential part of this process. In addition, examples of forms and templates used, are welcome, particularly when you consider that these constitute good practice.

Given the length of the questionnaire we would be grateful if you could make answers as concise and to the point as possible. While there is no need to aim to be comprehensive, it is important that you give sufficient details in your responses to ensure that we can identify good practice. We are happy for you to use bullet point summaries in your answers.

Please complete this questionnaire by 30 June 2006 and send it by email to Ian Skinner at IEEP (iskinner@ieeplondon.org.uk).

[20] IMPEL (2005) *Identifying Good Regulatory Practice In The EU Emissions Trading Scheme*

Please indicate below the Member State to which this questionnaire applies:

Member State: _____

Completing the questionnaire

Instructions for filling in the questionnaire

- Please answer '*yes/no*' where indicated.
- 'Please explain' where requested.
- Provide succinct answers.
- Remember, do not assume that people will understand your procedures
- Please bear in mind that the reason for the questionnaire is to understand the reasons behind your practice, not just what you are doing

Given the scope of the questionnaire, it is likely that a number of people will contribute to its completion. Could each person who completes a section, please ensure that they fill in their details in the table, below, next to the section(s) that they completed. The coordinator of the questionnaire is the person to whom the questionnaire was originally sent and who is responsible for ensuring that the various sections are completed on behalf of their country.

Questionnaire responsibility	*Name*	*Contact details (e-mail; tel; mailing address)*	*Organisation*	*Job description*
Coordinator				
Monitoring and reporting				
Verification				
Compliance				
Enforcement				
Small installations				

Providing examples of documentation, forms and templates used during the first year, etc

In response to various questions, below, we ask you to provide examples of particular documents that you may have used. We agreed at the first workshop in Budapest in April 2006 that these could be circulated more widely once we have received them. Hence, if possible, feel free to forward to IEEP copies of the relevant documentation, as requested, before you return the completed questionnaire. In this way, we can begin to share examples of practice as early as possible. Given that these are likely to be in your native language, could we also ask you to provide a summary in English, were possible and/or appropriate.

Introductory questions:

1.
   a) What would you say has posed the greatest challenge in terms of the implementation of the EU ETS thus far?
   b) How did you overcome this challenge (e.g. Who helped? What mechanisms were used?)?

2. What have been the three key lessons learnt over the last year, regarding the implementation of the EU ETS?
   a)
   b)
   c)

Monitoring and reporting

Common and practically feasible approaches on how to handle uncertainty assessments

3. When approving M&R plans what level of investigation was applied in assessing the plans?

	Y/N	Please state whether levels were utilised, how and to what extent
High – metering, analysis and monitoring procedures were investigated in detail. Industry, metering and calibration specialists used in the assessment process. Operators are encouraged to achieve the highest tiers.		
Medium – some investigation into proposals to demonstrate that they meet the minimum required tiers.		
Minimum – proposals checked to ensure that operators had applied the correct tiers. Further investigation held over for verification process.		

4. When approving M&R plans for large emitters what level of expertise was applied by the Competent Authority in assessing the levels of uncertainty, e.g.:
   a) There was no assessment of uncertainty at all? *yes/no*
   b) In-house expertise? *yes/no*
      i) If 'yes', was any training provided? *yes/no*
   c) External expertise? *yes/no*
   d) Please explain what this entails and the reason behind the choice of approach:

5. Have you provided additional guidance or interpretation to the M&R guidelines on how to handle uncertainty? *yes/no*
   a) If 'yes', could you please provide examples of approaches and tools that you consider to be successful or useful (e.g. templates, workshops, guidance documents, etc.)?
   b) Could you provide an internet address, if available:

Achievement of tiers in practical situations

6. If derogations were applied to installations in M&R plans to allow them to use lower tiers was this on the basis of:

   - Unreasonable costs? *yes/no*
   - Technical feasibility? *yes/no*
   - Other: *yes/no* Please explain:

   a) If you answered 'yes' to any of the above, please explain why you chose this approach in each case?
   b) How many installations received such derogations and why?
   c) What proportion of the total number of installations was this?
   d) What proportion by Annex I Activities do these installations represent?

7.
   a. Do you feel that it is important to harmonise Member State approaches to applying such derogations? *yes/no*
   b. If 'yes', how could this be achieved?

8.
   a) How did you decide whether the achievement of higher tiers would be at an unreasonable cost?
   b) Was it on the basis of:

   - Cost as a % of turnover? *yes/no*
   - Cost as % of allocation value? *yes/no*
   - Cost as % of annual emissions? *yes/no*
   - Other: *yes/no*

   c) Could you please provide your definition of 'unreasonable cost':

   d) Could you please provide examples of the costs you took into account?

9.
   a) If derogations have been applied, are they for a limited period (i.e. year 2005 only or longer)?
   b) How did you determine this period?

10. Have you provided guidance or interpretation, in addition to the M&R guidelines, on how to achieve the required tiers? *yes/no*
   a) If 'yes', what type of information (provide internet address if available)?

Best industrial practices on calibration and maintenance and other operational issues.

11. Were specific templates available which operators could use to develop and submit their M&R plans (e.g. excel or word)? *yes/no*
    a) If 'yes', could you please supply examples?

12.
    a) Do you make the monitoring and reporting plan part of the permit? *yes/no*
    b) If 'no', what form does the final approved M&R plan take?
    c) Did you allow any flexibility in the M&R plan? *yes/no*
    d) If 'yes', please explain what this was and how you dealt with it:

13. Have you provided additional guidance or interpretation to the M&R guidelines on what is considered best industrial practices on calibration and maintenance and other operational issues? *yes/no*
    a) If 'yes', what type of information (provide internet address if available)?

Public access and use of IT

14. Are monitoring and reporting plans made available to the public in your Member State? *yes/no*
    a. If 'yes', please explain how and why:
    b. If 'no' please explain why:

15.
    a. In the last year, how has your use of electronic tools developed in relation to monitoring and reporting?
    b. Have your electronic tools delivered what you wanted them to?
    c. What has been the response of operators to the IT tools that you have used?
    d. What improvements are you going to make for the future?

16.
    a) Would you like to see the development of common IT tools for monitoring?
    b) What do you think this should look like?

Verification

Role of verifiers

17.
    a) How many verification bodies are operating within your Member State (approximately)?
    b) What proportion of these is accredited by an accreditation body?
    c) Can a verification body operate in your Member State without being accredited by an accreditation body? *yes/no*

i) If 'yes', then what other mechanisms are used to ensure that verification bodies operate to a sufficiently high standard (e.g. who 'approves' verification bodies)?

d) Do you feel that there are a sufficient number of verification bodies operating in your Member State at present?
e) Are most verification bodies based within your Member State (indigenous) or have verification bodies, come into your country for this purpose?
f) If you have non-indigenous verification bodies operating in your country, have there been particular benefits or complications resulting from this? *yes/no*
g) If 'yes', please describe what these have been:
h) If you have experienced difficulties/complications please explain what these are and suggest how they can be improved for future:

18.

a) Do you involve verifiers at any point before the final verification? *yes/no*
b) If 'yes', do you:
    i) Have them comment on M&R plans? *yes/no*
    ii) Allow verification in stages? *yes/no*
    iii) Other (please state):
    iv) Please explain why you chose this approach:

c) What would be the benefits of involving verifiers earlier in the process?
d) What are the disadvantages of this?
e) Is there any potential role for IMPEL in exploring these issues further? *yes/no*
    i) Please explain:

19.

a) Are accreditation bodies or competent authorities checking that verifiers are maintaining good practice/compliance with their standards?
b) How is this done?
c) How are the accreditation bodies funded?
d) Details of the accreditation (or acceptance) body(s):

Name	Contacts (website; mailing address; e-mail; tel.)	Is this body indigenous or from another Member State?	Is this body independent or part of government or competent authority	What standards are they working to*	Are verifiers from other Member States accepted without further checks (please explain)

*e.g. EA-6/03, IETA Verification Protocols, Member State Guidance, Other – please specify

20.

a) In your country, how will verifier malpractice be dealt with?
b) Has this been a problem to date?

Potential EU wide system for the accreditation of verifier

21.
   a. Do you have confidence in the current verification system? *yes/no*
      i) Please explain:
   b. What weight do you put on verification compared to other areas of enforcement?
   c. Is verification delivering what you anticipated it to deliver? *yes/no*
   d. If 'no', why not? What are the main issues?

22. Do you believe that an EU-wide system of approval or the use of a standard process would be a better way forward? *yes/no*
   a. Please explain:

23. What would be the benefits of this compared to the existing system?

24. What might the barriers be to prohibit the development of such a system?

25. Do you foresee any disadvantages of such an approach?

Competent authority involvement in the verification process

26. In the previous study, some competent authorities felt that they would have little involvement in the verification process or with verifiers. Has this been the case? *yes/no*
   a. Please explain:

27. What has been the subject of the communication you have had with verifiers?

28. How have you communicated with verifiers, e.g.:

   a) Face-to-face e.g. workshops, meetings? *yes/no*
   b) Telephone? *yes/no*
   c) Email? *yes/no*
   d) Formally in writing? *yes/no*
   e) Other (please describe):

29. Have you had to provide the companies with assistance in terms of verification:

   a) Putting companies in touch with verifiers?
   b) Dealing with problems regarding verifiers?
   c) Other (please explain):

30.
   a) Have you had feedback from operators on the verification process?
   b) Are they pleased with the service they are receiving?

31. Who pays the verifier?

Confidence in verifiers

32. In March 2004 there were concerns raised by some Member States about the level of responsibility being placed upon verifiers.
    a) As the competent authority, have you checked the competency of verifiers?
    b) Do you think this is necessary?
    c) What communication have you had with verifiers?
    d) In what format do you receive the final opinion statement from verifiers (i.e. report with comments, standard format, electronic form, database etc)?
    e) What proportion of Verification Opinion Statements (VOS) will you audit/check
    f) What are your criteria for selecting VOSs for checking:
        i. Installation capacity?
        ii. Level of emissions?
        iii. Operator size?
        iv. Other (please state)?
    g) How will this audit/check be undertaken and by whom?
    h) How do you ensure that verifiers are empowered to acquire the information they need?
    i) Are there additional measures that could/should be put in place to increase confidence in and credibility of the verification process in the future?
    j) In the course of the review of the verification statements, are frequent issues emerging that will need to be addressed? *yes/no*
    k) If 'yes', please list them and suggest how they could be addressed:

Information received

33. By March 2006 companies should have submitted verified data to national authorities.
    a) Was data successfully received from all companies acting under the scheme? *yes/no*
    b) What proportion of EU ETS verified annual emissions reports have been received?
    c) What proportion was verified with comments?
        i) Please provide examples of the type of comments received
    d) What proportion was not verified or rejected by the verifier?
    e) What were the reasons behind this?
    f) Were any problems encountered in terms of receiving data? *yes/no*
        i) If 'yes', what were these and why did they occur?

34. Quality of information received
    a) Does the quality of information received meet with expectations? *yes/no* Please explain:
    b) What processes were put in place to ensure that quality submissions received, e.g. have you:
        i) Provided standard verification opinion statements?
        ii) Provided standard verification reporting forms?
        iii) Other (please provide examples)?
        iv) Please explain why this method was selected, whether this has proved as success and provide examples if you feel this may be useful to others:

c) Is the information received from companies linked electronically (e.g. to the permit and/or the emission report)?
d) Do you have a mechanism for feeding back concerns regarding the quality of information submitted to operators and/or verification bodies? *yes/no*
    i) Please explain and if 'yes' state how and provide examples, if possible:
e) Are you happy with the way the process of receiving and assessing verified emissions data has been undertaken? *yes/no*
    i) Please explain:
    ii) How could it be improved?

Reflections on past and future

35. What do you consider went well in terms of your approach to verification in the first year?

36. Please highlight the main problems and difficulties experienced in relation to verification (e.g. list your top three below and explain)?

37. What lessons would you draw from the first round of accreditation and verification for the future?

38. What would you like to see improved for the next round of verification?

39. What would you like to see improved for the next phase of the EU ETS (in relation to verification)?

40. What actions might the IMPEL group take forward in relation to verification?

41.
c) Would you like to see the development of common IT tools for verification?
d) What do you think this should look like?

Commission Verification Materials

42. The European Commission has developed a range of verification materials (e.g. the verification resource centre) which are available for use. Are you aware of these? *yes/no*
    a. Have these been made use of?
    b. If 'yes', what elements have been of particular use?
    c. If 'no', why have you not done so?
    d. What elements could be improved for the future?
    e. How could the Commission take this process forward?

Responding to verification reports

43.
a) Has the first verification process resulted in the need to modify permits and/or monitoring plans?
b) To what extent have these modifications been minor (e.g. notifications of change, e.g. change of address) or major (i.e. variations)?

c) How many variations have been undertaken (or do you expect to undertake)?
d) What proportion of the total number of installations does this represent?

44.
a) Have variations been required because:
    i) Operators did not understand the specific requirements of the M&R guidelines when they submitted their plans?
    ii) There have been improvements in monitoring methods since approving plans?
    iii) Other (please explain):
b) How can the number of variations be minimised in subsequent years?

Compliance and Enforcement

Inspections

45.
a) What does an inspection in your Member State entail (e.g. desk based study, site visit)?
b) Why have you chosen to undertake inspections in this way?
c) What do you see as the reasons for inspection?
d) Why are inspections undertaken?
e) What proportion of installations are you planning to inspect and how frequently?
f) What proportion of installations have you already undertaken?

46. Are inspections required to assess compliance within your Member State under the EU ETS? *yes/no*
a) If 'no', please explain how compliance is checked
b) Who checks compliance, e.g. undertakes the inspections?
c) What resources do you have for checking compliance, e.g.:
    i) How many staff?
    ii) What are their qualifications?
    iii) What is their experience?

d) Are these resources sufficient? *yes/no*
    i) If 'no', please explain:

47. On what basis are inspections made (e.g. against the permit requirements, in response to comments in the verification report, based on other concerns, level of risk etc)? Please explain.

48. If inspections are undertaken:
a) What proportion of installations is inspected?
b) How are these installations selected?
c) How frequent are inspections undertaken?
d) How much time (desk and on site) is allocated for the inspection?

49. Do you think that a standard approach to inspection would be useful in helping regulators undertake effective and efficient inspection? *yes/no*
    a. Please explain:

50. Do you currently have an inspection protocol in use/under development within your Member State? *yes/no*
    a. Please provide examples.

51. Below is a list of issues that may be undertaken as part of an inspection. Could you indicate whether you do this and, if so, how? Additionally, could you also indicate whether you would like to see this issue included in a possible inspection checklist (developed by IMPEL)?

	Do you check this now? How?	Should this be included on an inspection checklist?
a) Definition of the installation and activities?		
b) List of emission sources and/or fuel streams		
c) List of tiers to be applied for activity data		
d) The uncertainty analysis for metering equipment / measurement systems		
e) Description of the type of measurement systems		
f) Calibration and maintenance of measurement systems		
g) Description of approach used for sampling fuels and analytical approach for the determination of net caloric value, carbon content, emission factors and biomass content		
h) Quality assurance and quality control procedures for data management		
i) Record keeping		
j) Information on responsibilities		
k) Assessment of operator improvement programmes, e.g. are they actually undertaking steps to achieve improvements they have committed to e.g. recommendations by verifiers		

Other? Please state:

Assessing compliance

52. Have you, as the regulator, undertaken a risk assessment to inform your compliance regime, e.g. to identify where the major risks in relation to non-compliance are? *yes/no*
    a) If 'no':
        i) Do you propose to do so in the future?
        ii) What do you think might be the major risks of non-compliance and what would the consequences of this be?
    b) If, 'yes':
        i) What information are you using as the basis of any risk assessment?
        ii) What criteria are you applying/do you apply?
        iii) What process do you use to complete a risk assessment, please describe this and your reasons for selecting this?
        iv) What were identified as the major risks and what would the potential consequences of non-compliance be?
        v) How do you make use of the results of your risk assessment?
    c) What are the potential barriers to undertaking a comprehensive risk assessment (e.g. resources, time, lack of knowledge at present)?

53. What other approaches have been employed to select those installations to be inspected?

54. What do you see as the major obstacles in relation to your ability to check compliance?

55. Is there a common format for reporting the results of inspections? *yes/no*
    a. If 'yes', please provide:

56.
    a) In relation to compliance, what provisions are particularly innovative or have worked particularly well so far? Please explain why?
    b) Have you taken any action to amend practices as a result of any experiences gained? If so, please explain:
    c) Is there anything that you are likely to change for the second phase of the scheme (i.e. 2008-2012)? If so, could you please explain?

Enforcement and surrender of allowances

57. How have you helped operators to meet deadlines with respect to the surrender of allowances (e.g. have you provided a helpdesk)?

58.
    a) What are the basic elements of your enforcement strategy?
    b) When non-compliance has occurred, in what proportion of cases have sanctions been instigated?
    c) What has been the nature of these sanctions? Please provide details:

d) Are there limitations on the type and scale of sanctions that you feel able to utilise? Please explain
e) How have you balanced the needs for effective enforcement and maintained goodwill between regulators and operators?

59.
a) What is your approach to dealing with an operator that fails to submit an annual emissions report?
b) What proportion of annual emission reports did you receive on time?
c) What proportion of expected total emissions does this account for?
d) How have you/will you estimate the emissions from an operator that failed to submit an annual emissions report?
e) What are the implications of this?
f) How will you check whether verification opinion statements appear to be correct? Will you be checking any statements?

60. How does the competent authority deal with non-compliance with deadlines, even though the operator is eventually in compliance (e.g. a company hands in its report or allowances too late)?

61. What checks are in place to ensure that the right number of allowances is surrendered?

62.
a. In relation to enforcement, what provisions are particularly innovative or have worked particularly well so far? Please explain why?
b. Have you taken any action to amend practices as a result of any experiences gained? If so, please explain:
c. Is there anything that you are likely to change for the second phase of the scheme (i.e. 2008-2012)? If so, could you please explain?

63. What could IMPEL do, e.g. produce guidance or hold training workshops, to support you in improving enforcement under the EU ETS?

Small installations

Treatment of small installations

64. By 'small installations', we mean installations with average emissions of less than 25,000 tonnes of CO_2 equivalent per year[21]. If, in Phase I, you use a different interpretation of 'small installation' for any purpose, could you please indicate the definition of small installation that you use:

65. Could you give an indication of the:
a. The proportion of installations that are covered by this definition?
b. The sector these installations belong to?

[21] This is consistent with the First Order Draft of the revised Monitoring and Reporting Guidelines for Phase II, i.e. Ecofys (2006) *Working Paper on "Review of the EU-Monitoring and Reporting Guidelines: First Order Draft of Annexes I to XII"* Version A: Consolidated, 2 February 2006

66. Do you have any views on how active small participants are in the scheme (e.g. is this just seen as another burden on them, are they actively looking for emissions reduction opportunities, are they actively trading)? Please explain:

67. In your Member State, which types of small installations pose particular problems:
    a. Universities? *yes/no*
    b. Hospitals? *yes/no*
    c. Ceramics? *yes/no*
    d. District heating? *yes/no*
    e. Other (please state)?
    f. Please explain briefly the problems experienced?

68. Would you be interested in seeing IMPEL develop any guidance on how to address any of these particular types of installation (mentioned in the previous question)? *yes/no*
    a. If 'yes', for which and what should this address?

Experience with monitoring, reporting and verification

69.
    a. For Phase I, have you taken any measures in relation to ***monitoring and reporting*** to ease the burden on small installations, e.g. lighter reporting requirements? *yes/no*
        i) If 'yes', could you please explain?
    b. Do you think that action should be taken to ease the monitoring and reporting requirements of small installations? *yes/no*
        ii) Please explain:
    c. Do you have any plans to take any such measures? *yes/no*
    d. If 'yes', could you please explain what these are and when they might be applied?

70.
    a. For Phase I, have you introduced any flexibility in relation to the ***verification*** of emissions for small installations, e.g. in relation to the requirements of the verification or frequency of site visits? *yes/no*
        i) If 'Y, could you please explain?
    b. Do you think that action should be taken to allow flexibility in relation to verification for small installations? *yes/no*
        i) Please explain:
    c. Do you have any plans to introduce any flexibility? *yes/no*
    d. If 'yes', could you please explain what this flexibility is and when it might be applied?

71. For small installations, do you consider that self-declaration could be an option instead of requiring these to be verified? *yes/no*
    a. Please explain your view:
    b. What might the implications of this be?
    c. Are there any checks that would need to be put in place to support this approach?
    d. Do you think that there would be support for such an approach (amongst

regulators, verifiers, operators, etc)?

72.
   a. For Phase I, have you introduced any flexibility in relation to ***compliance and enforcement*** for smaller installations, e.g. content and/or frequency of inspections? *yes/no*
      i) If 'yes', could you please explain?
   b. If 'no', do you think that action should be taken to increase the flexibility in relation to compliance and enforcement for small installations? *yes/no*
      i) Please explain:
   c. Do you have any plans to introduce any flexibility? *yes/no*
   d. If 'Y, could you please explain what this flexibility is and when it might be applied?

73. In relation to monitoring, reporting, verification, compliance and enforcement, if you have provided additional flexibility, e.g. guidance, reporting forms, to ease the burden of participation in the EU ETS for small installations, please provide examples of these?

Costs in relation to small installations

74. What efforts are made to minimise compliance costs for small installations, e.g. reduced charges?

75.
   a. Have you done any analysis of the cost of compliance for small installations? *yes/no*
      i) If 'yes', what were the conclusions of that analysis?
   b. Have you done any analysis of the cost-effectiveness of dealing with small installations? *yes/no*
      i) If 'yes', what were the conclusions of that analysis?
   c. If you have answered 'yes' for either of the above, could you supply a reference or the document, itself (if publicly available)?

76. Are there any further measures that you would recommend to improve cost-effectiveness in relation to small installations?

Innovative ways of addressing small installations

77. The Second Order Draft (SOD) of the Monitoring and Reporting Guidelines proposes to introduce flexibility for various requirements in relation to small installations for Phase II. These are set out, below, in the table. It was agreed that a way forward for IMPEL might be to produce guidance to support the consistent application of these before Phase II comes into operation. Could you indicate, below, for each issue:
   a. Whether you think that the flexibility is appropriate and why?
   b. Whether you think that use would be made of this in your Member State?
   c. Whether you think that guidance would be useful?
   d. Whether the development of such guidance should be a priority for IMPEL?

Means of flexibility		Insert response to question indicated
The Member State may waive the need for or reduce the frequency for site visits in the verification process	a	
	b	
	c	
	d	
Where necessary, the operator may use information as specified by the supplier of relevant measurement devices irrespective of specific use conditions to estimate the uncertainty of activity data	a	
	b	
	c	
	d	
The need of proof of compliance with the requirements regarding calibration in paragraph one of Section 11.3 of Annex I is waived	a	
	b	
	c	
	d	
The Member State may permit the use of simplified monitoring plans addressing only a selection of the requirements listed in Section 4.3 of Annex I	a	
	b	
	c	
	d	
The Member State may permit the use of simplified monitoring plans addressing only a selection of the requirements listed in Section 4.3 of Annex I	a	
	b	
	c	
	d	
Requirements regarding the accreditation against EN ISO 17025:2005 are	a	
	b	
	c	

waived if the laboratory in question: - provides conclusive evidence that it is technically competent and is able to generate technically valid results using the relevant analytical procedures and - participates annually in inter-laboratory comparisons and subsequently undertakes corrective measures if necessary	d	
Purchasing records for commercially traded fuels and materials are accepted as source of activity data without additional information on uncertainties	a	
	b	
	c	
	d	
The use of fuels or materials can be determined based on purchasing records and estimated stock exchanges without further consideration of uncertainties	a	
	b	
	c	
	d	
The annual emission report may be based in different time spans for different source streams, if necessary, if required because of the invoicing periods applied by suppliers. The deviation may amount up to 14 days	a	
	b	
	c	
	d	

78. As it stands, the EU ETS Directive allows for pooling of installations to meet the requirements of the Directive.
    a. Did you use this provision in Phase I? *yes/no*
    b. Please explain why you did/did not use pooling:
    c. If 'yes', for what types and sizes of installation?
    d. What was the rationale for this choice?
    e. Will you retain (or change) pooling for Phase II?
    f. What was your experience of using this provision (successful, problems, etc)?

79. There has been discussion about the possibility of making use of the provision on pooling to minimise the burden on small installations.
    a. Do you think that this is a valid approach (given the wording of the Directive)?
    b. How might this approach be taken forward?
    c. How might this approach be managed and by whom?
    d. How could you ensure that pooling works?
    e. Do you feel that there would be support for pooling (amongst operators, verifiers, etc)?
    f. Would you be interested to see IMPEL develop guidance and/or a tool to enable the pooling of small installations? *yes/no*
        i) Please explain:
        ii) If 'yes', what format might this take and what should it include?

80.
    a. What are your views on the setting of the de minimus in the revised (Second Order Draft) Monitoring and Reporting Guidelines?
    b. Do you think that this is appropriate for your Member State?
    c. Do you think that there is scope for a sliding scale of requirements for small installations (e.g. different requirements for really small installations)?

81. Have you taken, or are planning to take, any innovative approaches to dealing with installations that burn only biomass?

82. Do you have any more innovative ideas or plans to address small installations in Phase II? *yes/no*.
    a. If 'yes', please explain.

Annex 3 – Details of Member State accreditation bodies

Country	Title	Contact detail	Indigenous?	Independent?	Standards Working To?	Verifiers from other Member States accepted?
England and Wales	United Kingdom Accreditation Service	http://www.ukas.com	Indigenous	Independent	ISO Guide 62 EN 45011 (The verification bodies work to UKAS' CIS 5 guidance, EA-6/03, the IETA protocol, and DEFRA's Annual Verification Guidance)	Yes, but they have to be accredited by a fellow member of the European co-operation for Accreditation, and subjected to UKAS on-site audit checks in the UK
Scotland	UKAS					
Finland	The Finnish Accreditation Service, FINAS	P.O. Box 9, Tekniikantie 1, FIN-02151 Espoo 'Tel +358 10 6054 000 Fax +358 10 6054 299 www.finas.fi	The body is indigenous (Finnish national Accreditation Body)	Independent governmental agency	Using EN or ISO standards as accreditation criteria and applicable EA Guides, in this case 6/03	When a verification body in another EU country is permitted to verify without an accreditation, it can also operate in Finland (the legislation will be changed – from 2007 only accredited verifiers will be accepted. The verification body must operate in accordance with Finnish legislation including the CA:s guidance.
Netherlands	Raad voor Accreditatie (RvA)	www.rva.nl Postbus 2768, 3500 GT UTRECHT T +31 30 23 94 500 F +31 30 23 94 539	Indigenous	Independent	EA-6/03 see attached file	No, in case a verifier wnats to verify Nox emission reports than he had to be accreditated for this also
Sweden	SWEDAC	Lars. waldner@swedac.se 'www.swedac.se	Indigenous	CA	EA-6/03 SSEN 45011 'Regulations from EPA (NFS 2005:6)	
Portugal	Environment Institute (Instituto do Ambiente)	www.iambiente.pt	National body	Part of Government	National develop rules.	No foreign verifiers are for now accepted
Hungary	National Inspectorate for Environment Nature and Water	www.fofel.gov.hu	indigenous	part of CA	relevant national legislation	Yes; they have to prove that their activity is covered by some relevant liability insurance

Norway	N/A	N/A	N/A	N/A	N/A	N/A
Austria	Ministry of Environment	http://www.lebensministerium.at/en http://www.eu-emissionshandel.at gertraud.wollansky @lebensministrium.at +43 1 51522 1751	indigenous	Competent Authority; Comment: Competent Authority for issuance of permits are others (local)	Austrian ordinance for the qualification reqirements of verification bodies (BGBl. II Nr. 424 / 2004)	no
Ireland	INAB, Wilton Park House, Wilton Place, Dublin 2.	Brid Burke, www.inab.ie, brid.burke@ inab.ie, +353 1 3073003	Indigenous	Part of government.	EN 45011, EA 6/03, national guidance from the EPA (based on EA6/03)	No- verifications from foreign verifiers are witnessed by INAB
Czech Republic	Czech Institute for Accreditation (preparation phase – see above)	www.cai.cz	NO	???	EA-6/03 (in preparation phase)	NO … they have to prove knowledge of e.g. Czech law, Czech language, …(according to Czech Emission Trading law … 695/2004
Poland	Polish Centre of Accreditation	http://www.pca.gov.pl/ ul. Szczotkarska 42 01-382 Warsaw	indigenous	It was appointed by an Act of 30 sierpnia 2002 concerning Conformity assessment (Dz.U. 2004.204.2087). It is supervised by the Ministry of Economy	PCA operates in accordance with requirements specified in PN-EN ISO/IEC 17011:2005(U) Standard Conformity assessment - General requirements for accreditation bodies accrediting conformity assessment bodies.	No, they have to prove their competences as stated in "Accreditation Program for verifiers of annual GHGs emission reports"

Italy	Ministry for the Environment – DG Environmental Research and Development	Ras.verificatori-ET@minambiente.it +39 06 57228171	indigenous	competent authority	Member State guidance based on EA-6/03	Temporary accreditation, same gap analysis as Member State verifiers - see answer 17 b)
Germany	DAU - Deutsche Akkreditierungs- und Zulassungsgesellschaft für Umweltgutachter mbH, Regional Chamber of Commerce	http://www.dau-bonn-gmbh.de/, for Chambers of Commerce see http://www.dihk.de/inhalt/ihk/index.html	Indigenous	Independent	National legislation	Must be registered by DAU or Chambers of Commerce

Since 1992 IMPEL has generated almost 50 reports ranging from the Better Legislation initiative to the Reference Book on Environmental Inspections.

Reports related to Minimum Criteria for Environmental Inspections

- Guidance and recommendations relating to RMCEI
- IMPEL review initiatives
- Development of better inspection practice - Lessons learnt from accidents

Reports related to permitting, monitoring and the 6th EAP in a wider sense

- Improving best inspection practice, related to the 6th EAP
- Comparison programmes
- IPPC Directive
- Better legislation
- Transfrontier Shipment of waste
- Emission trading
- REMAS

These reports can be viewed at http://ec.europa.eu/environment/impel/reports.htm


Environment
Agency

European Union Network for
the Implementation and Enforcement
of Environmental Law

Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme

Report 2: Good Practice in Regulating Small Installations

Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law is an informal network of the environmental authorities of EU Member States, acceding and candidate countries, and Norway. The European Commission is also a member of IMPEL and shares the chairmanship of its Plenary Meetings.

The network is commonly known as the IMPEL Network

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on certain of the technical and regulatory aspects of EU environmental legislation. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. It promotes the exchange of information and experience and the development of greater consistency of approach in the implementation, application and enforcement of environmental legislation, with special emphasis on Community environmental legislation. It provides a framework for policy makers, environmental inspectors and enforcement officers to exchange ideas, and encourages the development of enforcement structures and best practices.

Information on the IMPEL Network is also available through its web site at:
http://europa.eu.int/comm/environment/impel

Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme Report 2 - Good Practice in Regulating Small Installations	Number of the report 2006/13
Project Manager:– Lesley Ormerod, Environment Agency, England and Wales **Authors:-** Catherine Bowyer Ian Skinner Institute for European Environmental Policy	Report adopted at IMPEL Plenary Meeting in Berlin, May 2007
Project Group Members *See Annex 1*	Number of Pages Report : 29 Annexes : 10

Executive Summary

Annex 1 of the Directive 2003/87 outlines the activities to be covered by the EU ETS. While the type of operation is specified, no de minimus is set for level of carbon dioxide (CO_2) emissions. This has led to a large number of smaller emitters being regulated under the scheme. Regulators are concerned about the disproportionate levels of cost experienced by operators of smaller installations and this report explores good practice in terms of reducing these burdens without compromising the integrity of the EU ETS. Good practice approaches should consider:

- methods to reduce the burden of compliance i.e. their costs;
- enable better market access, i.e. to increase the potential benefits; and
- increase their understanding of the scheme, i.e. better advice and support to facilitate the achievement of the former points.

While many Member States support the 25000t of CO2 threshold for a small installation proposed in the revised Monitoring and Reporting Guidelines (MRG), they highlight the heterogeneity of this group. This diversity must be taken into account when considering how regulation might be adapted to reduce the burden posed. A considered, common sense approach to implementation, based on the risks associated with a particular installations or sector, should be put in place.

Reducing the burden has been identified as a priority action in terms of small installations ie allowing flexible application of regulatory requirements. The primary focus of this report is, therefore, how the burden resulting from monitoring, reporting and verification requirements, can be reduced. Before taking forward action, however, it important to conduct an assessment of the costs of compliance to help inform the decision making process. Additionally, it is vital to establish with certainty exactly who is classed as a small installation. This report proposes a methodology for doing this in reliable and consistent way.

The IMPEL EU ETS working group have examined a variety of different ways of providing more flexibility to small installations. While regulators support the easing of burdens, it should be noted that there are some areas of regulation many Member States feel should not be subject to flexibility. Importantly, it was underlined that enforcement activity, in the event of non compliance, should not be relaxed.

Flexibility in terms of the verification process was also controversial and level of support among Member States was mixed. Key options for flexibility in terms of verification are: relaxing the requirement for a site visit as part of the verification process; allowing operators to 'self declare' emission levels; and the Competent Authority providing verification services. It was concluded that a good practice approach would allow the former two options, so long as an installation met a series of criteria and requirements.

Monitoring and reporting requirements under the EU ETS are presented in the MRG. In the first year many Member States implemented a variety of provisions to reduce the burden of monitoring and reporting upon small installations. In response to this the revised MRG formally allows Member States to provide flexibility for small installations in relation to specific issues. Regulators feel it is essential that these provisions are made use of, but that a 'broad brush' approach to implementation is avoided. This report, therefore, outlines how regulators feel flexibility within the revised MRG should be interpreted and applied.

Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme - Report 2 - Good Practice in Regulating Small Installations

Contents

Glossary of terms used

Competent authority:	The government department or agency designated under national law as being responsible for the implementation of the EU emissions trading Directive
Regulator:	The government department or agency that regulates installations covered by the EU emissions trading Directive

Note on the usage of 'England & Wales', 'Scotland' and 'UK' in the report:

In the United Kingdom (UK), land-based installations in the EU emissions trading scheme in England and Wales are regulated by the Environment Agency, while in Scotland, these installations are regulated by the Scottish Environmental Protection Agency (SEPA). Both the Environment Agency and SEPA are represented at IMPEL and were involved in the project on which this report was based. The regulators for Northern Ireland, the Department of the Environment, and for UK off-shore installations, an office of the Department of Trade and Industry, have not been involved in the project. In the text, therefore, the term 'UK' is not used; rather reference is made to 'England & Wales' or 'Scotland' when referring to installations regulated by either the Environment Agency or SEPA, respectively.

1 Introduction

1.1 Background to the report

This report is the second of four good practice guides produced by the IMPEL EU ETS project 'Options and proposals for consistency in the EU Emissions Trading Scheme'. The aim of the project was to review the first year of operation of the EU ETS and to develop good practice in relation to four key areas:

- Monitoring and reporting;
- Verification;
- Small installations; and
- Compliance and enforcement.

The project produced five reports – one each on good practice in relation to each of these four areas, and a fifth overview report that gives an overview of Member State practice in relation to these four areas. This report focuses on good practice in relation to regulating small installations.

The rationale for the project and methodology used can be found in the overview report[1].

1.2 Format and structure of this report

This report on small installations follows the format set out below. Its purpose is to: clearly introduce the issues arising from the inclusion of small installations in the EU ETS; inform regulators and others regarding good practice to dealing with small installations generally; and specifically to support work ongoing in terms of the revision of the monitoring and reporting guidelines for the EU ETS in order to present good practice to dealing with provisions related to small installations.

Section 2. ***Why are Small installations problematic?*** – This section concisely presents some of the key issues relating to small installations, provides the context for their inclusion in the EU ETS and defines what is considered a small installation during the rest of the report. It outlines the role of small installations and the cost of their compliance within the scheme.

Section 3. ***Addressing the Problem*** – This section presents approaches that might be utilised when dealing with small installations based on experiences during the first phase. This presents guiding principles for consideration as well as specific approaches that might be made use of, for example, to ease the burden in terms of monitoring and reporting, verification and costs. It also considers how the lack of engagement of small installations with the emissions trading market might be addressed and approaches to dealing with zero emission installations specifically those combusting biomass.

Section 4. ***Utilising flexibility in the monitoring and reporting guidelines (MRG)*** – This section presents the views of the IMPEL group in relation to how regulators might make use of the flexibility provided for in revision of the

[1] IMPEL (2006a) *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme, Report 1: Overview of Member State practice*; see http://ec.europa.eu/environment/impel/index.htm

MRG might be made use of by regulators. It considers when it might be appropriate to allow flexibility and how this might be assessed.

Section 5. ***Conclusions*** – This section pulls together the findings in the previous three sections and sets out any potential next steps.

2 Why are small installations problematic?

2.1 Small Installations in the EU ETS

Annex 1 of the Directive 2003/87[2] establishing the EU emissions trading scheme outlines the activities to be covered by the EU ETS. While the type of operation is specified, no de minimus is set for level of carbon dioxide (CO_2) emissions. This has led to a large number of smaller emitters within the scheme. According to the European Environment Agency's report on the implementation of the EU ETS by Member States[3] there are 10,078 installations reported as covered by the scheme[4]. Of these installations only seven per cent reported emissions of more than 50,000 tonnes of CO_2 per year. This seven per cent, however, is responsible for more than three quarters of the total emissions of all installations under the scheme. Meanwhile, installations emitting 10,000 tonnes of CO_2 per year or less, account for more than one third of all installations but less than one per cent of total emissions. It is often commented that permissible uncertainty around the level of emissions for some larger installations is greater than the total potential emissions of some smaller ones.

The proportion of smaller installations varies considerably between Member States, but all are concerned regarding the burden posed by including such a broad range of installations under the same scheme. Regulators have encountered specific difficulties defining the scope of small installations and how to regulate them. It should be noted that small installations as not necessarily simple to regulate. In addition, due to variability between Member States intepreation of the definition of installation, differing approaches have been adopted to deal with smaller installations.

For the purposes of this report 'small installations' will be defined as those with average emissions of less than 25,000 tonnes of CO_2 equivalent per year. This was selected to be consistent with the definition used within the revised MRG[5]. Within their questionnaire responses regulators generally supported the MRG approach to the definition of a small installation. It should be noted, however, that some were concerned, given the nature of installations in their country, a lower threshold might have been better.

In their questionnaire responses Member States reported between 20 per cent and 85 per cent of all installations being classified as small installations based on the MRG definition. The mean average of the figures provided is, approximately, 58 percent of installations emitting less than 25,000 tonnes of CO_2[6]. This 58 per cent represents predominantly combustion, ceramics, pulp and paper and glass installations[7].

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[2] Directive 2003/87/EC on Establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Council Directive 96/61/EC (OJ L275, 25.2.03)

[3] European Environment Agency, Technical Report No2/2006, Application of the emissions trading directive by EU Member States, 2006, http://reports.eea.europa.eu/technical_report_2006_2/en/technicalreport_2_2006.pdf

[4] It should be noted that this figure is based on figures from 23 Member States which have submitted numbers in the first round of reporting under the scheme

[5] The monitoring and reporting guidelines were adopted by the Commission in 2004, but following activity in the first year are being amended in time for the second phase of the EU ETS.

[6] It should be noted that this is based on figures from eight Member States

[7] See overview report for more a detailed breakdown of figures

2.2 Role of Small Installations in the EU ETS

The level of small installation activity, and consequently their opinion regarding the benefit of the scheme, varies between and within Member States. There have been substantial problems in terms of engaging small installations. Many Member States report that operators within this class see the EU ETS as a burden. This is particularly acute in the cases of installations burning biofuels who receive no allowances under the scheme but are still required to monitor and report their emissions (see section 3.4). It should be noted, however, that in some countries small installations have been active and there has was a great deal of interest especially in the allocation of allowances.

Small installation's high compliance costs and perceived lack of ability to engage in the EU ETS could potentially mean that the scheme will fail to encourage this sector to change its behaviour and reduce its climate impact. Work in the UK has shown that the cost of energy is still the primary driver for increasing energy efficiency among smaller emitters. It was commented that most operators within this bracket have no strategy when it comes to responding to short terms price changes, such as those that can result from the operation of the carbon market.

Given that small installations are now regulated by the EU ETS it may be practical for them to remain part of the system. To enable the effective functioning of the EU ETS and maintain support for this tool, however, it is considered good practice to develop specific approaches for dealing with this problematic grouping.. These good practices should include:

- methods to reduce the burden of compliance i.e. their costs;
- enable better market access, i.e. to increase the potential benefits; and
- increase their understanding of the scheme, i.e. better advice and support to facilitate the achievement of the former points.

Several approaches intended to help achieve these objectives are explored in sections 3 and 4.

Box 1 presents examples of particular problems encounters in relation to small installations and solutions developed by a Member State. Further information regarding particular problems associated with small installations is presented in the overview report.

Box 1 – Examples from Hungary of problems encountered in relation to small installations in specific sectors

1. **Ceramic sector**

In the case of Hungarian brickyards, generally the Competent Authority specified in the permit that the composition of clay, as well as its organic content, should be measures in a lab – responding to Commission Decision 2004/156, point 10. Additionally, control checks were required in an ISO 17025 accredited lab four times per year

Problems:

a. When assessing the total CO_2-emissions some brickyards didn't add emissions from clay's organic carbon content to the total claiming it's a biomass emission or just did not take them into account. Emission reports were submitted by the verifier with out comments picking this up on these points.
b. some installations didn't deliver four control checks in ISO labs claiming the same clay had been used from one dumpsite during the whole year.

Action had been / to be taken:

a. CA collected information on TOC (total organic carbon) and corrected emission figures including the emission from clay's organic carbon content.
b. Permits are being revised to include lab measured TOC instead of "organic carbon content" in order to avoid further misunderstandings
c. In the revised MRG the emissions of clay's organic carbon content will be detailed making a clear calculation formula available

2. Glass sector

For one specific installation there were problems encountered in terms of determining its boundary. The installation conducts two types of activity glass production and lamp production. The latter involves the use of an emission source called a melting-furnace for glass. The permit and monitoring and reporting plan list only the production of glass as a CO_2-emitting activity despite the furnace.

Problem:

The interpretation of the boundary of glass installation was not clear enough. Most of the glass installations took into account only the emission related to the melting, and left out the combustion emission from glass product production. One verifier took into account the other did not, though the two production activities are technically connected.

Action had been / to be taken:

The CA has taken the decision to include glass product production in the installation definition and to order the installation to report the combustion emissions from that process too from 2008.

2.3 Cost of Compliance

The cost of small installation compliance was a concern raised repeatedly in discussions with regulators. Only a handful of Member States have, however, conducted assessments of the cost of compliance for this group; such assessments are useful to understand the impact of the scheme and inform further action. Box 2 provides details of the different cost studies completed by Member States. The studies support the conclusion that compliance costs are relatively higher for small installations within the EU ETS. The results also demonstrate how these studies can be utilised to enable a better targeted approach to dealing with small installations in future. Good practices emerging from the studies to date include:

- the inclusion of solutions as well as problems to enable the studies to be actively used informing the future improvement of the scheme and helping target actions:
- the presentation of conclusions in terms of allowances i.e. a relevant unit, to aid interpretation and communication of results and
- identification of not only the costs installations are being asked to deal with but also the ones they are not, i.e. the burden that the regulator is absorbing for them, giving a true function of costs

Box 2 – Details of cost compliance assessments completed by Member States This	Probably small costs Probably small costs Reporting 200 €/year 200 €/year Verifying 1000 - 2000 € / year 1000 - 2000 € /

box presents the different approaches to assessing compliance costs under the scheme. It demonstrates how Member States have categorise	year **Total annual costs 2100 - 5000 € (Phase I) 1400 - 2600 € (Phase II)** When calculating the costs Sweden assumed that staff related costs

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interpretation of the impact of the scheme on small installations. *UK* - The UK analysis found that costs are significantly higher for small emi	itoring. It should be noted that operators are not charged for permits and must absorb only their own operating costs. *Czech Republic* – W

tte rs an d co nc lu de d th at fur th er co nsi de rat io n sh ou ld be gi ve n to th e le ve l of su bsi ste nc e fe es for sm all e mi tte rs an d th e de ve lo p m en t of IT	or k on co sts in th e Cz ec h Re pu bli c ha s id en tifi ed th at an ins tal lat io n w ou ld ne ed to ha ve at lea st 50 0 all o wa nc es pe r ye ar to co ve r th e co sts of th

systems. It also supported the maintaining of helpdesks throughout Phase I and beyond to ensure that expert guidance is available. Additionally,	e EU ETS. This method of presenting costs, i.e. in terms of the allowances, is considered to be innovative and a potential good practice appr

it found that if emitters with less than 10,000 tonnes of CO_2 annually were removed from the scheme, the administrative burden would drop sig	oach as it makes clear the potential benefit of reducing emissions and deals with the currency of the scheme. In Ireland and Austria studies on

nificantly, whereas the impact on the overall reduction potential would be negligible. *Sweden* - In Sweden, an attempt has been made to mea	costs are underway, but conclusions were not available at the time of writing.

sure the administrative costs for the opt-in installations ie boilers with a rated thermal input less than 20 MW connected to a district heating networ	

k wi th a tot al th er m al in pu t of m or e th an 20 M W . Re sul ts, pu bli sh ed in A pri l 20 05 est im ate d th e co sts to be as fol lo ws **Ph as e I Ph as e II** A	

pplication for permit 200 – 400 € (phase I) 0 (phase II) Application for allocation 200 € 200 € Notifications regarding changes in activities or	

new operator 0-200 €/year 0-200 € /year Monitoring Probably small costs Probably small costs QA/QC 500 - 2000 € Probably small costs Noti	

fications regarding changed monitoring methods.	

3 Minimising costs and maximising benefit

This and the subsequent section present specific approaches to maximise benefits and decreasing the costs to small installations of being in the scheme; consequently potentially increasing emissions reductions. Specifically this section presents Member State experiences in phase I, drawing conclusions on practice and how this might be improved.

In the first year of the EU ETS Member States have employed a variety of methods to help reduce the burden the scheme places upon small installations, throughout the regulatory chain.

3.1 Defining a Small Installation and When Flexibility is Appropriate

The threshold of 25,000 tonnes of CO_2 equivalent for the classification of small installations has been set out in revised MRG. Many Member States, while supportive of the threshold, are concerned that there is still a great deal of variability in terms of types of installation and levels of emissions within this categorisation. Any good practice approach to dealing with small installations must in some way make provision for this diversity. For example while this group will include truly minor sources, other installations will fall on or near the upper limit. Additionally, small installations vary in terms of their complexity. When an installations is complex this may inhibit the regulator ability to apply flexibility due to the levels of uncertainty involved.

Subsequent sections consider what flexibility might be made use of for small installations. There is, however, considered to be a need to ensure that installations, especially those on or near the 25,000 tonne upper bound, truly qualify for this specialist treatment. It is, therefore, proposed that for an installation to be treated as small its emissions must fall below the emission threshold for the current and two proceeding years i.e. for three consecutive years. This should avoid the misclassification of installations.

It should be noted that there is some debate between Member States regarding how far flexibility should be allowed for small installations. There are concerns that if an installation is within the scheme but operating under relaxed conditions this may undermine the integrity of the trading system and the value of credits from smaller installations. Therefore, with all the measures, the good practice approach is to allow flexibility in order to reduce costs, but not to a point that this undermines confidence in the regulation of small installations, i.e. the quality and reliability of the process itself should not be undermined. This is a particular concern for some when considering the use of flexibility, outlined below, in terms of monitoring and reporting and verification. Some felt that systems can be simplified to reduce costs, but the specification of a process should not be altered substantially.

It is, therefore, considered good practice that flexibility should not be applied across the board. Regulators should apply a common sense, risk based approach to deciding if and what flexibility should be made use of for a particular installation . This should consider, inter alia:

- the level of emissions from the installation in the context of its sector and the emission profile of the Member State in general;
- the type of flexibility being considered;
- the likelihood of an installation failing to comply with requirements; and
- the complexity of the installation, i.e. whether a simplified approach is practicable in terms of dealing with an installation.

Other factors may also be important, dependent on the regulatory system and the type of flexibility under consideration. For example when considering any flexibility in terms of verification procedures, a risk analysis conducted by the verifier themselves, and their assessment of what is acceptable risk, will be an important consideration.

Compliance and enforcement is an area where many Member States believe that there should be no flexibility applied for small installations. Although, in practical terms resource constraints may limit the ability of regulators to pursue all enforcement cases, many felt that flexibility for small installations should not be specifically applied. Flexibility should focus on how an operator demonstrates that they have complied e.g by limiting reporting requirements, but not how they are dealt with once an act of non compliance has been detected.

3.1.1 Monitoring and Reporting

The monitoring and reporting requirements under the scheme have proved problematic for some small installations. As outlined in Section 4, this is a key area where action is being taken Europe wide in an attempt to minimise future burden upon small installations via the revision of the MRG. In the first year of operation, prior to the potential for flexibility allowed in these recent revisions, a high proportion of Member States reported taking the initiative including allowing the following:

- a ‘lighter touch’ approach in the UK in relation to the highest tier defaults for monitoring methodologies, as justified by reasonable technical feasibility and unreasonable cost considerations;
- Finland’s innovative use of IT solutions eased the burden especially for installations with no emissions to report e.g for biomass;

- both Sweden and Austria made use of 'energy balance' methods to monitor the activity of biomass and tier 1 small installations;
- in the Czech Republic, small installations were allowed to suggest their own methodology for calculating the carbon balance processes, this was then approved by the Competent Authority.

In addition it was commented that an alternative to flexibility would be to maintain standards but encourage small installations to improve through training and the development of IT tools allowing the burden to be reduced.

3.1.2 Flexibility and Verification

There is fervent debate about the use of flexibility in terms of verification for small installations and the regulators role versus the verifier in defining this. Verification is felt to represent a considerable expense for small operators; in the first year of trading several Member States have made use of flexibility in an attempt to reduce this cost. The majority of Member States commented in the questionnaire that they feel that there is a need for flexibility in relation to the verification of small installations, but it is vital this does not compromise verification as a process. It was also commented, however, that flexibility may reduce the incentive for small installations to improve their management of the scheme. Key options for flexibility relate to: the requirement for a site visit as part of the verification process – see Section 4.2 which discusses the pros and cons to this approach; the ability to 'self declare' emission levels; and the Competent Authority providing verification services.

Self declaration i.e. when an installation puts forward a statement on the level of emissions for that year without a verifier checking and confirming it. This is a controversial mechanism for potentially reducing costs. Some Member States have commented that they may potentially consider this approach in the future. Importantly, however, it was felt that if such a system is adopted there must be checks and caveats put in place to ensure the quality of the data. Some important considerations that a good practice approach should include are, inter alia:

- that if such an approach is taken forward it must not undermine the verification process overall or the verification bodies;
- that the operator of the installation is considered to have the appropriate knowledge in order to produce a potentially complex and technical report;
- that such a process will not lead to issues of conflict between operators e.g rivals from the same peer group disputing emission levels and that procedures are put in place to deal with any conflict that might arise;
- that a clear and robust assessment process is put in place by the regulator in order to assess emissions from self declaring installations;
- that adequate resources are available to allow the regulator to deal with the increase in burden that may result from the large scale adoption of such an approach;
- that periodic verification i.e. less than every year, is still conducted to provide a quality assurance process and to ensure that the self declaration process is resulting in accurate emission reports; and
- in the event that any verification process were to highlight under reporting there must be a mechanism in place to ensure that the operator then surrenders sufficient allowances to cover the under reporting. This ensures that operators are incentivised to be accurate in their unverified submissions.

It was felt that while the small installations themselves may be supportive of such an approach verifiers would not view this as favourably. It should be noted that some Member States have considerable concerns regarding the adoption of a self declaration approach feeling that the third party verification process is essential to the credibility of the EU ETS.

In some limited instances, during the first year of the EU ETS's operation, *Competent Authorities have acted as the verification body*. Norway specifically has taken the approach of having the Pollution Control Authority (PCA) act as verifier[8]. It should be noted that this was felt to be highly burdensome for the regulator, especially in relation to complex, larger installations. It was, however, considered to offer small installations an advantage in terms of reducing the economic burden. It should be noted that in future Norway is considering limiting verification by the PCA to only smaller installations.

3.1.3 Efficiency Gains and Reducing Costs

Increased efficiency through improved regulatory systems is seen by Member States as key to reducing the costs of compliance. .Many regulators see the development of effective and simple to use IT systems as fundamental to increasing efficiency. Improved IT capability would be of benefit to all operators under the EU ETS including smaller installations. The proportionate gain for small installations, however, is potentially greater given the high level of cost faced, compared to the potential benefit i.e. in the form of emission allowances. While developing IT systems, however, the needs of small installations need to a born in mind. It should also be noted that such systems must be accompanied by other forms of support in order to facilitate small emitter engagement i.e. it should not be assumed that just because a simple system is available it will be used.

A further way of improving efficiency is to actively help to increase the level of understanding amongst small installations regarding how best to make use of systems. Many Member States have provided active help facilities for installations in order to offer advice and training for operators. The maintenance of a help desk for use by operators was a key action identified as being beneficial in work assessing compliance costs in the UK. It is considered good practice to make available resources to provide support for operators, particularly small installations. Options include email based systems, frequently asked questions and answers, web based resources, telephone helpdesks/clear points of contact and specific training/support programmes.

Some Member States charge operators, at least in part, for the work incurred by the Competent Authority for the issuance of permits under the EU ETS etc. The legislative basis upon which these charges are based varies considerably across Member States. Some regulators have the flexibility to allow lower fees for small installations, despite administrative effort not being equally limited.

3.2 Increasing Small Installation Access to the Market

[8] Although not a Member State of the European Union Norway attended the meetings and answered the questionnaire given that they are also conducting a trading scheme.

Small installations, by their very nature, tend to be less engaged in the emission trading market place than their larger counterparts. This is partly due to the relatively lower levels of emission allowances they have at their disposal to trade. These lower levels often mean that there is more limited in-house expertise in terms of understanding the trading procedures etc. In addition several regulators have reported instances where brokers are less interested in dealing with these lower emitters due to the relatively small quantities of allowances that they may be able to trade. Regulators are keen that if small installations are to be included in the EU ETS they are able to take an active part. The benefit of the trading mechanism is only realised if installations trade and are driven by the incentives that this might bring to reduce emissions. One mechanism provided for within the emissions trading Directive is the pooling of installations; other solutions proposed include developing networks of brokers specifically willing to work with small installations.

3.2.1 Pooling – an opportunity or burden?

Under the emissions trading Directive operators are permitted to form pools of installations. Pools should be set up for a particular phase of the scheme and must consist of installations conducting the same activity. Operators wishing to form a pool must apply to the competent authority specifying those to be incorporated and the period of coverage. A key feature of these formal pools is that a trustee is nominated by the pool members. It is then the trustee who is issued with the total quantity of allowances for the pool, is responsible for their surrender and liable for penalties if they fail to surrender sufficient allowances for the total emissions of the pool. Applications for the establishment of a pool must be submitted by Member States to the European Commission.

As illustrated above, pooling represents a very formal grouping system, whereby installations are linked together and a responsible third party is engaged. Pooling potentially offers an opportunity for bringing together small installations in order to increase their access to the market and reduce the burdens experienced. In the first year of trading pooling was undertaken in both Portugal and Hungary. Experience from these two Member States suggests, however, that this formal pooling process is perhaps not an effective solution. Neither regulator saw any particular added value from the process; both consider that additional paperwork and bureaucracy actually resulted. Due to the formal trustee role pools in phase one tended to be established by trade associations. In addition, while pooling might deal with issues surrounding trading it does not simplify monitoring or verification processes - a key area of burden for small installations.

In conclusion, it is considered that there are better options for dealing with the problems faced by and needs of small installations than pooling. The association of different operators together in order to share resources and expertise is important for raising the profile of small installations within the scheme. It is felt, however, that a more flexible arrangement between participants, rather than the rigid approach of formal pooling, would be preferable. For example operators within the paper industry in Portugal have ‘associated’ i.e. worked together, in order to draw up a verifier contract, reducing the resources required by each individual operator. These informal agreements are possible without the additional administrative burden posed by pooling. They can be created on an ad hoc basis allowing operators to address the

issues that concern them most, rather than focusing on the management and surrender of allowances.

Association into groups is certainly beneficial for operators; the role of the regulator is, however, limited in relation to the set up and operation of such arrangements. This is primarily a mechanism to allow installations to more efficiently take part in the scheme. It is considered good practice that such arrangements exist, and that their existence would significantly aid small installations. The regulator has a role in terms of educating appropriate operators in relation to the potential benefits of such associations, i.e. reduced costs and higher potential engagement in the scheme. Such an approach can be suggested in training and guidance for small installations. The potential benefits of small installations acting in this way could also be highlighted to brokers, so that they might also encourage the setting up of such systems.

3.3 Zero Emission Installations – the Question of Biomass

As stated in section 2.1, the design of the EU ETS means that even very low emission installations are included. Importantly, the definitions outlined in Annex I of the Directive also cover zero-rated CO_2 emission combustion plant i.e. pure biomass installations. This has resulted in a burden for regulators and operators with no potential gain in terms of emission reductions. Pure biomass installations have no way of benefiting from the scheme as they receive no allowances. They must, however, still undertake actions inter alia monitoring and reporting, verification. It should be noted that some Member States have adopted simplified approaches to dealing with biomass-only plants, for example, in Sweden, an energy balance approach is used for monitoring.

It is felt that the inclusion of pure biomass combustion plants within the system represents an anomaly that undermines the premise of the EU ETS, i.e. to reduce emissions of CO_2. The IMPEL EU ETS group considers that a good practice solution would be to exclude pure biomass combustion plants from the EU ETS. While it is acknowledged that perhaps other fuel maybe used to start and stop furnaces, this is felt to represent a tiny source and it is not practical to buy allowances for such small emission levels, i.e. buying perhaps one or two tonnes. Were an installation to commence burning a fuel other than biomass they would have to be reintroduced to the scheme and a mechanism for monitoring this would have to be developed.

4 Utilising flexibility in the monitoring and reporting guidelines

4.1 What opportunities does the Monitoring and Reporting Guidelines offer?

As noted above, the MRG was adopted by the European Commission to support the implementation of the EU ETS. The MRG responds to requirements under Article 14 of the Directive, which also state that Member States shall ensure that emissions are monitored in accordance with the MRG, making them legally binding. Following the first year of trading the Commission undertook to review the original MRG, adopted in January 2004. This revision built on experiences during the first year of trading in order to produce renewed guidelines before the commencement of phase II in January 2008.

A key amendment to the MRG[9] is that flexibility will be permitted in relation to specific aspects of monitoring and reporting for small installations. The IMPEL group considers this to be an important development in terms of more efficiently dealing with small installations under the emissions trading system. A key element of work by the group on small installations has been to:

- examine and review the forms of flexibility put forward;
- establish whether or not these are considered appropriate and useful; and
- develop what are considered good practice approaches to applying this flexibility while ensuring that the integrity of the scheme is maintained.

This section presents the different mechanisms for flexibility put forward, and potential approaches for their application.

4.2 Frequency of Site Visit as Part of Verification

As outlined in section 3.2.2, flexibility in relation to verification is a divisive issue. According to the revised MRG '*Member States may waive the mandatory need for annual site visits by the verifier in the verification process and let the verifier take the decision based on the results of his risk analysis'*. During the first year of trading a limited number of Member States have applied such an approach to small installations. For example, Sweden has waived the site visit requirements for opt-in district heating installations specifically when installations were part of the same system and run by the same operator,[10] i.e. providing flexibility for a specific sector that was finding requirements especially problematic. The Swedes have also exempted verifiers from visiting installations emitting less than 55 tonnes of CO_2 equivalent per year. In Finland, following the first round of verification, the verifier is no longer required to visit small installations every year. Meanwhile, the UK has been operating provisions on a case by case basis, whereby verifiers are allowed not to complete a site visit for particular low risk installations – thus far only 3 installations have been exempted from site visit requirements.

Many Member States consider that they will make use of the provision to reduce or waive the need for site visits, but that it would be inappropriate to apply this across the board i.e. having blanket provisions for all installations emitting less than 25,000 tonnes of CO_2 equivalent. There were particular concerns regarding installations

[9] Draft of European Commission's Decision on Monitoring and Reporting Guidelines: Two

[10] It should be noted that in the case of Sweden, district heating installations were defined very specifically with all boilers dealt with separately – see the summary report for further details on practice.

whose emissions are just below the threshold permissible for small installation, that are complex or where there is a potentially higher risk of uncertain emission levels or reliability of data. It important to have an intelligent and proactive approach to this provision, therefore, allowing different types of installation to be distinguished. For higher emitting installations it is vital that the considerations in section 3.1 built are into any approach.

Good practice in terms of the implementation of this provision is considered to be that a set of criteria should be used in order to decide whether waiving site visit requirements is appropriate – criteria for this purpose are presented in box 3. These criteria are designed for use following the first year of verification, i.e. the first round of verification allows a baseline to be established from which assessments of risk and appropriateness can be made. The verifier has an important role to play during this decision making process, and should be actively engaged during such an assessment. Verifiers conduct detailed risk assessments of their own for installations and will still have to sign off that they are happy with an installation's emissions report despite not conducting a visit. Relaxed requirements for site visits must, therefore, only be applied if both the regulator and verifier are satisfied that the risk is acceptable.

Box 3 – Criteria to aid understanding as to whether waiving or reducing site visit requirements is appropriate

- Complexity of the installation – simple, one emission source installations may be more appropriate for consideration
- Type of installation - the emissions from the site are largely predictable – i.e. relatively steady operation, or according to predictable periods of activity.
- Outcome of any verifier risk assessment and assessment of liability – the verifier must have some previous first hand knowledge of the installation, the regulator must be satisfied that the operator can supply suitable evidence to the verifier in lieu of the visit
- Risk of operator failing to surrender the correct level of allowances
- Confidence in the quality of monitoring systems, based on the first year of verification – that there has been no notification of material changes to the installations since the previous visit
- Complexity of the monitoring plan – for example if this can be based on bills from raw material suppliers e.g gas
- Level of emissions
- The potential benefit of a site visit to that installation – it should be noted that site visits are, ironically, often highly valuable for small installations because of their potentially more limited resources within the remainder of the chain i.e. they have in the first phase picked up lots of non material issues to be improved
- There are no outstanding improvements due on the installation within the time period in question. Improvements which have been proposed and accepted by the regulator but which are not yet due, are not relevant for the purposes of this consideration.

Annex 1 presents an example of a procedure that could be utilised in order to implement these provisions. The above criteria should be implemented as part of a broader process to ensure that they are appropriately implemented and the needs of the verifier are fully taken into consideration. This process must be clearly and transparently set out in order to ensure that verifier, operators and regulators are aware of needs and requirements.

It should be noted that England and Wales have now granted deferment of the need from a verifier visit for 2006 for a total of 8 sites (a further application must be made for future years). These installations are typically small, simple, some are unmanned and data is assessed at a central location. A declaration from these operators has been received stating that nothing has changed since the previous verification visit and the operator will supply photographic evidence to the verifier at year-end showing meter readings and zero numbers etc.

4.3 Measurement Equipment – Calibration/Supplier Information

According to the revised MRG '*Member States may waive the need of proof of compliance with the requirements regarding calibration in section 10.3.2'.* Many regulators were concerned by the wording of this clause feeling that it was somewhat confusing and vague; although the requirement for proof is removed the need to comply is not. As a result you have a requirement with no mechanism for proving compliance.

After consultation with expert parties the group concluded that the following interpretation of this requirement is appropriate. That the clause is not intended to remove the calibration requirement overall, but does suggest the removal of the need for operators to produce proof. While this remains vague the IMPEL group feels it should be considered in the broader sprit of the revisions of the MRG ie that these amendments are intended to reduce unnecessary burden upon small installations while maintaining the integrity of the scheme. Bearing this in mind several IMPEL group members have suggested that instead of removing all need for proof, the need for proof additional to supplier specification and calibration information should be waived. Importantly the clause applies specifically to proof of calibration for measurement instruments. Other requirements laid down in 10.3.2 ie the obligation to take remedial action when equipment is found not to conform to requirements should remain in place for small installations.

Views were split, however, over the appropriateness of making use of this provision. Support for this clause was justified by several regulators commenting that small installations have few measuring devices and that a rough estimate of the error should be enough for the purposes of the EU ETS, specifically in relation to this grouping. Others, while supporting the use of this means of flexibility were cautious considering that there is much variability in terms of installations classed as small. For some installations this may be appropriate, but for others i.e. which are more complex or near to the emissions threshold, it would not. Others felt that calibration at regular intervals is essential and that measurement devices must be 'fit for purpose' irrespective of the installation's status. In conclusion, therefore, it is considered that, as with other clauses, this should not be used across the board but considered in the context of the broader monitoring and reporting needs and requirements of an installation.

4.4 Supplier information

Calculating uncertainty is one of the most difficult aspects of successfully implementing the EU ETS. A lack of measurement devices and the unfamiliarity with uncertainty analysis have been cited by regulators as specific difficulties for small installations. The revised MRG states that '*Where necessary, the operator may use information as specified by the supplier of relevant measurement instruments irrespective of specific use conditions to estimate the uncertainty of activity data'*. This provision is intended to help simplify the process where by small installations calculate uncertainty. Regulators were again split regarding the appropriateness of making use of this provision. It was noted that some Member States already operate a similar procedure, although on a limited basis. It was generally felt that guidance from this group was not required to help interpret this provision, although a common sense approach should be taken to its application.

4.5 Use of materials

The use of materials and purchasing records in order to reduce the demands of an uncertainty analysis is also possible under the revised MRG. It is stated that '*the use of fuels or materials can be determined based on purchasing records and estimated stock changes without further consideration of uncertainties'*. Member States felt that this was an area where the revised MRG provides a real opportunity to simplify systems and that this is an important amendment. Several regulators have already made use of such flexibility in year one for example: gas bills have been used for a university rather than having to monitor every one of 300 meters for halls of residents. Box 4 provides a short example of the use of bills to monitor emissions in the Hungary's natural gas sector and in the UK; Annex 2 provides detailed analysis of the Portuguese experiences of using materials based monitoring and the pitfalls to be avoided.

As with all considerations the materials approach needs to be applied in an appropriate manner. This provision, therefore, should only be made use of at small installations where the fuel or raw materials used are such that the calculations are considered to be a reliable baseline i.e. the amount of a fuel or raw material used is directly proportionate to emissions and can be reliably assessed. Regulators underlined that this provision should not be applied for installations above the 25,000 tonne CO2 threshold.

The IMPEL EU ETS Group felt that when applying this method of flexibility there are two fundamental rules:

- that the materials are from a source known to be reputable; and
- that this supplier has a calibration certificate i.e. to the amount of resource used to be accurately assessed.

This approach is considered to be useful for small installations but specifically where a small amount of a certain fuel is being used. It is felt to be particularly appropriate for installations using liquid fuels.

A key difficulty in terms of this approach is when companies hold stocks of materials; hence the fuel delivered does not necessarily represent the quantity used. In these cases the level of stock must be estimated in order to provide an accurate figure as to the amount of fuel burnt and the emissions produced. In cases where stock estimation forms part of a materials approach the regulator must have confidence in those tasked with this responsibility. There should also be clear procedures set out in the monitoring plan to identify who is responsible for monitoring stock and the processes to be used. When operators hold stocks of fuel etc a two step process must be undertaken in order to develop a materials based assessment i.e. the amount of fuel brought in must be assessed for example using bills, then the amount of stock remaining must be calculated e.g in the case of propane by weighing half used cylinders and adding this to the number of unused cylinders.

Box 4 – Case study examples of the use of bills and supplier information for monitoring

Hungary - use of bills in monitoring emissions from the natural gas sector
In all the installations whose emissions are under 500 kilotons of CO_2, the monitoring and reporting methodology of natural gas combustions was set based on measuring default net caloric value (NCV), emission and oxidation factors. In 2005, these installations proved their natural gas consumption with purchase records and gas bills provided of MOL Hungarian Oil and Gas Plc. The supplier also provided data on carbon content, so the emission value can be easily defined.

England and Wales – identifying use of bills and supplier information
The Environment Agency for England and Wales have just carried out a relatively small survey of Category A installations (defined in the MRG as so those emitting <50 kt per year), this has shown that around 20% of operators have proposed , and have been allowed, to use supplier's notes for minor or major sources. These supplier's notes are for supply of liquid or solid fuels (which are calibrated for charging purposes). Operators are asked to provide suppliers calibration certificates but these have not always been readily available to operators. In the case of liquid fuels operators have been asked to dip the tanks to confirm current stock levels (if no gauge is available); dipping information is also accepted for year start and year-end. In order to ensure the quality of this process the Agency needs to see that appropriate procedures are in place and that dipsticks are numbered/calibrated etc.

Fuel bills have also been accepted where there are large numbers of boilers that are individually metered, calibration would be unduly onerous. The operator does have to show to the satisfaction of the verifier/ourselves how the bills relate to the sources in question. Fuel bills have also been accepted where installations have been closed down and demolished before we have been made aware. Suppliers data has also been allowed for deliveries of propane (by bulk, or by canister).

4.6 Simplified monitoring requirements

Monitoring plans represent a key tool for ensuring the quality of regulation under the EU ETS. The revised MRG suggests that *'Member States may permit the use of simplified monitoring plans'*. Many Member States have commented that they have already attempted to make monitoring plan requirements as simple as possible; as a consequence there are limited opportunities to provide for further simplification. Some have already attempted to simplify plans for smaller emitters, for example, the UK has attempted to write plans in the least onerous way including the grouping of sources, e.g if an installation has multiple small meters but one bigger one up stream, a simplified plan is used.

In applying this provision there were concerns expressed that small installations are not necessarily technically simple installations, and often the opposite rule applies. As a consequence a degree of judgment is needed when considering whether it is appropriate to simplify requirements or even feasible to do so. In the Netherlands, an alternative approach has been to produce a simplified monitoring plan structure for simple installations. Meanwhile in the German Länder of Hesse a simplified monitoring plan has been developed for ceramics installations to deal with very small emitters within this sector. This plan includes consideration of raw materials and factors to utilised.

In conclusion, the application of this provision should be done on a 'common sense' basis, taking into consideration the complexity of the installation itself. Where possible regulators can develop simplified templates to address particular problem

areas/sectors, but the extent to which real additional progress can be made may be limited given the level of action already being taken.

Member States may permit the use of lower tier approaches (with. tier 1 as minimum level) for all source streams and relevant variables. This provision was not discussed in the questionnaire or at the workshop however it could be used on a case by case basis, with each case considered based upon its own merits. Operators should be able to justify this on cost or technical feasibility grounds Careful consideration should be taken especially in relation to complex installations or those emitting levels of emissions which mean they are at the upper end of this categorisation.

4.7 Requirements for Sampling

Under the original monitoring requirements of the EU ETS, samples had to be analysed by laboratories with ISO 17025 accreditation. This may seem like a relatively simple requirement; there are, however, few laboratories with this accreditation in many of the Member States. In some countries no such laboratories exist and samples must be shipped to accredited premises in other Member States, e.g in the case of Ireland. This has lead to a great deal of difficulty in terms of analysis.

The revised MRG would *waive the requirement for ISO 17025 accreditation for small installations*, provided that the laboratory in question:

> *- provides conclusive evidence that it is technically competent and is able to generate technically valid results using the relevant analytical procedures and*
> *- participates annually in inter-laboratory comparisons and subsequently undertakes corrective measures if necessary*.

Many Member States reported that they would make use of this provision. A good practice approach to making use of this would require that quality standards are maintained but without developing a new accreditation approach. In addition to the caveats proposed by the Commission, the IMPEL EU ETS Group members consider that alternative laboratories must be known to the competent authority – so that they are aware of the quality standards in place. The IMPEL group believes that each Member State should select an appropriate national standard they consider acceptable for laboratories analysing samples from small installations. The standard and laboratories operating to this should be clearly communicated to the operators of small installations to ensure effective use is made of this provision.

In addition to outlining alternatives for laboratories, Member States also highlighted that the simplification of sampling regimes for small installations should be considered more broadly when trying to develop a more cost effective system. Experience has shown that sampling requirements should be specific and made explicit for small installations. It was commented that the inclusion of wording such as ‘representative sampling’ in the original MRG had been a mistake. It was also highlighted that, while in theory procedures should be set out in the monitoring and reporting plan for small installations these have often not been written down. It should be noted that a higher degree of detail is often needed from these operators as they have not previously been covered by such regulatory measures. This level of detailed regulation is often quite new to the operators within this grouping.

5 Summary and Conclusions

Regulators are concerned about the disproportionate costs of the EU ETS upon smaller installations. There is a need to reduce the administrative burdens placed upon this subset of operators, and as the EU ETS moves forward ensure the needs of small installations are consider in the design of regulatory systems.

While many Member States are supportive of the 25000t of CO2 threshold proposed in the revised Monitoring and Reporting Guidelines (MRG) for small installations, they highlight the heterogeneity of this group. Installations falling below this threshold vary significantly in terms of total emission levels, uncertainty of emissions levels, complexity, operation type and the risk they pose. This diversity must be taken into account when considering how regulation might be adapted to reduce the burden posed. Member States support the idea of greater flexibility in terms of the regulation of small installations, but they do not support its broad brush application. A considered, common sense approach to implementation based on the risks associated with a particular installation or sector is considered good practice. This should take into consideration:

- the level of emissions from the installation in the context of its sector and the emission profile of the Member State in general;
- the type of flexibility being considered;
- the likelihood of an installation failing to comply with requirements; and
- the complexity of the installation, i.e. whether a simplified approach is practicable in terms of dealing with an installation.

Member States have identified three mechanisms for reducing the relative costs faced by small installations. Good practice approaches should take account of all of these:

- methods to reduce the burden of compliance i.e. their costs;
- enabling better market access, i.e. to increase the potential benefits; and
- increasing small installation understanding of the scheme and improving communication methods i.e. better advice and support to facilitate the achievement of the former points.

Specifically to reduce costs to the bioenergy sector, Member States feel that installations combusting primarily biomass should be excluded from the scheme. There would obviously have to be a mechanism by which these installations where reincorporated into the scheme, if they shift to burning other fuel types.

In order to take forward action on small installations it is considered good practice to conduct an assessment of the costs of compliance. Prior to the application of any flexibility it is also important to establish with certainty exactly who is classed as a small installation. Several Member States were concerned about installations that sit close to the 25000t threshold, and how to judge whether or not they are a small installation in a consistent manner. One good practice approach to this is to consider not only the current year's emissions but also those from the two previous years. If all three year's emissions are below the threshold then an installation can be considered small.

Reducing the burden has been identified as a priority action in terms of small installations, hence the emphasis placed within this report. It should be noted,

however, that there are some areas of regulation that many Member States feel should not be subject to flexibility. Importantly, it was underlined that enforcement activity, in the event of non compliance, should not be relaxed.

Flexibility in terms of the verification process was also controversial. Verification is important in terms of ensuring accuracy of reporting under the scheme and that appropriate numbers of emission allowances are surrendered. Some Member States supported flexibility in terms of verification while others did not. Key options for flexibility relate to: relaxing the requirement for a site visit as part of the verification process; allowing operators to 'self declare' emission levels; and the Competent Authority providing verification services. It was finally concluded that a good practice approach would allow the former two options, so long as an installation met a series of criteria and requirements. These criteria are presented in sections 4.2 and 3.1.2 respectively.

More efficient systems can help improve communication and understanding, hence reduce burdens and barriers to market access. Good practice approaches discussed within this report include improved IT systems and the provision of help facilities offering training and advice.

Monitoring and reporting requirements under the EU ETS are presented in the Commissions Monitoring and Reporting Guidance (MRG). In the first year many Member States implemented provisions to reduce the burden of monitoring and reporting upon small installations. In response to this the recently revised MRG formally allows Member States to provide flexibility for small installations in relation to specific issues. Given the diversity of installations within this grouping, the IMPEL group felt it essential to develop good practice approaches to ensure the appropriate implementation of these provisions. Table 5.1 below presents the options for flexibility outlined in the MRG and a short summary of the good practice approach to implemented proposed by the IMPEL EU ETS group.

Table 5.1 – Summarising the MRG and good practice implementation of flexibility.

Proposed method of Flexibility under the MRG	**Proposed Good Practice Approach to Implementation**
Member States may waive the mandatory need for annual site visits by the verifier in the verification process and let the verifier take the decision based on the results of his risk analysis	Many Member States consider that they will make use of the provision to reduce or waive the need for site visits, but that it would be inappropriate to apply this across the board. It is felt important to be able to have a more intelligent and proactive approach to this provision, allowing different types of installation to be distinguished. Box 3 of this report presents a set of criteria to be taken into account when considering whether site visits should be waived. These criteria are designed for use following the first year of verification, i.e. the first round of verification allows a baseline to be established from which assessments of risk and appropriateness can be made. The verifier has an important role to play during this decision making process, and should be actively engaged during such an assessment.
Member States may waive the need of proof of compliance with the requirements regarding calibration	Views were split over the appropriateness of making use of this provision. Some felt that this would be appropriate for less complex installations that sit significantly below the 25,000t emission threshold. Others felt that calibration at regular intervals is essential and that measurement devices must be 'fit for purpose' irrespective of the installation's status. In conclusion, therefore, it is considered that, as with other clauses, this should not be used across the board but considered in the context of the broader monitoring and reporting needs and requirements of an installation.
Where necessary, the operator may use information as specified by the supplier of relevant measurement instruments irrespective of specific use conditions to estimate the uncertainty of activity data	Regulators were again split regarding the appropriateness of making use of this provision. It was noted that some Member States already operate a similar procedure, although on a limited basis. It was generally felt that guidance from this group was not required to help interpret this provision, although a common sense approach should be taken to its application.
The use of fuels or materials can be determined based on purchasing records and estimated stock changes without further consideration of uncertainties'	Member States felt that this was an area where the revised MRG provides a real opportunity to simplify systems and that this is an important amendment. This provision, therefore, should only be made use of at small installations where the fuel or raw materials used are such that the calculations are considered to be a reliable baseline i.e. the amount of a fuel or raw material used is directly proportionate to emissions and can be reliably assessed. When operators hold stocks of fuel etc a two step process must be undertaken in order to develop a materials based assessment i.e. the amount of fuel brought in must be assessed for example using bills, then the amount of stock remaining must be calculated. In cases where stock estimation forms part of a materials approach the regulator must have confidence in those tasked with this responsibility. There should also be clear procedures set out in the monitoring plan to identify who is responsible for monitoring stock and the processes to be used.
Member States may permit the use of simplified monitoring plans	Many Member States have commented that they have already attempted to make monitoring plan requirements as simple as possible; as a consequence there are limited opportunities to provide for further simplification. In applying this provision there were concerns expressed that small installations are not necessarily technically simple installations, and often the opposite rule applies. the application of this provision should be done on a 'common sense' basis, taking into consideration the complexity of the installation itself. Where possible regulators can develop simplified templates to address particular problem areas/sectors, but the extent to which real additional progress can be made may be limited given the level of action already being taken.
Waive the requirement for ISO 17025 accreditation for small installations,	Many Member States reported that they would make use of this provision. alternative laboratories must be known to the competent authority – so that they are aware of the quality standards in place. In relation to proving competence, the IMPEL group believes that each Member State should select an appropriate national standard they consider acceptable for laboratories analysing samples from small installations. The standard and laboratories operating to this should be clearly communicated to the operators of small installations to ensure effective use is made of this provision.

ANNEX 1: Participants in the Workshops

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ANNEX II – – Example Procedure for Considering the Waiving of the Requirement for a Site Visit as Part of Verification

Summary

The verification process is central to maintaining the integrity and transparency of the EU Emissions Trading Scheme.

A key part of the verification process is the verifier site visit. Annex V of the Directive states that, with respect to process analysis, the '*verification of the information submitted shall, where appropriate,* ***be carried out on the site*** *of the installation. The verifier shall use spot-checks to determine the reliability of the reported data and information*'

A verifier site visit should therefore be considered to be a mandatory requirement, unless it is clearly inappropriate to do so and a valid justification is set out in writing. Although the competent authority must "sign off" the request to defer a site visit, it is clearly the role of the verifier to evaluate the risks involved in not undertaking a site visit, to come to a decision and to produce a written justification. The verifier must be confident that he will not incur any liability as a result, and that he and the operator will remain in compliance with the MRG, Annex V and other relevant guidance.

Failure to undertake a site visit just because the operator does not think it is necessary, or does not want to incur the costs, is not sufficient justification.

Procedure

1. The operator discusses the wish to defer a verification site visit with the verifier
2. In order to come to a view on whether a site visit is required, the verifier must carry out an appropriate risk assessment. The onus is on the verifier to satisfy himself that the risk of deferring the visit is acceptable. The verifier must record his decision in writing.
3. The operator applies in writing to the competent authority. The application must contain:
   - the reason why, in the opinion of the operator, a site visit is not required
   - the verifier's views on these reasons
4. The competent authority should consider the request, taking into account the criteria given below and any relevant guidance, the MRG and Annex V of the Directive and communicate the decision to the operator in writing.

Approval should only be given to defer for one year. Further approval must be sought from the regulator for future years.

The verifier must document his decision/reasoning and must make reference to the agreed exemption in the verification opinion statement when the annual emissions report (or other report, e.g permit surrender/closure report) is submitted.

Evaluation of risk by the verifier:

The verifier should expect both the accreditation body and the regulator (this may be the same body in some MSs) to scrutinise the justification but, above all, the verifier should be satisfied with respect to:

- The scope of the installation - i.e. it has been correctly evaluated, this is reflected in the permit, and it has not changed since the last visit
- The monitoring and reporting arrangements on site - i.e. that these are consistent with the permit and the MRG, and have not changed
- The QA and QC processes as required by the M&R plan/permit – these must have been fully implemented and adhered to during the year
- the materiality check can be undertaken without the need to inspect the equipment or records held on site.
- The verifiers ability to determine the appropriate compliance status
- the potential for resulting data mis-statement and under or over-reporting as a result of not visiting
- liabilities that might accrue to the Verification Body;
- the resulting consequences of issuing a misleading opinion to Regulators and the Carbon Markets
- compliance with the verifier's own (UKAS/national/other) guidelines
- compliance with the MRG requirements and annex V of the directive

In the UK, CIS5 advises verifiers that justifications are expected to be consistent across all installation types, there are no special circumstances that might expect one installation or sector to be treated more favourably than another.

Consideration of the request by the competent authority

In deciding when it is appropriate to allow a verifier site visit to be deferred, the regulator should use the criteria below as a guide in coming to a view. It would be appropriate to consider each request on a case-by-case basis.

- The verifier/verification body must have some previous first hand knowledge of the installation in question
- The reason given by the operator and the justification provided by the verifier is sufficient for the regulator to form an opinion
- There has been no notification received of material changes to the installations since the previous visit – minor administrative changes etc need not be considered
- There are no outstanding improvements due on the installation within the time period in question– i.e. ETS5 or ETS6. Improvements which have been proposed and accepted by the regulator but which are not yet due, are not relevant for the purposes of this consideration.
- The regulator must be satisfied that the operator can supply suitable evidence to the verifier in lieu of the visit - e.g photographs of meter readings, copies of the relevant records and procedures relating to the site
- The installation does not fall within the category C emission band.
- The emissions from the site are largely predictable – i.e. relatively steady operation, or according to predictable periods of activity.
- The operator can provide a signed declaration or photographic evidence or other appropriate evidence that there have been no metering or operational changes since last visit.

Type of installation to which the above criteria might be applied:

Those types of installation to which the above might be applied include:

- Un-manned sites where data is sent by telemetry to another location.
- A visit to the installation poses unacceptable risks to health and safety of the verifier. This is not the same as those installations where site-specific H&S training is needed before being allowed access.
- The installation has closed and relevant records are no longer held on-site. The relevant plant has been removed from the site, and there is no additional information that could be gained as a result of a visit.
- The site is in a remote or inaccessible location and there is high centralisation of the data collated from the site at another location with good quality assurance. However, the installation should have had at least one verifier visit previously in order to ensure that the scope of the installation is accurately reflected in the permit and M&R plan.

Situations that are **not** acceptable

- Visit made to HQ to examine records but not to the site, unless it meets the criteria above, or the site has closed down and plant has been removed
- A request from the operator which is not supported by the verifier
- The verifier has not previously visited the site
- Insufficient justification has been provided such that the regulator cannot come to a view.

ANNEX III – Case Studies Provided by Portugal on The Application of the Use of Purchase Records and Stock Estimation.

There are many facilities where measurement of specific combustible flows is made through purchase records. The majority of such facilities are small ones, using combustibles such as fuel oil or another types of liquid/solid fossil fuel, which are generally provided to the installations in batches (usually a truck load). These companies have storage tanks in which they storage the fuels. The level of storage is measured – minimum condition - twice a year: once in the beginning of the year and another on the end. Then you measure the amount of combustible that as got into the installation (INPUTs). For this you can use two main methods:

- the receipts from the company that provides the fuel, and which, in general, will be the one valid for the payment. This receipt as, in principle, a number of references that allows to trace back, what measured, when measured on what equipment. The equipments at the company that sells as, in principle, to comply with the legal frame respecting the calibration of measurement equipment and uncertainty in the transaction of goods (this is general laws relating to metrology, etc which are under the Ministry of Economics).
- the receipts emitted by the measurement equipments at the entrance of the facilities, e.g. companies often have their own measurements equipments and will check if the quantities they are receiving is actually what is in the receipt emitted by the provider.

You can also use, if there is such register (and it does not always exists) the registry of the storage levels, whenever they are refilled with combustible. Through consecutive, regular readings you can know exactly what are the amounts that have been consumed or bought on each day. This method is only used, in general, for very large facilities.

With these figures you can compute the amounts consumed during the year through mass balance, since you assume that:

$$\text{Annual INPUT} - (\text{level storage}_{\text{December 31}} - \text{level storage}_{\text{January 1}}) = \text{Annual Consumption}$$

In Portugal, the majority of the monitoring plans were issued requiring a measurement of the quantities that enter the installation with their own measurement equipments, for every fuel that “crossed the borders” of the installation. The equipment had to comply with the MRG levels of uncertainty but often, by indication of the operators, these levels were set much lower in the Monitoring Plans than the ones specified in the MRG and thus.

It occurred that this levels of uncertainties are assessed every year, by the Ministry of Economy according to specific laws, and so change from year to year, so that many MP were not in accordance with what they were supposed to be, even though they respected the condition of the MRG (this is, they were < level specified for that tier in MRG ut higher then what was specified in the MP). Furthermore, especially in small companies, one could see that some of the inputs were actually not measured (companies trust the providers, and only do “random” measurements, not having implemented procedures to measure all the batches). It also happened that in some companies, other measurement equipments existed besides the ones in the MP and batches were measured using those equipments. Furthermore, as the number of batches in which companies and supplier disagree in the quantities is low, most

(small) companies compute the quantities of fuels they use (for management purpose as well as for accounting purposes) through the receipts from the providers. Receipts from the providers were used often, to compute the fuels consumed, hence the emissions.

Complications arise when verifiers want to check if the company providing the fuel as its measurement equipments dully calibrated and maintained. Off course, it is not possible for verifiers, besides going to the ETS facilities, to go to the facilities of providers. Many providing companies, besides providing the receipts also provide regularly legal certificates of the conformity of their measurement equipments, but many don't. So this had to be requested by ETS facilities. Other problem respect to when the provider is foreign (e.g. we had a lot of Spanish fuel providers) in which case to obtain this information might be (or not) more complicated.

There is also the case of when there are specific fluxes which are measured in volume, and not in weight, in which case the verification that the volume delivered is in accordance with the MRG could also be more complicated, as many of the containers might not had a volume certification (this respects to minimal number of cases, and normally not to standard fuels or materials).

Sometimes the receipts emitted by the fuel provider do not comply with all the information it should comply, e.g., it does not say in which specific equipment the quantity being provided was measured. So, in this cases it was not possible to check if the measuring equipments fulfilled, or not, the MRG conditions. If these quantities were not measured in the measuring equipments of the installation, they were generally considered in the calculus of the materiality level, as there was large uncertainty about that value (a conservative option).

It should be noticed that, in fact, this happens most commonly on small companies, e.g. ceramics companies. Most of these companies find it strange that, buying a certain quantity from a known fuel provider, that the value they use to pay the material needs further validation requirements for CO_2 computation. If it is good for accounting purposes & tax purposes why should it not be to compute CO2 emissions, which, although representing a monetary value, is far below the expenses they incur by buying the fuel? For them, it is obvious that the value on the receipt is trustable, and the most obvious proof is that they are paying according to it. There is a lot of common sense in this reasoning, which should be taken in consideration and, in fact, was taken in consideration in the revision of the MRG. Although measuring through receipts might have the problems stated above, for the level of emissions in stake – usually from 1.000 t to 15.000 t CO2/year - these should not pose big concerns.

Since 1992 IMPEL has generated almost 50 reports ranging from the Better Legislation initiative to the Reference Book on Environmental Inspections.

Reports related to Minimum Criteria for Environmental Inspections

- Guidance and recommendations relating to RMCEI
- IMPEL review initiatives
- Development of better inspection practice - Lessons learnt from accidents

Reports related to permitting, monitoring and the 6th EAP in a wider sense

- Improving best inspection practice, related to the 6th EAP
- Comparison programmes
- IPPC Directive
- Better legislation
- Transfrontier Shipment of waste
- Emission trading
- REMAS

These reports can be viewed at http://ec.europa.eu/environment/impel/reports.htm


Environment
Agency

European Union Network for
the Implementation and Enforcement
of Environmental Law

Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme
Report 3: Verification

Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law is an informal network of the environmental authorities of EU Member States, acceding and candidate countries, and Norway. The European Commission is also a member of IMPEL and shares the chairmanship of its Plenary Meetings.

The network is commonly known as the IMPEL Network

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on certain of the technical and regulatory aspects of EU environmental legislation. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. It promotes the exchange of information and experience and the development of greater consistency of approach in the implementation, application and enforcement of environmental legislation, with special emphasis on Community environmental legislation. It provides a framework for policy makers, environmental inspectors and enforcement officers to exchange ideas, and encourages the development of enforcement structures and best practices.

Information on the IMPEL Network is also available through its web site at:
http://europa.eu.int/comm/environment/impel

Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme Report 3: Verification	Number of the report 2006/13
Project Manager:– Lesley Ormerod, Environment Agency, England and Wales **Authors:-** Catherine Bowyer Ian Skinner Institute for European Environmental Policy	Report adopted at IMPEL Plenary Meeting in Berlin, May 2007
Project Group Members *See Annex 1*	Number of Pages Report : 23 Annexes : 13

Executive Summary

The Emissions Trading Directive requires that each installation report its emissions on a yearly basis. The level of emissions reported dictates the number of allowances an operator must surrender. It is, therefore, vital that emission reports are accurate, hence under the EU ETS emission reports must be verified by an independent, competent third party known as a verifier. Verification should consider the 'reliability, credibility and accuracy of monitoring systems, the reported data and information relating to emissions'[1]. Regulators consider verification as of utmost importance acting as a 'key foundation of the emissions trading market' representing a mechanism for ensuring that 'allowances being traded on the market are fairly valued'.

When considering verification it is vital to view this essential process as part of the broader compliance and enforcement system. As such, this report concludes that there is no one good practice approach to the way regulators make use of verification, as the most desirable will depend upon the construct of the wider system. There are, however, different elements that any verification system should incorporate in order to fulfil its role effectively, to add value to and confidence in implementation of the EU ETS.

From a regulators perspective, although at times the verification process may appear more distant than some other aspects of compliance and enforcement activity, it is important that there is confidence in the verification process and the verifiers conducting it. The roles and responsibilities within the verification process must be clearly set out. Ideally a strong accreditation body will support the regulator to ensure the quality of the verification processes. If this is not possible other systems to support the process and ensure quality of emissions reporting should be put in place.

Regulators have discussed the possibility of harmonising verification across the EU. It was felt that efforts to develop commonality should focus on achieving greater quality and confidence in the verification systems, not purely on developing identical/harmonised approaches in Member States. As such it is best to promote the convergence of approaches through the use of common templates and tools. This allows the broader differences, between

[1] Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, OJ L275, 25.10.2003

Member State systems to be taken into account.

Regulators have identified several priority areas where they consider practice should be improved in order to develop a better quality and more reliable approach to verification in the EU. These are as follows:

- Improved documentation – improving submissions received by regulators, resulting from the verification process.
- Ensure the process is clear and transparent – communication is essential within a system such as the EU ETS, which relies upon numerous different parties working together.
- Harmonisation of the work of verification bodies – while many Member States do not feel it is desirable to have one system of verification across the EU, it is desirable to work towards more common approaches, to bring systems closer together rather than allowing them to drift further apart.
- Improved evaluation of performance – proper evaluation of outputs of verification is essential
- Improved M&R plans based on verification comments – making the use of feedback from the verification process is vital.
- Earlier engagement between the operator and verifiers – this is seen as key to a successful verification process and has been particularly problematic during year one.

OPTIONS AND PROPOSALS FOR CONSISTENCY IN THE IMPLEMENTATION OF THE EU EMISSION TRADING SCHEME - REPORT 3: VERIFICATION

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Glossary of terms used

Competent authority:	The government department or agency designated under national law as being responsible for the implementation of the EU emissions trading Directive
Regulator:	The government department or agency that regulates installations covered by the EU emissions trading Directive

Note on the usage of 'England & Wales', 'Scotland' and 'UK' in the report:

In the United Kingdom (UK), land-based installations in the EU emissions trading scheme in England and Wales are regulated by the Environment Agency, while in Scotland, these installations are regulated by the Scottish Environmental Protection Agency (SEPA). Both the Environment Agency and SEPA are represented at IMPEL and were involved in the project on which this report was based. The regulators for Northern Ireland, the Department of the Environment, and for UK off-shore installations, an office of the Department of Trade and Industry, have not been involved in the project. In the text, therefore, the term 'UK' is not used; rather reference is made to 'England & Wales' or 'Scotland' when referring to installations regulated by either the Environment Agency or SEPA, respectively.

1 Introduction

1.1 Background to the report

This report focuses on good regulatory practice in relation to verification under the EU Emissions Trading Scheme (EU ETS). It is the third of four good practice guides produced by the IMPEL EU ETS project '*Options and proposals for consistency in the EU Emissions Trading Scheme*'. The aim of this project was to review the first year of operation of the EU ETS and to develop good practice in relation to four key areas:

- Compliance and enforcement
- Monitoring and reporting;
- Verification; and
- Small installations.

The project produced five reports – one each on good practice in relation these four areas plus a fifth overview report, which provides a summary of Member State practice in relation to the same areas.

The rationale for the project and methodology used can be found in the overview report[2].

1.2 Format and structure of this report

It was agreed that this report would take the form of good practice guide on verification. Further details of the approaches to verification adopted by Member States to verification in the first year can be found in the overview report. The report is structured in the following way:

1. **Verification and the EU ETS –** this section explains the need for verification, who is involved, how roles and responsibilities fit together and the approaches taken by different Member States to dealing with verification. It also presents verification as part of the whole system approach to emissions trading and outlines the importance of the process placed by Member States
2. **Achieving Confidence in Verification –** this section looks at the important relationship between competent authorities, operators and verifiers; how confidence in the quality of verification can be ensured and what procedures and processes have been put in place by Member States to assist this.
3. **Taking Forward Verification – Towards Good Practice –** This section reviews the problems and difficulties experienced by regulators in terms of verification, explores lessons for the future and where improvements might be made. It also puts forward actions for the European Commission in terms of how they might help support regulators in relation to verification.
4. **Conclusions –** This section summarises conclusions in relation to verification and looks to future phases summarising how action might be taken forward.

[2] IMPEL (2006a) *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme, Report 1: Overview of Member State practice*; see http://ec.europa.eu/environment/impel/index.htm

2 Verification and the EU ETS

2.1 A brief introduction to verification

2.1.1 Why verify?

Directive 2003/87 establishes the EU Emissions Trading Scheme (EU ETS) and specifically requires that each year, for each installation, operators submit a report to the relevant competent authority outlining the emissions the installation was responsible for during the previous year. The number of emission allowances an installation is required to surrender is dictated by the level of emissions reported. Emissions reports submitted by the operators must, therefore, be of high quality and accuracy in order to ensure that installations are appropriately accountable under the EU ETS. The Directive, therefore, requires that each emission report is verified by a third party, known as a verifier, who is accredited as competent and independent. An operator whose report has not been satisfactorily verified can no longer trade under the scheme until matters are resolved. For a report to qualify as 'satisfactory' the verification process must confirm that the data reported by the operator is free from material misstatements and has been produced in accordance with the permit and monitoring and reporting plan[3]. The verifier produces a report stating the validation process undertaken and whether, based on this, the operator's emissions report can be classified as 'satisfactory' i.e. it is verified.

The purpose of the verification procedure is to consider the 'reliability, credibility and accuracy of monitoring systems, the reported data and information relating to emissions'[4]. Aside from specifying the need for verifier independence from the operator, the Directive leaves much to the discretion of Member States in terms of the approach to be taken to verification. Member States have, therefore, been allowed a great deal of flexibility in terms of deciding who the verifiers should be e.g. competent authorities or a qualified third party, and who should bear the cost of this process[5].

Verification represents one element of the compliance cycle under the EU Emissions Trading Scheme (ETS). It is a fundamental assurance and quality control process designed to ensure that the correct levels of emissions are being accounted for at installations. This independent process is seen by some as a 'key foundation of the emissions trading market' representing a mechanism for ensuring that 'allowances being traded on the market are fairly valued'. Within their questionnaire responses Member States commented that verification is of the 'utmost importance to ensure the effective functioning of the EU ETS' and 'crucial to the credibility of the scheme' serving as it does 'as a starting point for enforcement'. It was felt that verification acts

[3] Verification Reference Model - A model describing best practice and mandatory statements in Member States' organisation of the EU ETS verification , PricewaterhouseCoopers in support of the European Commission, December 2005

[4] Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, OJ L275, 25.10.2003

[5] Proposal for a Directive of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC

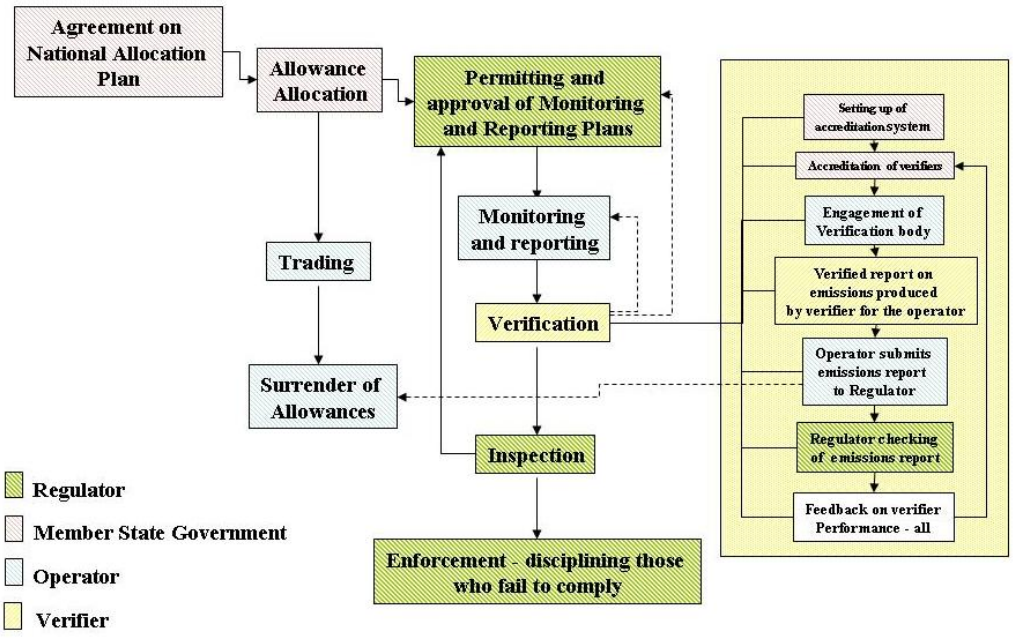
as an ‘independent health check to ensure that all the other elements are working properly’ and is one of the most ‘important areas in relation to implementation, alongside the fair and transparent allocation’ of emission allowances. It should be noted, however, that whilst many Member States see verification as an essential and important element of the EU ETS’s regulation, all compliance and enforcement activity is important and interdependent; verification is just one important part of this.

2.1.2 Verification as part of a whole – understanding different approaches

The approach taken to verification within a Member State is dependent on structures and processes elsewhere in the regulatory cycle. Any good practice approach must consider how verification interacts with the other compliance and enforcement activities eg. its impacts, the information it might supply, the limitations it might present. Verification can not be considered in isolation from these wider processes and its role within the regulatory system must be clear to ensure success. Member States are keen to underline need for the regulatory system to work as one unit – the system is only as strong as its weakest link. Box 1 presents a simplified view of the regulatory system under the EU ETS and verification’s role within this.

Roles, responsibilities and the emphasis placed on different elements of, not only of the verification process, but the broader compliance and enforcement system differ between Member States. As a consequence the approach to verification, and more importantly its relationship with other compliance and enforcement processes will also vary. For example the regulatory infrastructure is constructed according to national laws and circumstances; the implementation of the EU ETS is generally built upon these pre-existing regulatory approaches and institutions resulting in differing organisational structures. There are different approaches and structures under which verification can operate i.e. there is not just one good practice approach for a regulator to follow when dealing with verification, but potentially a whole variety dependent upon the broader regulatory system – see 2.3 for further details. To be considered good practice, however, what is essential is the outcome, i.e. that a robust system of emissions trading emerges and that verification plays its role effectively in assuring this.

Box 1 – Illustrating the place of verification as part of the broader regulatory framework for Emissions Trading under the EU ETS. The differing stages of the verification process are also detailed



2.2 Roles and responsibilities

As illustrated in Box 1, verification does not represent a single process but a series of steps and feedback loops. A variety of actors perform different roles, to ensure that quality and timely verification is undertaken. Experience in the Member States has shown that it is vital that these different roles be clearly defined. Responses by Member States indicate that the distinct roles and responsibilities differ between countries, as does the nature of the stakeholders involved. What is important, however, is not so much who is conducting a particular element but that they are doing it effectively and in a way that allows the other steps in the chain to also be completed successfully.

The key actors in relation to verification are as follows:

- ***Operator*** – within Article 3(f) of the Directive the operator is defined as 'any person who operates or controls an installation or, where this is provided for in national legislation, to whom decisive economic power over the technical functioning of the installation has been delegated'. In the majority of Member States it is the operator who employs and pays the verifier, i.e. the verifier's contract is with the operator. It is the operator who, therefore, submitts the verified emissions report and relays comments from the verifier to the regulator. The regulator should be clear on the process by which the operator engages the verifier, that there is an understanding of the relationship and whether contact has been made. In year one this three way relationship has caused some difficulty for the regulator with concerns that operators were engaging verifiers too late in the process. While it is felt that this may be a first year phenomenon due to both verifiers and operators getting up to speed with a new system, some solutions have been developed. For example IT tools have been developed to aid operators in terms of understanding their role in

verification, but which also allow engagement between operators and verifiers to be tracked and problems identified early on.

- ***Verification Body*** – as defined in the monitoring and reporting guidelines[6] adopted by the European Commission in 2004, a verifier is 'competent, independent, accredited…with responsibility for performing and reporting on the verification process, in accordance with the detailed requirements established by the Member States' and in line with provisions in Directive 2003/87. In the majority, but not all Member States, verifiers cannot act individually but must be part of an accredited organisation in order to ensure competence and to facilitate technical review of the work. If this is not the case, alternative approaches must be put in place in order to ensure that appropriate training and safeguards are established.

  In the majority of Member States verification bodies are private companies who are contracted and paid by the operator to carry out verification. This is considered good practice, but only if appropriate standards and controls are put in place to ensure both initial and on-going quality of the verification process and independence of the verifier. There have been concerns amongst regulators that competitive pressures may impact on the quality of verification completed. Strong accreditation and on-going audit by the accreditation body helps verification bodies to maintain appropriate risk based approaches and to make mitigate the impact of market pressures.

  In Norway[7] during the first year the Norwegian Pollution Control Authority has conducted verification. It is felt that this approach has benefited smaller installations under the scheme, however, for larger and more complex installations this has proved very time consuming and resource intensive. In future, therefore, the Norwegians plan to impose third party verification for larger installations at least. Verification is not recommended to be performed by Competent Authorities unless the resource implications are fully taken into consideration and adequate provision made to ensure a quality output. Moreover, verification is a very specialised and technical activity, which normally goes beyond regular inspection activities. Concerns were expressed by some as to how independence and impartiality is possible if the same organisation carries out verification and approves the permit and monitoring and reporting plan.

- ***Accreditation Body*** – Accreditation is an important quality control process and in the vast majority of Member States verification bodies cannot operate without being accredited. Although for some accreditation is not currently a mandatory requirement, it is expected to become one as the scheme develops over the coming years. The accreditation body is the organisation that oversees

[6] Commission Decision of 29 January 2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council, 29 January 2004 http://ec.europa.eu/environment/climat/emission/mrg_en.htm

[7] Although Norway, as it is not a Member State, is not a participant in the EU emissions trading scheme, it does attend IMPEL EU ETS meetings. However, the approach to verification in Norway is very different from the approach taken in EU Member States, so many questions of the original questionnaire were not relevant to its situation, and were therefore not answered.

this accreditation process in order to ensure that only sufficiently competent verifiers operate under the scheme. It is considered good practice to have a strong and active accreditation body overseeing the work of the verifiers.

The accreditation body is commonly funded by payments from the verifiers, although in some Member States it is entirely or in part funded by the government. In others the establishment of the accreditation body was government funded but ongoing costs are recouped from accredited organisations. Accreditation bodies can be independent organisations, e.g. the United Kingdom Accreditation Service (UKAS) or the Dutch Raad voor Accreditatie (RvA). More commonly, however, they are part of a government agency; this can be either an independent government department or part of the Competent Authority itself. In the first year several Member States have operated a system of temporary accreditation, for example approving certain types of auditors as verifiers under the EU ETS, operating less rigorous accreditation procedures or limited periods of accredited operation. While useful to get the scheme and supporting systems into place, this light accreditation is not supported in the long term.

Although there is no common standard for verification under the EU ETS accepted across the EU, the majority of Member States report accreditation bodies making use of both the IETA Verification Protocol and the European co-operation for Accreditations guidance for recognition of verification bodies EA-6/03. Others are working based on national rules eg Portugal, Austria and Hungary many of which are based, at least in part, on EA-6/03. In addition many are operating on the basis of a combination of rules taken from a variety of guidance and interpreted into their own national guidance. Any good practice approach to verification must be supported by clear guidance outlining exactly the expectations placed upon the verifiers, i.e. their expected role, activity and relationship with other stakeholders in the process. This guidance should be easily available and accessible so it is clear to operators, verifiers, regulators and the wider public what requirements and procedures are in place to ensure that the quality of monitoring, reporting and verification under the scheme is upheld. While there may be elements of broad guidance etc that may be inappropriate for a particular regulatory system it is good practice to make use of the resources available and build on the approaches within international guidance on verification etc. This allows ideas to be built upon and adapted while providing an opportunity for increasing the commonality of approach and the adoption of similarly high standards.

All Member States reported having checks in place to ensure the verifiers not only appear to be well qualified, hence can be accredited/approved, but maintain good standards of practice. Several reported that accreditation bodies conduct checks in the form of audits of the work of accredited bodies eg in the UK, Sweden, Portugal, Austria. This process commonly includes both desk based research ie reviewing of verification work and the witnessing of verification taking place. Continuous improvement is a key element of the EU ETS, in terms of reducing emissions. It is essential that standards more broadly are raised and maintained to ensure confidence in the scheme and reliability in terms of reporting. Good practice should include provisions to

continually monitor verification body performance and a system where by poorly performing verifiers can be compelled to improve their standards or cease to have a role under the EU ETS – see box 7.

2.3 Approaches to dealing with verification - Where does the regulator fit?

As indicated in section 2.2, and outlined in the overview report, there is no one approach to verification under the EU ETS. Box 2 describes 3 examples of Member State approaches to the verification process. The UK places a great deal of emphasis upon the verification process with down stream mechanisms for control based upon a strong structure supported by an empowered and responsive accreditation body. The Netherlands, meanwhile, relies less on the outputs of verification and puts greater emphasis on permitting and subsequent inspections. Austria also places a great deal of emphasis on verification but this is supported by an accreditation process run by the Environment Ministry acting as the competent authority itself. All approaches are considered to enable the achievement of compliance within the scheme. They allow confidence in the figures expressed within the emission reports, based on a robust system for the checking of final figures, assessing approaches to their calculation and the underlying monitoring methodologies. Any good practice approach to verification must honestly consider the strengths and weaknesses of a particular regulatory approach.

Box 2 – Three examples of approaches to verification

The approaches described below demonstrate that it is possible to have quite different approaches to verification, provided verification fits within the broader compliance and enforcement system. As part of a robust whole verification contributes to effective regulation.

The UK – Utilising a Strong Independent Accreditation Body – In the UK the United Kingdom Accreditation Service acts as an independent accreditation body, approving and monitoring the actions of the verifiers. The UK regulators have good links with UKAS and are able to engage well with the body. The UK's approach places emphasis on a high quality accreditation process, generating confidence in verification, which is then used to inform compliance and enforcement action ie it is used as a central plank in the regulatory process.

Verifiers have to be accredited by a member of the European co-operation for Accreditation in accordance with EA-6/03. Where this is by an overseas accreditation body, UKAS also has to endorse the work of the verifier at representative UK installations. Verification has to be carried out according the UK Government's Annual Verification Guidance, ensuring further compatibility with the UK regulatory system. Verification bodies have to demonstrate UKAS competency of personnel, on-going training and the continual improvement of their systems and performance.

The Netherlands – Regulation using inspection and enforcement – The Netherlands also has an independent accreditation body, however, links between the regulator and accreditation body is less strong. Within the Dutch system the focus is placed early in the regulatory process ie with the permitting, and development of monitoring and reporting plans strongly regulated. The results of verification are less fundamental to the compliance and enforcement system, and verification is run essentially as a parallel process to the activities of the regulator. Heavier reliance on separate inspection procedures for all installations etc based on the baselines established in the permit etc.

Austria – Competent Authority as Accreditation Body – In Austria the Ministry of Environment has acted as the accreditation body for the scheme. Under the Austrian system verifiers must undergo an intensive process of approval including a three day course to ensure that they have the required knowledge of the German language and the Austrian legal framework. All bodies and single verifiers must be approved by the BMLFUW (Ministry of the Environment). Qualification requirements for verifiers are laid down in an ordinance and include: knowledge in the fields of analytical chemistry, process engineering, data auditing, QA/QC, general auditing experience, knowledge of English and German, knowledge of Austrian special provisions and an understanding of the laws for the ETS.

Despite their variety, within each of these verification systems (and all others) the regulator has an important role; although, perhaps given the structure of the verification system this is not as clearly defined as for verifiers or operators. Regulators are very concerned that the quality of reported data and its verification is high; they are ultimately responsible for ensuring that the EU ETS scheme is complied with and verification represents an important element of this process.

One key complication for many EU regulators has been their relative distance from the verification process. Even when the accreditation body is a governmental organisation it has been commented that the verification process can feel detached from other compliance work. Verification is a process fundamental to ensuring data quality (materiality), compliance with a permit and the achievement of the effective implementation of emissions trading, yet regulator involvement is limited. The difficulty for many regulators has been developing an understanding of how they can interact with the verification process to improve its effectiveness and how they can place support in a process that is perhaps more distant than compliance assessment activities commonly encountered by environmental regulators. In addition the operation of verifiers in a competitive market has raised concerns amongst some

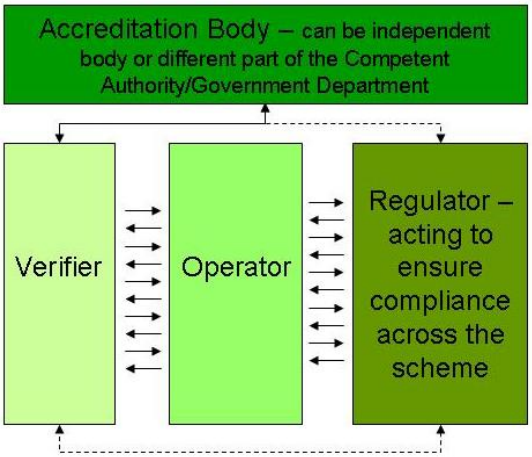
about the cost versus quality of verification, and how those offering a more comprehensive and effective service can be encouraged. A strong accreditation body can greatly assist in ensuring proper minimum standards of verification are maintained and not inappropriately compromised in an attempt to reduce costs.

The ability for a regulator to have confidence in the verification process was a key concern prior to the commencement of emissions trading and the first round of verification. Measures to increase confidence are presented in detail within section 3. Key to building confidence, however, is clarity of roles, responsibilities and methods to be used – see section 2.2. This enables clearer, more effective communication between the different parties allowing greater understanding of positions and the ability to resolve conflicts. The diagram in box 3 describes the linkages between the different parties during verification. Subsequent sections will explore in more detail the nature of these linkages. It is important to note that for the system to work well the regulator must engage with all the other parties under verification. The nature of this engagement will depend on the party themselves, their responsibilities within a national system and the stage of the verification cycle.

It is important to have a clear understanding of where the regulator fits in and what their role is in controlling and utilising the verification process. Under all systems of verification Member States have acknowledged that regulators have an important role in terms of ensuring effective performance and that the quality of verification does not deteriorate. Vitally, the regulator's role in ensuring the quality of verification begins early in the regulatory cycle during the permitting process and ensuring that monitoring and report plans are robust; it is these plans which verifiers will use as a basis for designing their analysis. Crucially, in order to do their job effectively regulators need the help and support of the other parties in the process. There is a need to engage with industry to help improve quality standards. In many cases, it is the operator who employs the verifier; hence, the operator has an important role in dictating the nature of the market for verification and the type of verification body willing to operate within it - although, verification still has to meet minimum standards required by accreditation bodies and regulators.

Box 3 – Links between the regulator and other stakeholders relating to verification.

There are many different stages of interaction during the verification process. Some of these are required by the scheme represented by solid lines, whereas others not required legally should be conducted to ensure the effective functioning of the system. While the tools and approaches to communication may differ the principle, ie the need for clear and transparent engagement, does not.



3 ACHIEVING CONFIDENCE IN VERIFICATION

3.1 Introduction to the issues

As outlined in section 2.3, the regulator's role in relation to verification, although important, is often not clearly defined. This, accompanied by uncertainty over how the verification system might operate, led to concerns before the commencement of the first year's verification regarding the potential quality of output that could be expected. Confidence in verification is essential for the smooth operation of the EU ETS, given its important role in terms of emissions reporting. Box 2, above, begins to explore some of the approaches Member States have taken to deal with verification, hence ways in which confidence can be built. The following section expands on this to explore mechanisms for building confidence and how this can be guaranteed throughout the operation of the EU ETS and other similar schemes.

It should be noted that the survey of Member States conducted as part of this IMPEL project found that levels of confidence in verification were much higher than in the previous IMPEL work[8]. The majority of respondents stated that they now had confidence in the verification system. It was commented that since the commencement of the scheme, it has been a steep learning curve for all, including the verifiers. Most Member States reported that verification had delivered the outputs anticipated in year one, although one regulator did question the added value of the first year's verification process. Verified emissions reports have generally been reported in a timely manner in the first year with Scotland, Finland, Austria, Ireland, Czech Republic, Hungary and Germany all reporting that information from all operators was received by the deadline for submissions set. In other Member States over 95 percent was received by the deadline, with late reports received shortly there after.

3.2 Engaging with operators and verifiers

In order to achieve useful, quality results in terms of verification, it is necessary to ensure a high level of engagement between the regulator and both operators and verification bodies. Many regulators had anticipated high levels of engagement with the operators and more limited engagement with verifiers. In practice, however, levels of engagement with verifiers have been higher than anticipated (including through special meetings and help-line enquiries etc.) and are expected to remain so. This increased engagement was the result of a number of factors including the points outlined below. This engagement, especially in relation to resultant requests for permit variations, took up higher levels of regulator resources than anticipated by the Member States.

When setting up a parallel system or reviewing the rules of the EU ETS the demands on resources placed by verifiers must be taken into consideration. A good practice approach to the allocation of resources should take into consideration the following points.

- The need to educate verifiers and generate consistent interpretation and understanding. Verifiers consistently needed advice on technical issues including: clarification of requirements to ensure consistent interpretation; monitoring,

[8] Ref IMPEL part A work

including representative sampling; calibration of meters; interpretation of installation boundary issues; the need for site visits; materiality and its relationship with uncertainty; and the role of the verifier e.g. how a verifier should deal with verifying against a permit with inaccuracies. Training in these issues should be developed at the beginning of a scheme or amendments implementation. In addition to formal training the development of Member State guidance supported by liaison groups and help desks/clear points of contact within the regulatory body and frequently asked questions may be beneficial – see box 5 for details.

- The high level of regulator activity resulting from the need to complete substantial numbers of permit variations as the result of initial verifier findings.
- The need for verifiers to engage with the regulators in relation to complex installations and how these should be dealt with.
- The need to work closely with accreditation bodies in order to ensure that the scheme is appropriately set up and accreditation requirements are met.
- That some Competent Authorities are acting, at least temporarily, as the scheme's accreditation body as well as the regulator.
- That the quality of verification is exposed to market mechanism, if the verifier is paid by the operator.

In terms of engagement with the operator there are priority issues on which a regulator must be prepared to communicate. A good practice approach should consider how these are to be dealt with in order to ensure the smooth commencement and operation of any verification system. Priority issues, identified based on experiences in the first year, include:

- ensuring that operators are prepared for verification and understand what is needed;
- ensuring that they engage with verifiers and facilitating their ability to engage – while regulators can not instruct operators which verifier to employ they have provided lists for example on their websites to aid with identification;
- reminding operators of the need to engage early with verifiers – see below;
- helping particularly small installations to prepare for verification; and
- dealing with problems associated with verifiers.

In terms of approaches to communication with both verifiers and operators, it is vital that a flexible range of mechanisms are used. Member States have employed formal mechanisms including the development of guidance for verifiers and standardised forms (see section 3.3) and formal training sessions – as employed by Austria see box 2. In addition more flexible and informal tools can be used including face to face meetings, workshops, communication by email, telephone and formal written correspondence. Box 4 presents a summary of some examples of successful communication during the first year.

Box 4 – Methods of Communication with operators and verifiers

The Use of Formal Guidance – many Member States have developed their own guidance detailing their expectations in relation to verification, and more broadly in terms of compliance within the system. These are circulated to stakeholders, in many cases consulted upon during development and often published on the internet to allow ease of access. Guidance is considered to be a good way of setting a baseline for requirements, however, it is best supplemented with additional communication mechanisms to ensure consistent understanding. For example this is supported by seminars, working groups and help desks

Use of a Seminars – a Swedish Example - Several seminars have been arranged for operators and verifiers. The following are examples. In the Autumn of 2006 a seminar was held specifically for operators of installations who will be included in the ETS because of the new interpretation of combustion installations under Phase II.

Example a - Seminar for operators, arranged in December 2005 and 2006. Speakers from EPA and the Energy Agency.

- Experiences of EU ETS so far, aim of the scheme and development
- Allocation of allowances for Phase II (allocation principles, timetable, how to apply)
- Reporting and surrender of allowances. Routines of the CAs and sanctions for non-compliance.
- How to use the Registry (In Sweden application for allowances and reporting can be made in the registry)

Example B: Seminars for verifiers, arranged in October 2005. Speakers from EPA, the Energy Agency and Swedac (Accreditation Body) and Verification Bodies.

- The Climate Issue
- Basic information about ETS (aim of the scheme, regulation on EU-level and national level)
- Permits, notations, reporting
- Monitoring, measuring technique, uncertainty
- CABs (County Administrative Boards, CA for permitting) experiences
- Verifying
- How to use the register when verifying
- Non-conformity or not non-conformity?
- Demands of competence of verifiers
- The accreditation process

Using Working Groups – An example from the UK – The UK Emissions Trading group comprises various working groups involving Government, regulator, UKAS, verifier and industry trade association representatives. Working Group 3 is specific to verification and has acted as a conduit for maintaining mutual awareness and reaching agreements on template annual emissions reporting forms, guidance and verification opinion statements, etc. It has also facilitated separate meetings chaired by UKAS between the regulators and verifiers. These resulted in publication of responses to verification Frequently Asked Questions.

Much of the regulator's work in year one relating to verification has focused on ensuring that both the verifier and operator are clear about and well engaged with the process. A key issue has been the failure of many operators to engage verifiers early enough. Early engagement between operators and verifiers is essential to ensure that monitoring and reporting plans are complete and valid, i.e. that the correct issues are covered and that monitoring is being conducted using the prescribed methodologies etc. From a work flow perspective it is important for both the verification bodies and regulator to be able to manage their time effectively. Early engagement facilitates work flow and the optimal management of resources. Given that the number of verifiers and regulator resource is finite, difficulties can arise if numerous operators

leave it until late in the day to engage their verifier. In the first year the need to amend permits and monitoring and reporting plans was particularly problematic if engagement has been late. In addition many regulators felt that the quality of ultimate verified product was higher with early engagement.

Regulators feel that the first year of the scheme, is likely to have been the most problematic both in the sense that this is when the most variations are likely to have been needed, and that operators and verifiers were only just beginning to build relationships and understanding of requirements. In the future, it is anticipated that fewer variations should be needed and that operators and verifiers, having been through the processes already, will have developed relations hence be aware of the need to engage earlier in the second year. It should be noted, however, that the IMPEL group are still keen to highlight that early engagement is an essential element of good practice when it comes to verification. This is especially important when dealing with larger and/or complex installations. One approach supported to encourage early engagement is a staged approach as called for in the UK in the guidance from the Department for Environment, Food and Rural Affairs – see box 5 for details.

There is currently a split between Member States, who involve verifiers prior to the final assessment process those who do not. The IMPEL group has discussed the possibility of developing a formal pre-verification or validation stage, at which verifiers review the monitoring and reporting plans etc early on in the process. This would enable the correction of any inaccuracies and omissions before the commencement of the final verification process, allowing the regulator to set the tone, regarding what is expected early on in the process. It would also allow verifiers' views and knowledge to be taken into account early, rather than operators producing monitoring and reporting plans only to need them subsequently amended following verifier scrutiny. The arguments against the addition of a validation or pre-verification stage were as follows: it could potentially lead to greater upfront costs for operators; the impartiality of the verifier may be endangered, i.e. loss of verifier independence if they develop and then assess the same monitoring and reporting plan. It was also felt that verification is already a relatively complex process, adding an additional step may result in confusion rather than clarity. A compromise that may be more acceptable is for a verifier to check the practicality of a monitoring plan soon after its issue as part of the advocated early engagement between operators and verifiers.

Generally, the IMPEL group felt that pre-verification would have been a useful process to have in place in the first year. Given that it is good practice for operators and verifiers to engage early. Additionally, it would have reduced the burden upon the regulator in terms of processing permit variations. At present, however, it is not proposed that a pre-verification stage be added to the verification procedures under the EU ETS – given the anticipated drop in permit amendments etc. It is, however, considered to be good practice to have a pre-verification step. It is, therefore, recommended that for states entering the EU ETS for the first time or within the structure of any new emissions trading scheme pre-verification be included. It should, however, be noted that any such process must be set up in a manner that does not undermine the independence of the verifier from the operator or the terms of the verifier's accreditation.

Box 5 – Staged verification in the UK

Verification in the UK is expected to be carried out in accordance with DEFRA's Annual Verification Guidance and template Verification Opinion Statement, see links below:
http://www.defra.gov.uk/environment/climatechange/trading/eu/permits/pdf/annverifguide.pdf
http://www.defra.gov.uk/environment/climatechange/trading/eu/permits/download/verifopin-template.xls
Figure 2 of the Annual Verification Guidance indicates expectation for a staged interaction between the verifier and operator according to:

- By July: Operators contract verification bodies. Contract review, proposals, commissioning. Internal audit planning.
- By September: Stage 1. Strategic analysis. Review, check M&R Plan, transparency, sources, methods, completeness, information management, business environment etc. Discuss any issues with operator. Visit site. Plan detailed verification work and prepare verification plan.
- By Oct/Nov: Stage 2. Perform preliminary verification based on 6 to 9 months of actual data plus full year's forecasted data. Perform data checks, evaluate rules and principles, check systems and QA/QC. Raise any non-compliance issues.
- By early Feb: Stage 3. Year end reconciliation. Reconcile full year forecast (if available) and full year actual emissions, investigate anomalies, final rules and principles evaluation. Raise improvement opportunities. Perform technical review.
- By early Mar: Stage 4. Complete verification opinion statement using template on Defra website, insert verification opinion statement (VOS) into FINAL annual emissions report and send to operator for submission to regulator.

On-going issues are shared (including with verification body representatives) via regular meetings of the ETG WG3 Verification Group.

3.3 Ensuring quality submissions

The final step of the verification process is the submission of verified emissions report and verification opinion statement (VOS) to the Competent Authority. Most Member States commented that they were pleased with the process by which information was submitted to them. While communication with both operators and verifiers goes a step towards achieving a quality submission (in the form of both formal communication such as guidance and less formal in terms of workshops and informal discussions regarding problem issues), many Member States have also made use of standard formats for the submission of information in the form of a standardised VOS. An example of such a standardised statement used by Austria is attached in Annex 2. It is considered good practice to pursue a standardised approach – see section 3.3.1. In some Member States, for example Finland, they have gone a step further by developing an integrated IT system for the use by both operators and verifiers in order to control the information flow to the regulator and enable the regulator to clearly see the flow of work for each installation.

3.3.1 Verification Opinion Statements (VOS) – making the most of an opportunity

The approaches to the use of VOS differs considerably between Member States with the level of detail requested varying considerably. Commonly, however, the verifier produces a verification report for the operator and completes a separate VOS. While in most Member States regulators have the right to view the verification report they usually do not this to be submitted as standard; only requiring the VOS. In the majority of Member States verifiers are required to complete a standard VOS, normally in an electronic format. Those Member States which do not yet have a standard VOS, are looking to develop one, e.g. Sweden, the Netherlands. A standardised approach is important in terms of ensuring a consistent level in terms of the quality and quantity of information submitted. In the absence of a standardised

format different approaches have been used by verification bodies, some of which are very detailed containing considerable comments on the installation, meanwhile others only contain the verified emission figure. The standard format required in some Member States is set out in regulations, e.g. Poland in Regulation 12.01.2006 or in guidance either from the Member State, regulator or the Accreditation body.

Under the emissions trading Directive the production of a VOS is a mandatory component of EU ETS verification process with requirements set out in Annex V point 11[9]. Many Member States request more information from this process than specified under the Directive. This is desirable in order to meet further verification requirements stated in the Commission's monitoring and reporting guidelines including identification of what might be improved at an installation, confirmation of permit and monitoring plan compliance, feedback to allow the improvement of future permits and to make the most of the verifier's expertise. Many Member States operate a system whereby a VOS that is deemed satisfactory (the alternative is a not verified opinion) can either be verified or verified with comments. The latter relates to potential areas of improvement for the future, or where non material issues need to be addressed. This is considered to be good practice as it enables the VOS to play a more active role in the compliance cycle, providing an additional mechanism to facilitate continual improvement within the system – both for the regulator in terms of permitting and compliance, and the operator in terms of monitoring, reporting and perhaps ultimately emissions reduction.

The following are key areas in relation to which comments were received in the first year regarding non-conformances and potential improvement. When developing approaches permitting, monitoring, reporting and verification should consider how these problem areas might be addressed:

- concerns regarding equipment and calibration;
- need for more robust implementation of QA/QC procedures;
- sources that were identified but not declared; and
- changes having occurred to the monitoring methodology.

Members of the IMPEL group feel that it is desirable to move towards a common, good practice approach to VOS. This would involve developing a template in order to standardise the quality of submissions received. The content of this template is vital. The development of such a template would encourage greater consistency in terms of EU ETS implementation, but also allow flexibility. It would allow regulators to more easily compare submissions from different installations, sectors and verifiers. It is proposed the best way to develop such a template would be to bring together examples of VOS formats currently in use by Member States and identify common and useful fields. It is proposed that the IMPEL group could take this forward as a practical step towards increasing consistency in approach, specifically in relation regulator engagement in verification.

3.4 Assessing the information received

All Member States have reported putting in place check to ensure the quality of verification practice and the VOS submitted. The level of checking and approach

[9] This states 'that the verifier shall prepare a report on the validation process' stating whether the emissions report is satisfactory, i.e. that the total emissions are not materially misstated.

varies between Member States; a good practice approach, however, must include an element of audit or assessment. In some countries all VOS have been reviewed eg in the Netherlands, Sweden, Ireland and Hungary. Ireland has, however, commented that it will review this practice based on the results in year one. In others, for example England and Wales, while all VOS receive an administrative check, all those verified with comments, not verified and a smaller proportion of those verified without comment are subject to more detailed technical scrutiny. Finland also operates a system where by all receive an electronic check but 10 percent are more thoroughly checked manually. Many Member States felt that this checking phase is essential to maintain confidence in the compliance processes. This check is additional to any audits etc conducted by the accreditation body to ensure that a verifier is still working in line with approved accreditation practices.

When only a proportion of the VOS are selected for a more detailed check Member States have used a series of criteria in order to determine which should be looked at based on the following:

- the level of emissions from an installation;
- status of the VOS, i.e. verified with comments;
- the significance of an installation within the EU ETS;
- to allow coverage of each sector and verifier;
- installation capacity; and
- operator size.

Essentially, Member States were keen to ensure that the key players were assessed, i.e. the small number of large installations often making up a significant proportion of emissions within a country. The approaches are also designed to take into consideration the breadth of the scheme both in terms of the nature of installations and the verifier involved. It is considered good practice to follow such an approach in order to allow a structured assessment of VOS and their quality.

The evaluation of the VOS by the regulators commonly takes the form of a desk based review. In addition, however, some are performing site visits in order to speak to operators directly and assess the situation on the ground. This overlaps with inspections conducted as part of compliance responsibilities and is discussed in more detail in the accompanying report on compliance and enforcement[10].

The evaluation of the VOS allows the regulator to gain an understanding of the quality of the verification process being undertaken. In many instances it has also served to increase regulator confidence in the quality of the verification process, due to the content of the VOS assessed. This assessment, also, allows feedback to primarily the verifier and accreditation body supporting the continual improvement of verification as a process. Making active use of all information is considered to be good practice. If the results of this process are not made use of it becomes purely an administrative exercise and a burden.

[10] IMPEL (2006a) *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme, Report 4:Compliance and Enforcement*; see http://ec.europa.eu/environment/impel/index.htm

It was felt that there is a need to develop clear procedures for this evaluation. This would aid regulators, but also help to ensure that most use is made of the VOS evaluation process. Presented in Box 7 are details of an approach utilised by the UKAS for the assessment of VOS. This has been adapted to help regulators understand what might be expected from verifiers and how this might be assessed.

Box 6 – Assessing VOS - What should regulators expect and assessment methods

Set out below are details from the 'UKAS Guidance for the Application of ISO/IEC Guide 65 (EN45011), EA-6/01 and EA-6/03, for verification of greenhouse gas emissions for the purpose of the UK's various emissions accounting and trading schemes - http://www.ukas.com/Library/downloads/publications/CIS5.pdf '. UKAS is the accreditation body for verifiers in the UK. During discussions with Member States it was noted that some regulators were facing difficulties when assessing VOS submissions. These problems arose as there was no clear baseline stating what acceptable practice is, hence to enforce improvements in the system.

The following section of the UKAS guidance is put forward to act as the starting point to develop a common baseline as to what regulators should be able to expect in terms of the content of a VOS from verifiers and operators. This could be developed further by the IMPEL group, in tandem with the development of a common VOS template, to give regulators a clear basis upon which it is possible to consistently and transparently assess VOS submitted. This in turn provides a more robust basis for identifying and addressing poorly performing verifiers.

Section 9 of the UKAS guidance on 'Decisions on Verification' –
'Following completion of the independent review by the Verification Body of the verification team's assessment of the participant's GHG emission data, the Verification Body shall issue a final verification opinion. As a minimum the verification opinion shall contain the following:

- Name and address of the participant
- Scope of verification
- The appropriate scheme and accreditation references
- Total GHG emission data verified (as an aggregate not broken down per source – unless otherwise specified by the applicable scheme rules); or baselines where applicable
- GHG protocol(s)/methodology(ies) used for verification
- Verification opinion with regard to data quality and materiality in the form of an affirmative statement (with or without qualifying comments, as appropriate).
- Applicable year
- Dated and signed on behalf of the Verification Body by authorised signature.'

3.5 Feeding back opinions and controlling quality

A vital way of ensuring the improvement of the EU ETS in terms of regulation is effective feedback. The yearly cycles of reporting provide a good opportunity to progressively improve permits, potentially increase the accuracy of emission projections for the future, improve the quality of verification procedures and ensure that the most efficient approach is taken to streamline processes etc. In terms of providing feedback on verifiers, many Member States have commented to accreditation bodies regarding verification performance, or plan to do so.

Some Member States, including UK, Finland, Sweden, Czech Republic and Ireland have received feedback from operators regarding the verification process in the first year. Feedback in many cases has been provided in a more ad hoc manner, although some Member States have undertaken a more structured process involving operators completing questionnaires. Of the feedback received thus far the majority has been

positive regarding the operator's experience of the verification process. Responses have suggested that some operators were taken by surprise in the first year in terms of the level of detailed information verifiers required. It was also suggested that some operators resent verifiers being able to recommend changes to monitoring methodologies employed. Others have appreciated being informed by the process.

3.5.1 Dealing with poor performance

In order to ensure the continued quality of the verification system it is essential that there are enforcement processes in place to deal with poorly performing verifiers. The majority of Member States commented that in extreme cases verifiers would be removed from the accredited list/have accreditation withdrawn. In addition Portugal and The Netherlands stated that criminal law suits for malpractice could be filed. Under some systems there are different stages of penalisation for bad practice leading up to withdrawal of accreditation, e.g. in the UK and Hungary warning letters can be written before having to resort to more severe action.

Feedback on performance is vital in terms of being able to make use of any enforcement system, i.e. proof is necessary in order to justify action against a verifier or verification body. Mechanisms such as site inspection can be used by the regulator to assess the performance of the regulator and accuracy of verifier reporting. A difficulty encountered by some Member States, however, has been the lack of a formal evaluation procedure that the regulator can make use of to assess specifically verifier performance and the quality of submissions, i.e. at present it is difficult to prove malpractice and justify any sanction. This is particularly a potential problem for those without an active accreditation body. This is partly the reason for the suggestions put forward in Box 7.

On a positive note the vast majority of Member States have not had to deal with malpractice cases yet. England and Wales have issued some requests for improvement in terms of practice, while Finland is considering the renewal of permission in one case. In Germany, some cases of malpractice have been identified and accreditation bodies will be called to investigate cases and take actions if appropriate.

4 Summary and Conclusions

In conclusion, when considering verification it is vital to view this essential process, as only one part of the broader compliance and enforcement system ensuring the appropriate implementation of a credible EU ETS. As such, there is no one good practice approach to the way regulators make use of verification, as the most desirable will depend upon the construct of the wider system. There are, however, different elements that any verification system should incorporate in order to fulfil its role effectively, to add value to and confidence in implementation of the EU ETS.

From a regulators perspective, although at times the verification process may appear more distant than some other aspects of compliance and enforcement activity, it is important that there is confidence in the verification process and the verifiers conducting it. The roles and responsibilities within the verification process must be clearly set out. Ideally a strong accreditation body will support the regulator to ensure the quality of the verification processes. If this is not possible other systems to support the process and ensure quality of emissions reporting should be put in place.

Communication between the regulator and both the operator and verifier is essential. The regulator has an important role in terms of educating these other parties and advising them in relation to verification requirements. The resources and tools must be in place to ensure the regulator is able and available to provide this important supporting role. This report provides some guidance as to instances and particular issues in relation to which operators and verifiers may need support.

.Reliable findings from the verification, should be fed back into the broader permitting, compliance and enforcement processes in order to gain the most regulatory value from this process. It is desirable to make active use of the outcomes of verification; verification opinion statements (VOS) for reporting the findings to the regulator should be developed in order to allow a level of reporting that facilitates this. In order to support this interaction, the development of standard VOS for use by verifiers and clear guidance to inform their activities is essential.

In terms of the quality of the verification process, the regulator has an important role. Regulators should put in place an assessment procedure in order to check the outputs of the verification process. Unless it is possible, based on resources, to check all VOS submitted by operators, the selection process to identify the VOS for review should be systematic and based on clear and transparent criteria. When assessing the VOS it is important to put in place criteria to determine the quality of the VOS, and if it is necessary to review outputs in more detail, the verifiers report. Having clear and transparent procedures in place, which are notified to verifiers in advance, supports the feedback processes. It importantly, also, allows a platform for appropriate authorities to take forward any disciplinary action against poorly performing verifiers. It is desirable to use all the tools available to regulators to enable a system where by standards of verification are high and continual improvement is enabled. This improvement relates to the quality of verifiers, but also to the quality of other processes that might be informed by verification ie operator monitoring and reporting, permit construction, approaches to inspection etc.

During this report the IMPEL group have put forward some tools, criteria and ideas designed to help regulators deal with the verification processes. The IMPEL group also considers that this report and the tools within it should help move towards greater common understanding regarding how verification is dealt with in different Member States. It is also hoped that the tools will represent a first step towards a more consistent approach to dealing with verification across all Member States. Greater consistency in terms of approach to verification is deemed desirable by the group; however, many feel that there are limits to the development of a completely harmonised approach to verification across the entire scheme. It was commented that had a common system been put in place at the commencement of the EU ETS, this would have been desirable. Now the regulatory systems have been constructed and Member States have developed their own systems, however, it is felt that the best approach to improving the systems is to work together to develop common processes and tools. This allows regulators to work within the confines of their particular system structure but in a way that can be considered good practice. It was felt that efforts to develop commonality should focus on achieving greater quality and confidence in the verification systems, not purely on developing identical/harmonised approaches in Member States. More details regarding the IMPEL groups views on the issue of harmonisation can be found in the overview report.

In summary the key elements relating to verification, highlighted by Member State regulators as areas for future improvement, were as follows. Several of these have been considered, at least in part within this report in order to start a process of improvement e.g. the first point. In relation to others regulators would like to see further work in order to develop acceptable approaches.

- Improved documentation – this point relates to improving submissions received by regulators, resulting from the verification process. Work on the standardisation of the VOS should aid this. There is, however, potentially future work in terms of providing guidance to verifiers etc and potentially a role for a standard Europe wide guidance. One point highlighted is that little use has been made of Commission materials supplied thus far.
- Ensure the process is clear and transparent – communication is essential within a system such as the EU ETS, which relies upon numerous different parties working together. A key element of this is that processes should be transparent; it must be clear why a regulator is operating in a certain way or what they are asking for. This reduces tension and allows confidence in processes to be built. An important element in need of improvement is the approaches taken to QA/QC. This is not addressed in this report but could be a potential topic for future work.
- Harmonisation of the work of verification bodies – while many Member States do not feel it is desirable to have one system of verification across the EU, it is desirable to work towards more common approaches, to bring systems closer together rather than allowing them to drift further apart.
- Improved evaluation of performance – proper evaluation of outputs of verification is essential. This report provides some guidance regarding how this might be taken forward. It is desirable, however, that future work be completed building upon this.
- Improved M&R plans based on verification comments – making the use of feedback from the verification process is important in terms of continual improvement within the system

- Earlier engagement between the operator and verifiers – this is seen as key to a successful verification process and has been particularly problematic during year one. This report deals with aspects of this problem, which it is hoped will reduce after this first period when operators and verifiers alike are still on a learning curve. If this problem does not reduce over time, there is a need to consider alternative approaches.

ANNEX 1: Participants in the Workshops

Title	First name	Surname	Address	Country
Ms	Lesley	Ormerod	Environment Agency, England and Wales Richard Fairclough House Knutsford Road Latchford Warrington WA4 1HG	England and Wales
Mr	Mike	Cunningham	Scottish Environment Protection Agency Erskine Court The Castle Business Park Stirling FK9 4TR	Scotland
Mr	Marc	Kierans	Irish Environmental Protection Agency Richview Clonskeagh Dublin 14	Ireland
Mr	Mariano	Morazzo	Ministry for the Environment and Territory Via Cristoforo Colombo 44 I - 00147 Rome	Italy
Mr	Jan	van der Plas	Department for Compliance and Enforcement, de Nederlandse Emissieautoriteit Centre Court Prinses Beatrixlaan 2, 2595 AL Den Haag P.O box 91503	Netherlands
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Ms	Ulla	Jennische	Naturvårdsverket/ Swedish EPA Klimatenheten / Climate Unit 10648 Stockholm	Sweden
Mr	Jaroslav	Suchy	Climate Change Department Ministry of the Environment of the Czech Republic Vršovická 65 Praha 10, 100 10	Czech Republic

Mr	Rüdiger	Schweer	Referatsleiter II 7 Klimaschutz Hessisches Ministerium für Umwelt, ländlichen Raum und Verbraucherschutz Mainzer Straße 80 D-65189 Wiesbaden	Germany
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Mr	Chris	Dekkers	Directorate of Climate Change and Industry - IPC 650 Ministry of Housing, Spatial Planning and the Environment (VROM) P.O.Box 30945, 2500 GX The Hague, Netherlands	Netherlands
Mr	Jarno	Ilme	Energy Market Authority Lintulahdenkatu 10 FIN-00500 Helsinki	Finland
Mr	George Nicholas	Nelson	Norwegian Pollution Control Authority Oslo	Norway

ANNEX 2 – Example of a Standardised Template for a Verification Opinion Statement

Example Provided by Austria many thanks to the Umweltbundesamt. Version 1, translated into English, 20.9.2006

TEMPLATE FOR VERIFICATION REPORT PURSUANT TO ARTICLE 15 OF DIRECTIVE 2003/87/EC

Note:
This template is only a recommendation for how to set up the verification report. However, the final form of the report will be highly dependent on the specific situation of the installation under scrutiny. The wording of the verification opinion statement itself should not be changed.
We recommend that you use your company's stationary and document formats as you are used to, but use this template's wording by copying & pasting the required parts of it into your report.
Text given in italics is for explanation and should be removed from the final report.
The template for the verification report starts on the next page.

Verification Opinion Statement Pursuant to Article 15 of Directive 2003/87/EC

Name and address of the verification body (or single verifier):	
Name and address of the experts involved:	
Time used for verification[11]:	
NAP-Code of the installation:	
Name and address of the installation:	
Person responsible for the installation (name and address):	
Permit pursuant to article 6 of the directive (Permit ID, Date, competent authority)[12]	
GHG Registry account ID:	
Reporting Year:	
ID of emission report which was verified[13]:	
Total emissions [t CO_2] of the installation in the reporting year[14]:	

Scope of the work carried out:
The verification work as outlined above was carried out based on the provisions of …… [*insert here the appropriate national legislation, e.g. for Austria:* "§ 9 Abs. 1 EZG"] and annex V of Directive 2003/87/EC. (*Optional: The audits were carried out in accordance with standard procedure …… of dd.mm.yyyy*[15]). The assessments were carried out following a risk based approach with the aim to reach a reasonable level of assurance on:

1. the fact that the numbers given in the emission report are fairly stated (i.e. that it does not contain material errors, misstatements or omissions), and
2. that the monitoring was carried out in accordance with the relevant greenhouse gas emission permit and the principles laid out in the Monitoring and Reporting Guidelines (Commission Decision 2004/156/EC).

[11] Please indicate especially the time for site visits
[12] If changes of the permit occurred, please identify the latest version.
[13] Here it is important to have a clear identification of the version of the report that was verified, e.g. the date and time at which the report was uploaded to the ETS Internet portal (→ edm.umweltbundesamt.at).
[14] Only non-biomass emissions. Sum of combustion and process emissions.
[15] If internal documented procedures were applied.

Verification opinion statement:
Please select the appropriate text building block from the table below.

	Meaning	Text building block
1.	**positive, unqualified:** emission number OK, full compliance with permit and MRG principles.	„We/I have assessed the above mentioned emission report in accordance with …… *[relevant national legislation, e.g. § 9 Abs. 1 EZG]*. The emission report reflects the emissions of the installation as truthful as possible. The emissions of installation ……*[Name]* (NAP-Code ……) were …… t CO_2 for the reporting year 200x. According to my/our findings the emission monitoring was carried out in full compliance with the relevant legal provisions and the permit conditions of the permit …… *[Permit ID]* of dd.mm.yyyy issued by …… *[competent authority]* (changed by permit(s) ……).“
2.	**positive, with minor qualification** Emission number OK, minor non-conformities with permit and/or MRG principles	„We/I have assessed the above mentioned emission report in accordance with …… *[relevant national legislation, e.g. § 9 Abs. 1 EZG]*. The emission report reflects the emissions of the installation as truthful as possible. The emissions of installation ……*[Name]* (NAP-Code ……) were …… t CO_2 for the reporting year 200x. According to my/our findings the emission monitoring was carried out with some minor non-conformities with the relevant legal provisions and the permit conditions of the permit …… *[Permit ID]* of dd.mm.yyyy issued by …… *[competent authority]* (changed by permit(s) ……). The non-conformities identified are of a minor nature and are considered not to influence the emissions materially. The operator of the installation was requested to take improving actions.” (A list of suggested areas of improvement to be appended.)
3.	**positive, with major qualification** Emission number OK, major non-conformities with permit and/or MRG principles (i.e. CA might have to decide whether it accepts the emission number)	„We/I have assessed the above mentioned emission report in accordance with …… *[relevant national legislation, e.g. § 9 Abs. 1 EZG]*. The emission report reflects – with certain qualifications – the emissions of the installation as truthful as possible. The emissions of installation ……*[Name]* (NAP-Code ……) were …… t CO_2 for the reporting year 200x. According to my/our findings the emission monitoring was carried out with some non-conformities with the relevant legal provisions and the permit conditions of the permit …… *[Permit ID]* of dd.mm.yyyy issued by …… *[competent authority]* (changed by permit(s) ……). The non-conformities identified are considered to influence the emissions materially. The operator of the installation was requested to take improving actions.” (A list of suggested areas of improvement to be appended.)
4.	**negative opinion regarding emissions number, but without non-conformities** *seems to be a rather hypothetical case, e.g. if not sufficient data was provided by the operator.*	“We/I have assessed the above mentioned emission report in accordance with …… *[relevant national legislation, e.g. § 9 Abs. 1 EZG]*. The emissions of installation ……*[Name]* (NAP-Code ……) for the reporting year 200x cannot be verified. According to my/our findings the emission monitoring was carried out in compliance with the relevant legal provisions and the permit conditions of the permit …… *[Permit ID]* of dd.mm.yyyy issued by …… *[competent authority]* (changed by permit(s) ……).” (Reasons for the negative opinion have to be given.)

5.	**Completely negative opinion** Emission number not verified, material non-compliance with permit	"We/I have assessed the above mentioned emission report in accordance with …… *[relevant national legislation, e.g. § 9 Abs. 1 EZG]*. The emissions of installation ……*[Name]* (NAP-Code ……) for the reporting year 200x cannot be verified. According to my/our findings the emission monitoring was carried out with some non-conformities with the relevant legal provisions and the permit conditions of the permit …… *[Permit ID]* of dd.mm.yyyy issued by …… *[competent authority]* (changed by permit(s) ……). The non-conformities identified are considered to influence the emissions materially. The operator of the installation was requested to take improving actions." (A list of suggested areas of improvement to be appended, as well as reasons for the negative opinion.)

Additional remarks / Qualifications
If relevant.

Scope for improvement of monitoring plan
If relevant.

Date, Place, Signature of Lead verifier

Verification Report

In this second part of the report the verification activities carried out should be described in more detail. How long this report should be, can only be answered indirectly:

1. *Transparency is one of the guiding principles of the MRG. A report is considered transparent, if its content is clear and complete enough so that an independent expert (such as the addressee of the report (i.e. the competent authority)) is able to understand the findings within reasonable time.*
2. *The definition of materiality („…whether … errors that affect the information reported for an installation will reasonably influence the intended users' decisions.“) suggests, that the addressee of the report has to be able to understand the findings of the verifier(s) so that he can come to a conclusion on the verification himself.*

Consequentially the following template can only be a framework suggested in order to be adapted for the need of the very installation verified.

Strategic Analysis

Documents assessed

- *Permit and monitoring plan*
- *Description of the installation, activities, monitoring methodologies, source streams, tiers to be applied according to the approved monitoring plan…*
- *if relevant: sampling and analyses methods,…*
- *Description of relevant elements of*
    - *Internal control systems*
    - *Data management systems*
    - *Quality assurance measures*
- *Pre-Audits (Protocols…)*

Overview of results of strategic analysis

Impact on assessor team building, elements of verification plan (Identification of topics of interest),…

Risk analysis

Preliminary appraisal of the internal control systems / data management and quality control systems
Quantification of risks of the identified topics of interest
Consequences for the verification plan

Verification plan

It seems advisable that the verification plan is presented in the report. We suggest to use a table like the example given below, as it can also be used as a checklist for the audit.

Topic of interest	***Relevance / Risk***	***Auditor***	***when, how[16]***	***documents / interview partner***	***Findings***	***assessment[17]***
Permit valid?						

[16] „How“: In the office (Document review) or site visit; if relevant describe sampling method.
[17] e.g. use a grade system: OK, improvement suggested, minor NC (non-conformity), major NC, etc.

Topic of interest	***Relevance / Risk***	***Auditor***	***when, how[16]***	***documents / interview partner***	***Findings***	***assessment[17]***
Permit changed during reporting year?						
Description of installation satisfactory?						
Monitoring plan complete? • *All source streams covered[18]?* • *All methodologies for activity data?* • *All constant values for calculation documented?* • *All sampling methods?* • *All analyses methods?* • *Batch sizes?* • *Control analyses by ISO 17025 accredited lab?* • *Calibrations and maintenance planned?* • *…*						
Quality of data management system						
Internal control system: • *Existing? Effective?* • *Is it applied in real life?*						
QA/QC measures in place?						
IT systems: • *well documented (transparent)?* • *Functionality tested?*						
Assessment of financial data (invoices, supply contracts, material management,…)						
Assessment of analytical data						

[18] The questions of this row can be applied to each source stream seperately.

Topic of interest	***Relevance / Risk***	***Auditor***	***when, how[16]***	***documents / interview partner***	***Findings***	***assessment[17]***
Compliance with permit (and/or approved monitoring plan): • *Methods for activity data correctly applied?* • *all constant values correctly applied?* • *Sampling methods correctly applied?* • *Analyses methods correctly applied?* • *Sufficient number of analyses?* • *Control analyses by accredited lab carried out?* • *calibration and maintenance measures correctly applied??*						
Calculations transparent and reproducible?						
Plausibility checks carried out?						
Assessment of application of the principles of the MRG: • *Completeness* • *Consistency* • *Transparency* • *Accuracy* • *Cost effectiveness* • *Materiality* • *Faithfulness* • *Improvement of performance*						
Suggestions for improvements						
Uncertainty assessment carried out?						
……						
……						

Main findings from the process analyses

Only if not already included in other parts of the reports, e.g. the checklist above.
If relevant, the reasons for choosing a certain materiality threshold should be given, as well as considerations about sampling strategies. For errors detected, the corrective measures should be listed.

Scope for improvement

If relevant.

Summary

Please summarize the findings that lead to the verification opinion.

Since 1992 IMPEL has generated almost 50 reports ranging from the Better Legislation initiative to the Reference Book on Environmental Inspections.

Reports related to Minimum Criteria for Environmental Inspections

- Guidance and recommendations relating to RMCEI
- IMPEL review initiatives
- Development of better inspection practice - Lessons learnt from accidents

Reports related to permitting, monitoring and the 6th EAP in a wider sense

- Improving best inspection practice, related to the 6th EAP
- Comparison programmes
- IPPC Directive
- Better legislation
- Transfrontier Shipment of waste
- Emission trading
- REMAS

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Environment
Agency

European Union Network for
the Implementation and Enforcement
of Environmental Law

Options and Proposals for Consistency in the Implementation of the EU Emissions Trading Scheme

Report 4: Good Practice in Compliance and Enforcement

Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law is an informal network of the environmental authorities of EU Member States, acceding and candidate countries, and Norway. The European Commission is also a member of IMPEL and shares the chairmanship of its Plenary Meetings.

The network is commonly known as the IMPEL Network

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on certain of the technical and regulatory aspects of EU environmental legislation. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. It promotes the exchange of information and experience and the development of greater consistency of approach in the implementation, application and enforcement of environmental legislation, with special emphasis on Community environmental legislation. It provides a framework for policy makers, environmental inspectors and enforcement officers to exchange ideas, and encourages the development of enforcement structures and best practices.

Information on the IMPEL Network is also available through its web site at:
http://europa.eu.int/comm/environment/impel

Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme; Report 4: Good Practice in Compliance and Enforcement	Number of the report 2006/13
Project Manager:– Lesley Ormerod, Environment Agency, England and Wales **Authors:-** Ian Skinner and Catherine Bowyer, Institute for European Environmental Policy	Report adopted at IMPEL Plenary Meeting in Berlin, May 2007
Project Group Members *See Annex 1*.	Number of Pages Report : 14 Annexes : 6

Executive Summary

This report is the third of four good practice guides produced by the IMPEL EU ETS project 'Options and proposals for consistency in the EU Emissions Trading Scheme'; there is also an overview report on Member State practice. This report sets out good practice in relation to compliance and enforcement in the EU ETS with reference to the European Parliament and Council's Recommendation on minimum criteria for environmental inspections (RMCEI).

With respect to compliance, the report compares the proposed approach to environmental inspections outlined in the RMCEI with that undertaken in the EU ETS to date, and that proposed for the future. Key findings are as follows:

- The activities that might comprise an environmental inspection, as proposed by the RMCEI, are also relevant to the EU ETS.
- The definition of an 'inspection' as defined in the RMCEI, i.e. one that is broader than a site visit, is not widely used, as yet, as some regulators use 'inspection' and 'site visit' interchangeably. Hence, the report defines these terms.
- The EU ETS is different from command and control regimes, as ensuring compliance is intricately linked to the verification of the emissions of an installation, which might also entail a site visit by the verifier.
- To date a relatively informal, risk-based approach has been taken to planning compliance assessment, but many regulators intend to undertake a more formal risk assessment on which to base their compliance activities.
- Both the RMCEI and the project's participants underlined the importance of preparing for a site visit and set out good practice in relation to such preparation.
- The findings of site visits should also be processed, stored and evaluated, and communicated to relevant parties, as appropriate, including the operator.
- A number of possible amendments to the RMCEI, which is currently being reviewed, are proposed in order to make the Recommendation more relevant to the EU ETS.

In relation to enforcement, the report sets out a number of principles that underlie good practice, including transparency, proportionality and consistency. These principles should be clearly stated and communicated to the operators. Finally, it is fundamentally important that the competent authority is seen to act according to these principles.

Disclaimer

This report on *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme; Report 4: Good Practice in Compliance and Enforcement* is the result of a project within the IMPEL Network. The content does not necessarily represent the view of the national administrations or the Commission.

OPTIONS AND PROPOSALS FOR CONSISTENCY IN THE IMPLEMENTATION OF THE EU EMISSION TRADING SCHEME; REPORT 4: GOOD PRACTICE IN COMPLIANCE AND ENFORCEMENT

Contents

Glossary of terms used

Competent authority:	The government department or agency designated under national law as being responsible for the implementation of the EU emissions trading Directive
Regulator:	The government department or agency that regulates installations covered by the EU emissions trading Directive

Note on the usage of 'England & Wales', 'Scotland' and 'UK' in the report:

In the United Kingdom (UK), land-based installations in the EU emissions trading scheme in England and Wales are regulated by the Environment Agency, while in Scotland, these installations are regulated by the Scottish Environmental Protection Agency (SEPA). Both the Environment Agency and SEPA are represented at IMPEL and were involved in the project on which this report was based. The regulators for Northern Ireland, the Department of the Environment, and for UK off-shore installations, an office of the Department of Trade and Industry, have not been involved in the project. In the text, therefore, the term 'UK' is not used; rather reference is made to 'England & Wales' or 'Scotland' when referring to installations regulated by either the Environment Agency or SEPA, respectively.

1 Introduction

1.1 Background to the report

This report is the third of four good practice guides produced by the IMPEL EU ETS project 'Options and proposals for consistency in the EU Emissions Trading Scheme'. The aim of the project was to review the first year of operation of the EU ETS and to develop good practice in relation to four key areas:

- Small installations;
- Verification;
- Compliance and enforcement; and
- Monitoring and reporting.

The rationale for the project and methodology used can be found in the overview report[1].

1.2 Format and structure of this report

It was agreed that this report on compliance and enforcement would take the form of a good practice guide on compliance and enforcement. Hence, it is structured in the following way:

- Section 2 focuses on good practice in **compliance**. This addresses all stages of compliance from planning compliance assessment, through planning and undertaking site visits to using the results of compliance assessments. These stages are addressed in turn, but the section begins with a discussion of the different interpretation and application of the word 'inspection' that was uncovered in the course of the project.
- Section 3 focuses on good practice in relation to the principles that underlie **enforcement strategies.** This is the chosen focus as the detail of enforcement, such as fines and other sanctions, is dependent on national circumstances, and it is more difficult to prescribe good practice in this respect.
- Section 4 summarises the good practice identified in the report.

[1] IMPEL (2006a) *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme, Report 1: Overview of Member State Practice*; see http://ec.europa.eu/environment/impel/index.htm

2 Compliance

In 2001, the European Parliament and Council adopted Recommendation 2001/331/EC[2] which proposed minimum criteria for environmental inspections (RMCEI). These criteria were developed by IMPEL and so benefited from the insights of regulators in the course of their development. However, as the criteria were set out in a Recommendation rather than, say, a Directive, they are for the purpose of guidance only, and Member States' regulatory authorities are free to use them or not, as they wish.

When the analysis of the questionnaires for this project was being undertaken in the summer of 2006, it was discovered that the European Commission was in the process of reviewing the Recommendation with a view to potentially amending it. Hence, Section 2.5 makes some proposals, based on experience of the EU ETS, for the Commission's review of Recommendation 2001/331. The order of this section of the report reflects the structure of the Recommendation with Sections 2.2, 2.3 and 2.4, below, relating to Articles IV, V and VI of the Recommendation, respectively (the relevant parts of the Articles are quoted in the appropriate section). However, Section 2.1 begins with what the term 'inspection' means in the context of the EU ETS.

2.1 What is an inspection?

Article II.2 of the RMCEI defines an 'environmental inspection' as 'an activity which entails, as appropriate:

a) Checking and promoting the compliance of controlled installations with relevant environmental requirements set out in Community legislation, as transposed into national legislation…;
b) Monitoring the impact of controlled installations on the environment to determine whether further inspection or enforcement action … is required to secure compliance...
c) The carrying out of activities for the above purposes including:

   - Site visits,
   - Monitoring achievement of environmental quality standards,
   - Consideration of environmental audit reports and statements,
   - Consideration and verification of any self monitoring carried out by or on behalf of operators of controlled installations,
   - Assessing the activities and operations carried out at the controlled installation,
   - Checking the premises and relevant equipment (including the adequacy with which it is maintained) and the adequacy of the environmental management at the site,
   - Checking the relevant records kept by the operators of controlled installations.'

[2] Recommendation 2001/331/EC providing for minimum criteria for environmental inspections in the Member States (RMCEI) (OJ L118, 27.4.2001)

As noted in the overview report[3], different Member States interpret the term 'inspection' in different ways. Hence, there is a need for a consistent interpretation of the activities implied by the term in relation to the EU ETS. As well as being used differently in different countries, under the EU ETS regulatory regime site visits can be undertaken by both regulators and verifiers. Hence, it was recognised at the second project workshop that it was important to clarify the usage of these terms. It was agreed that, in the context of the EU ETS, the terms should be taken to mean the following:

- 'Inspection' or 'compliance assessment' as meaning the definition used by RMCEI.
- 'Site visit', as meaning a visit to the site by the competent authority for the purposes of assessing compliance.
- 'Verification site visit', as meaning a visit by the verifier to the site for the purposes of verification.

At the second workshop, it was agreed that most of the activities that the RMCEI proposes could be part of an environmental inspection (as listed above) and were also relevant to a compliance assessment under the EU ETS. The only exception was the second point relating to the achievement of environmental quality standards, as no such standards exist for the EU ETS. Rather it was proposed that the second bullet point could become 'Checking of environment data management systems and procedures'. Additionally, it was considered that the checking of permits and emissions reports could also be made explicit in the list of activities.

Hence, under the EU ETS, it is proposed that inspections, or compliance assessments, consist of activities that:

a) Check and promote compliance of the controlled installations with the EU Emissions Trading Directive, as it has been transposed into national law and interpreted in Commission or national guidance;
b) Monitor the operation of the controlled installations to ensure that they are in accordance with the requirements of the EU ETS as transposed into national legislation in order to determine whether further inspection or enforcement action is required to secure compliance.

Inspections might consist of the following activities:

- Site visits,
- Checking of environmental data management systems and procedures;
- Consideration of environmental audit reports and statements;
- Consideration and verification of any self monitoring carried out by or on behalf of operators of controlled installations;
- Assessing the activities and operations carried out at the controlled installation;
- Checking the premises and relevant equipment (including the adequacy with which it is maintained) and the adequacy of the environmental management at the site;

[3] IMPEL (2006a) *Op. cit.*

- Checking the relevant records kept by the operators of controlled installations;
- Checking the installation's permit to ensure that the activities described therein reflect the reality of the site in relation to the consistency and completeness of the monitoring of an installation's emissions; and
- Checking the installation's emissions report.

The extent to which a regulator undertakes any of these activities has to be determined by their overall approach to both verification and compliance. These two activities are intricately linked within the EU ETS and the approach taken with respect to one will have implications for the way in which the other is undertaken and vice versa[4]. The choice of approach will be linked to available resources, but also to the regulatory tradition of the country and the regulatory framework in place for the EU ETS. For the purposes of compliance assessment and the development of trust in the proper functioning of the various elements of the system, it may be appropriate to focus on a proportion of installations rather than all of them, particularly in any given year and given the fact that verifiers will visit every installation each year (see the overview report[5] for a discussion of Member State practice in this respect).

2.2 Planning inspections/compliance assessments

Article IV.1 of the RMCEI states that environmental inspection activities should be planned in advance, while Article IV.3 says that these plans 'should be produced on the basis of the following:

a) The EC legal requirements to be complied with;
b) A register of controlled installations within the plan area;
c) A general assessment of major environmental issues within the plan area and a general appraisal of the state of compliance by the controlled installations with EC legal requirements;
d) Data on and from previous inspection activities, if any.'

Furthermore, Article IV.5 states that each plan 'should as a minimum:

a) Define the geographical area which it covers…;
b) Cover a defined time period…;
c) Include specific provisions for its revision;
d) Identify the specific sites or types of controlled installations covered;
e) Prescribe the programmes for routine environmental inspections, taking into account environmental risks; these programmes should include, where appropriate, the frequency of site visits for different types of or [for] specified controlled installations;
f) Provide for and outline the procedures for non-routine environmental inspections… in response to complaints, accidents, incidents and occurrences of non-compliance and for purposes of granting permission; and
g) Provide for coordination between the different inspecting authorities, where relevant.'

[4] See IMPEL (2006a) *Op. cit.* and IMPEL (2006b) *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme, Report 3: Good Practice in Verification*; see http://ec.europa.eu/environment/impel/index.htm
[5] IMPEL (2006a) *Op. cit.*

As noted in the overview report, very few countries have yet taken a formal proactive approach to planning compliance assessments under the EU ETS to date due mainly to a lack of resources or knowledge. The most formal approach to planning a 'supervision', which includes the compliance assessment, as well as any enforcement activity, had been undertaken in Sweden (see Box 1). However, in many countries an informal risk assessment had been undertaken to plan their compliance assessments, e.g. by focussing on large emitters, complex installations, installations where there is a particular concern due, for example, to its compliance history or if poor or inconsistent information has been submitted to the regulator.

Box 1: Planning 'supervisions' in Sweden

In Sweden, a risk assessment is undertaken according to a procedure developed by the Swedish Environmental Protection Agency, when planning a 'supervision'. A 'supervision' is the term used for the range of activities including reviewing the emission reports and verification statements, site visits and any subsequent enforcement action. The procedure has four steps:

- Identifying the potential problems.
- Identifying the installations where these might occur.
- Choosing the supervision method.
- Plan for the supervision, including person hours and economic resources.

The choice of supervision method is based on a risk assessment undertaken against the following criteria:

- Potential impact of non-compliance.
- Resource efficiency, i.e. the need to ensure that staff and economic resources are used efficiently.
- Practicability, meaning a judgement as to whether the supervision method is possible to carry through or not.

On the basis of the assessment, the potential problems with the installation are identified and the supervision method – which could include a site visit – is identified. Once the method has been chosen, the supervision is planned.

At the second workshop, it was agreed that compliance assessments should be planned and it was suggested that criteria that might be considered as part of a risk assessment could be, for example:

- The **complexity** of the installation (either technically, or if a range of different fuels with different emissions factors is used). Note that small installations can be complex[6], so the complexity of an installation should be considered alongside other criteria, particularly the level of emissions.
- The **level of emissions** of the installation.

[6] See, for example, IMPEL (2006c) *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme, Report 2: Good Practice in Regulating Small Installations*; see http://ec.europa.eu/environment/impel/index.htm

- The **history** of the installation and its operator, e.g. whether there has been non-compliance before, either in earlier years of the ETS, or under other legislation.
- **Time consumed** in visiting an installation compared to the potential benefit, e.g. visiting an installation such as a university can be time-consuming, even though it is a simple installation and will have relatively low emissions, as there are potentially many meters that need to be checked.
- **Verifier feedback.**

It was also noted that the need for site visits may also arise from site visits carried out under other legislative regimes, e.g. IPPC, from variations or from verifiers' visits. Site visits may also be undertaken at the request of the operator, in order to address a particular issue. Another factor in deciding whether the competent authority should undertake a site visit might also be the confidence in the verifier assigned to visit the site in the course of the verification process.

Hence, in relation to the EU ETS, it is considered good practice to produce a plan for the purposes of compliance assessment based on a formal risk assessment, which should into account the following criteria:

- The **complexity** of the installation;
- The **total greenhouse gas emissions** of the installation compared to the total number of allowances issued in the country;
- The extent that **actual emissions in any one year differ from the allowances** allocated by the National Allocation Plan for that year;
- The **time required** for the compliance assessment;
- The **compliance history** of the installation; and
- **Data** on and from previous compliance assessments.

Each plan should include at least the following information:

- The **geographical area** covered by the plan, as the responsibility for assessing compliance falls to different organisations – some regional, some national – in different countries.
- The **time period** that it covers, e.g. a year, a particular phase of the EU ETS.
- A list, or at least a reference to where a list can be found, of **installations covered by the plan**.
- The approach to **routine inspections**, including the procedures for undertaking the risk assessment and the criteria to be used in the assessment.
- The procedures for instigating and undertaking **non-routine inspections**, such as responding to concerns raised by the verifier or regulators of other environmental regimes, or responding to the receipt of poor or inconsistent information.
- The procedures for the **co-ordination of the compliance assessment activities** of the inspection authorities, if there is more than one authority involved.
- The procedures for **revising the plan**.

On the basis of these plans, programmes of compliance assessments should be developed that outline which installations should be visited, when, by whom and which other resources are necessary.

2.3 Planning and undertaking site visits

Article V.1 of the RMCEI states that, in relation to site visits, Member States should ensure *inter alia*:

a) 'that an appropriate check is made of compliance with the EC legal requirements relevant to the particular inspection;
b) that if site visits are to be carried out by more then one environmental inspecting authority, they exchange information on each others' activities and, as far as possible, coordinate site visits and other environmental inspection work;
c) that the findings of site visits are contained in reports…'

Article V.2 states that routine site visits should promote and reinforce the operator's knowledge and understanding of the environmental requirements and environmental impacts and that these should consider the risks and impact on the environment. Article V.3 states that non-routine site visits should *inter alia* investigate non-compliance and be undertaken to inform permit determinations.

At the second workshop, it was noted that the preparation in advance of a site visit was fundamentally important. Hence for a half-day site visit, an additional half a day each might be spent on preparation and on follow-up. It was suggested that, prior to the visit the following information might be reviewed, for example:

- **Permit**, including the monitoring and reporting plan. In some countries operators can update aspects of the monitoring plan without the consent of the competent authority, in which case it was important to request the most up-to-date monitoring plan from the operator;
- **Changes and variations to the permit**;
- Recent **correspondence** with the operator. It is much easier to review the correspondence if there is a central filing system, to which all relevant staff have access;
- Most recent **emissions report**, and any issues that have arisen in relation to this;
- **Verification opinion statement**; and
- **Enforcement issues,** e.g. improvement reports.

It was also suggested that information to prepare for the site visit could be obtained from other sources, e.g.:

- Colleagues in a **regional office**, who may have broad experience of the installation;
- Colleagues with experience under **other legislative regimes**, such as IPPC;
- Any **list of dangerous installations**, e.g. if there are any health risks potentially associated with the installation; and
- Any other relevant **health and safety information**.

In some cases, it was suggested that colleagues in other authorities, e.g. those that either issue the permit or those that regulate other regimes, such as local or regional authorities, might accompany the ETS competent authority on the site visit. For this to happen, site visits would need to be announced sufficiently in advance. Undertaking

joint visits in this way enables the ETS competent authority to benefit from any local knowledge the local/regional authority might have.

As well as coordinating with any local authority in relation to the site visit, in some countries it was considered important to inform the operator of the installation well in advance of the site visit, and to identify the staff to whom the regulator would like to speak. It was emphasised that it was important to talk to different members of the operator's staff who have different types of responsibility, as they will have more detailed knowledge of different parts of the installation's operations and procedures. In other countries, some, or even all, visits for the purposes of environmental inspection are not announced, in order to attempt to catch the operator out. However, no country took this approach in relation to the site visits solely for the purposes of ETS, as it was not considered that such an approach would be appropriate.

Before visiting an installation, it was also suggested that it was important to make an assessment of the time that the visit, and its various components might take, in order to prioritise the on-site activities. As part of this assessment, it is important to recognise where problems might lie and to set aside enough time to address these, if they are important to assessing compliance.

Hence, in relation to preparing for, and undertaking, a site visit, good practice is considered to include:

- **Review the documentation** relating to, and produced for the installation, before visiting the installation.
- **Consult with colleagues**, including potentially those from other offices, to obtain a broader view on the installation and its operator.
- **Review relevant health and safety information.**
- Decide in advance which of the **operator's staff should be spoken to**, and inform the operator, if the visit is announced.
- **Assess the time** that different aspects of the visit might take, and identify where any problems may arise, in order to prioritise activities once on site.
- Once at the site, **follow the data trail**, from the emission of the pollutant to the emissions report.

In responses to the questionnaire, the majority of respondents supported the inclusion of the following items on a site visit checklist:

- Definition of the installation and activities;
- List of emission sources and fuel streams;
- List of tiers to be applied for activity data;
- Uncertainty analysis for metering/measurement equipment;
- Description of the type of measurement systems;
- Calibration/maintenance of measurement systems;
- Description of approach to sampling;
- QA and QC procedures for data management;
- Record keeping;
- Information on responsibilities; and
- Assessment of operator improvement programmes.

It was also noted that it was important to distinguish the two parts of the site visit, i.e. the technical and the administrative. A summary of the relevant aspects of the Dutch inspection (meaning 'site visit') protocol can be found in Annex 2.

2.4 Using the results of inspections

Article VI.1 of the RMCEI states that, after every site visit, that the inspecting authority should 'process or store' the findings of the site visit, an evaluation thereof, and a conclusion as to whether any follow-up action is necessary. Article VI.2 states that reports resulting from Article VI.1 should be recorded in writing and maintained in a database. The full report, or at least its conclusions, should be communicated to the operator, in accordance with Directive 90/313/EEC on the freedom of access to information on the environment, and be made publicly available.

In a few countries – England & Wales, the Netherlands, Norway and Ireland – regulators had developed a common format for reporting the results of site visits, while in Hungary a common format will be developed prior to the commencement of site visits. In the Netherlands, the reporting of the results of the site visit is linked to the original inspection protocol. After every site visit, a letter containing the findings is sent to the operator and, in the case of non-compliance, the operator is given a strict deadline within which they must comply. The Dutch Emissions Authority is currently designing a database into which the findings of site visits will be recorded, which will enable the data to be analysed. In England and Wales, such a database already exists into which the details of the site visit are entered. This entry includes a summary of the visit, any non-compliance identified and any subsequent actions that have been agreed with the operator. Any items requiring action by the operator, or any significant findings, are then communicated to the operator in writing. Consideration is also given to whether there is a need to communicate the findings of the site visit to any other body. Any non-compliance issues are recorded in a separate 'non-compliance report' within the database, which enables the non-compliance history of an operator to be viewed easily. Different regulators reported back the results of the site visits to operators in different ways – in some cases it was a full report, elsewhere the report is completed and agreed with the operator on site.

Hence, with respect to using the results of site visits, good practice is considered to be:

- Develop and use a **common format** for recording the results of inspections.
- **Communicate the results** to the operator in a suitable format, e.g. full or summary report or letter.
- Decide upon and agree with the operator **any remedial action** that needs to be taken.
- Consider whether there is a need to **communicate the results to any other body.**

2.5 Possible implications for the review of Recommendation 2001/331/EC

As can be seen in the previous sections, the RMCEI can be applied to the EU ETS, although some of its provisions are not directly relevant. In addition, some of the provisions of the RMCEI do not explicitly cover some activities that might be

considered to be important in the context of assessing compliance under the EU ETS. Hence, it might be appropriate to amend the RMCEI, accordingly, to reflect better compliance assessment under the EU ETS. It was also interesting to note that the term 'inspection' is still often interpreted as meaning a 'site visit' in some Member States, rather than the broader definition set out in the RMCEI, which suggests that the content of the Recommendation has not been widely appreciated. Hence, consideration might be given to using the term 'compliance assessment' in place of the term 'inspection'.

The first possible amendment to the RMCEI might be in relation to the activities that are considered as contributing to an environmental inspection. While the RMCEI makes reference to Community and national legislation, it makes no reference to Commission guidance, e.g. the MRG, so this additional reference might usefully be included list of documentation against which compliance is checked and promoted, as noted in Section 2.1. Another amendment could be to the list of activities that might be included in an environmental inspection. Under the EU ETS, it was considered that it would be useful to expand the list of activities within the RMCEI to include explicitly the checking of the following:

- An installation's environmental data management systems and procedures;
- That the installation's permit reflects the reality of the site in relation to the consistency and completeness of the monitoring of an installation's emissions; and
- The installation's emissions report within that context.

However, as the compliance assessment systems of different Member States will not necessarily consist of all the proposed activities, as they differ significantly (see, for example, the overview report), it is important, in this respect, that the list remains indicative and does not become prescriptive.

In relation to planning compliance assessments, the elements of the plan set out in the RMCEI are broadly similar to those relevant for the EU ETS. However, the RMCEI might be amended to state that the compliance assessment plan should be developed on the basis of a formal risk assessment, and that criteria, such as the complexity of the installation, its (relative) environmental impact, compliance history and time required, might be considered in this assessment.

In relation to preparing for and undertaking site visits, the Articles of the RMCEI are relatively high level. It might be useful to indicate in some more detail the type of documents that should be reviewed prior to a visit, and the potential sources of additional information, such as those identified as good practice in Section 2.3.

Given that the RMCEI does currently not make any reference to the format for reporting the results of compliance assessments, it could be recommended that a common format for reporting be used to enable the results of assessments to be more easily compared.

3 Principles of enforcement strategies

Good practice in enforcement in the EU ETS can only be identified in terms of the approach to enforcement, e.g. the principles underlying the enforcement strategy, as the details of sanctions etc. vary significantly between Member States. Thus it is not appropriate to identify just one good practice in this respect. The principles underlying countries' enforcement strategies revealed numerous common ideas and approaches. For example, in the Netherlands, the strategy aims to be clear and strict, communicating this with the companies and treating everyone in the same way. This chimes with the approach in England & Wales, where proportionality, consistency, transparency and the targeting of actions are the key underlying principles of enforcement. Similarly, in Ireland, the approach to enforcement can be characterised as fair, transparent and proportional. These principles are reminiscent of those employed by other countries, with good communication emphasised in Norway, and proportionality in Hungary. Some countries had not yet developed an enforcement strategy, but were planning to on the basis of a risk assessment (e.g. Finland). The principles of the enforcement strategy are backed up by the threat of sanctions[7].

The key to balancing the need for effective enforcement and also maintaining the good will of operators appears to be clear and timely communication. In the Netherlands, for example, operators are informed that the enforcement strategy will be fair, but strict; in Ireland, it is fair, transparent and proportional. In Norway, the approach was to ensure that operators understood the rationale behind the scheme, and why they had to comply with the legislation. In England & Wales, Scotland and Portugal, operators were reminded about upcoming deadlines. In England & Wales – for 2005 only – some flexibility was allowed in submitting emissions reports, e.g. operators were allowed to submit their reports up to two weeks after the official deadline and there was some flexibility with respect to the format of the report (particularly where there were IT problems. A high degree of support was supplied to smaller operators.

Good practice in relation to enforcement strategies, therefore, is considered to include:

- A **clear statement of the principles** that underlie the strategy;
- That these **principles should include**, for example, transparency, proportionality and consistency;
- That these principles should be **communicated to the operators;** and
- That the **competent authority practices these principles** in its communication with operators and verifiers. In other words, the competent authority is reliable and keeps to its word.

[7] See IMPEL (2006a) *Op. cit.* for more details

4 Summary and conclusions

This report has identified good practice in relation to compliance and enforcement in the context of the regulation of the EU ETS. This practice could be summarised, as follows:

Defining the terms

- 'Inspection' or 'compliance assessment' should mean the definition used by RMCEI.
- 'Site visit' should mean a visit to the site by the competent authority for the purposes of assessing compliance.
- 'Verification site visit' should mean a visit to the site for the purposes of verification.

Activities that might form part of an inspection or compliance assessments

a) Checking and promoting compliance of the controlled installations with the EU emissions trading Directive, as it has been transposed into national law and interpreted in Commission or national guidance;
b) Monitoring the operation of the controlled installations to ensure that they are in accordance with the requirements of the EU ETS in order to determine whether further inspection or enforcement action is required to secure compliance.

Inspections might consist of the following activities:

- Site visits;
- Checking of environmental data management systems and procedures;
- Consideration of environmental audit reports and statements;
- Consideration and verification of any self monitoring carried out by or on behalf of operators of controlled installations;
- Assessing the activities and operations carried out at the controlled installation;
- Checking the premises and relevant equipment (including the adequacy with which it is maintained) and the adequacy of the environmental management at the site;
- Checking the relevant records kept by the operators of controlled installations;
- Checking the installation's permit to ensure that the activities described therein reflect the reality of the site; and
- Checking the installation's emissions report.

Planning inspections/compliance assessments

Produce a plan for the purposes of compliance assessment based on a formal risk assessment, which might take into account the following criteria:

- The **complexity** of the installation;

- The **total greenhouse gas emissions** of the installation compared to the total number of allowances issued in the country;
- The **time required** for the compliance assessment;
- The **compliance history** of the installation; and
- **Data** on and from previous compliance assessments.

Each plan should include at least the following information:

- The **geographical area** covered by the plan, as the responsibility for assessing compliance falls to different organisations – some regional, some national – in different countries;
- The **time period** that it covers, e.g. a year, a particular phase of the EU ETS;
- Include a list, or at least a reference to where a list can be found, of **installations covered by the plan**;
- Set out the approach to **routine inspections**, including the procedures for undertaking the risk assessment and the criteria to be used in the assessment;
- Set out the procedures for instigating and undertaking **non-routine inspections**, such as responding to concerns raised by the verifier or regulators of other environmental regimes, or responding to the receipt of poor or inconsistent information;
- The procedures for the **co-ordination of the compliance assessment activities** of the inspection authorities, if there is more than one authority involved; and
- The procedures for **revising the plan**.

Programmes of compliance assessments should then be developed, based on this plan, to set out which installations should be visited, when, by whom and which other resources are necessary.

Planning and undertaking site visits

In order to prepare for a site visit, the following actions should be undertaken:

- **Review the documentation** relating to, and produced for the installation, such as those noted, above, before visiting the installation;
- **Consult with colleagues**, including potentially those from other offices, to obtain a broader view on the installation and its operator;
- **Review relevant health and safety information;**
- Decide in advance which of the **operator's staff should be spoken to**, and inform the operator, if the visit is announced; and
- **Assess the time** that different aspects of the visit might take, and identify where any problems may arise, in order to prioritise activities once on site.

During a site visit, the following might be checked:

- Definition of the installation and activities;
- List of emission sources and fuel streams;
- List of tiers to be applied for activity data;
- Uncertainty analysis for metering/measurement equipment;
- Description of the type of measurement systems;

- Calibration/maintenance of measurement systems;
- Description of approach to sampling;
- QA and QC procedures for data management;
- Record keeping;
- Information on responsibilities; and
- Assessment of operator improvement programmes.

Reporting and use of the results of, or outputs from, inspections

- A **common format** for recording the results of inspections;
- **Communication of the results** to the operator in a suitable format, e.g. full or summary report or letter;
- Deciding on and agreement with the operator on **any remedial action** that needs to be taken; and
- Considering whether there is a need to **communicate the results to any other body.**

Annex 1: Participants in the Workshops

Title	First name	Surname	Address	Country
Ms	Lesley	Ormerod	Environment Agency, England and Wales Richard Fairclough House Knutsford Road Latchford Warrington WA4 1HG	England and Wales
Mr	Mike	Cunningham	Scottish Environment Protection Agency Erskine Court The Castle Business Park Stirling FK9 4TR	Scotland
Mr	Marc	Kierans	Irish Environmental Protection Agency Richview Clonskeagh Dublin 14	Ireland
Mr	Mariano	Morazzo	Ministry for the Environment and Territory Via Cristoforo Colombo 44 I - 00147 Rome	Italy
Mr	Jan	van der Plas	Department for Compliance and Enforcement, de Nederlandse Emissieautoriteit Centre Court Prinses Beatrixlaan 2, 2595 AL Den Haag P.O box 91503	Netherlands
Ms	Ana	Tete Garcia	Inspector for the Environment Inspectorate General for the Environment Rua de O Seculo No 63 1249-033 Lisboa	Portugal
Ms	Ulla	Jennische	Naturvårdsverket/ Swedish EPA Klimatenheten / Climate Unit 10648 Stockholm	Sweden
Mr	Jaroslav	Suchy	Climate Change Department Ministry of the Environment of the Czech Republic Vršovická 65 Praha 10, 100 10	Czech Republic
Mr	Rüdiger	Schweer	Referatsleiter II 7 Klimaschutz Hessisches Ministerium für Umwelt, ländlichen Raum und Verbraucherschutz Mainzer Straße 80 D-65189 Wiesbaden	Germany

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Mr	Akos	Dénes	Emission Trading Dept National Inspectorate for Environment, Nature and Water Budapest Meszaros str. 58/a. Hungary 1016	Hungary
Dr	Ian	Skinner	Institute for European Environmental Policy (IEEP) 28, Queen Anne's Gate London, SW1H 9AB	UK
Ms	Catherine	Bowyer	Institute for European Environmental Policy (IEEP) 28, Queen Anne's Gate London, SW1H 9AB	UK
Dr	Rob	Gemmill	Industry Regulation Process Technical Services Environment Agency Olton Court 10 Warwick Road Olton, Solihull. B92 7HX	England and Wales
Ms	Lorraine	Powell	Emissions Trading Compliance/Assessment Team Environment Agency Richard Fairclough House Knutsford Road Latchford Warrington WA4 1HG	England and Wales

Mr	Chris	Dekkers	Directorate of Climate Change and Industry - IPC 650 Ministry of Housing, Spatial Planning and the Environment (VROM) P.O.Box 30945, 2500 GX The Hague, Netherlands	Netherlands
Mr	Jarno	Ilme	Energy Market Authority Lintulahdenkatu 10 FIN-00500 Helsinki	Finland
Mr	George Nicholas	Nelson	Norwegian Pollution Control Authority Oslo	Norway

Annex 2: Part of the original Dutch Protocol used when inspectors were visiting sites

1) Are the descriptions of the installations and processes correct?
2) Are the descriptions of the system boundaries correct?
3) Is the thermal capacity of each individual combustion installation correct?
4) Are the tiers associated with different aspects of the installation me?
5) Are all energy sources relating to the CO_2 calculation taken into account?
6) Is the export/import of energy included within the CO_2 calculation?
7) Are the drawings and maps of all the combustion installations listed in monitoring protocol/permit up to date?
8) Do the analyses of all energy sources comply with NEN or ISO standards, as prescribed in the permit/protocol?
9) Have all the announcements of changes in measuring and monitoring equipment been made?
10) Is the gas flow measuring system equipment able to make cross checks with your 'own' calculated CO_2-mass balance?
11) Do the accountancy data (bills) available about the annual gas supply 'fits' with the calculated CO_2 mass balance?
12) Is the measuring frequency adequate to achieve a sufficient accuracy in the CO_2-emissions calculation?
13) Are all stages included?
14) Are all processes and combustion emissions well distinguished?
15) Do all factors (oxidation grade, conversion grade, fuel related emission factor) meet the usual standards?
16) If regular calibrations of gas flow measuring equipment are available: is the regularity of calibration consistent with the technical specifications given by the supplier?
17) Ensure that biogas is not taken into account within the CO_2 calculations?
18) Do the temperature and pressure corrections of the supplied gas meet national standards?

Note that this protocol is no longer in use, as the inspectors are now sufficiently experienced to know what to look for when they visit a site for the purposes of assessing compliance with the EU ETS.

Since 1992 IMPEL has generated almost 50 reports ranging from the Better Legislation initiative to the Reference Book on Environmental Inspections.

Reports related to Minimum Criteria for Environmental Inspections

- Guidance and recommendations relating to RMCEI
- IMPEL review initiatives
- Development of better inspection practice - Lessons learnt from accidents

Reports related to permitting, monitoring and the 6th EAP in a wider sense

- Improving best inspection practice, related to the 6th EAP
- Comparison programmes
- IPPC Directive
- Better legislation
- Transfrontier Shipment of waste
- Emission trading
- REMAS

These reports can be viewed at http://ec.europa.eu/environment/impel/reports.htm


Environment
Agency

European Union Network for
the Implementation and Enforcement
of Environmental Law

Options and Proposals for Consistency in the Implementation of the EU Emissions Trading Scheme

Report 5: Good Practice in Monitoring and Reporting

Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law is an informal network of the environmental authorities of EU Member States, acceding and candidate countries, and Norway. The European Commission is also a member of IMPEL and shares the chairmanship of its Plenary Meetings.

The network is commonly known as the IMPEL Network

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on certain of the technical and regulatory aspects of EU environmental legislation. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. It promotes the exchange of information and experience and the development of greater consistency of approach in the implementation, application and enforcement of environmental legislation, with special emphasis on Community environmental legislation. It provides a framework for policy makers, environmental inspectors and enforcement officers to exchange ideas, and encourages the development of enforcement structures and best practices.

Information on the IMPEL Network is also available through its web site at:
http://europa.eu.int/comm/environment/impel

Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme Report 5: Good Practice in Monitoring and Reporting	Number of the report 2006/13
Project Manager:– Lesley Ormerod, Environment Agency, England and Wales **Authors:-** Ian Skinner, Catherine Bowyer and Jason Anderson, Institute for European Environmental Policy	Report adopted at IMPEL Plenary Meeting in Berlin, May 2007
Project Group Members *See Annex 1.*	Number of Pages Report : 11 Annexes : 3

Executive Summary

This report is the last of four good practice guides produced by the IMPEL EU ETS project 'Options and proposals for consistency in the EU Emissions Trading Scheme'; there is also an overview report on Member State practice. This report sets out good practice in relation to the monitoring and reporting in the EU ETS.

The Directive establishing the EU ETS requires competent authorities to issue a greenhouse gas emissions permit, which includes the necessary monitoring and reporting requirements, to installations operating in specified sectors. More detailed monitoring and reporting requirements are, however, left to the Commission's Monitoring and Reporting Guidelines (MRG). The MRG that applied to the first phase of the EU ETS, i.e. from 2005 to 2007, have been reviewed by the Commission and a second edition will apply for the second phase. A previous IMPEL report on the EU ETS (from 2005) covered the monitoring and reporting aspects of the EU ETS in a fair amount of detail. Hence, this report looks at particular aspects of good practice. Key findings are:

- The MRG still leave scope for interpretation, so many regulators have developed further guidance on aspects of the EU ETS that might be new to operators or that they consider might be problematic for the operator. This guidance has taken the form of presentations at workshops and seminars, site visits and internet-based information and has covered, for example:
    - How to achieve the greatest level of accuracy in terms of, e.g. the determination of activity data and the relevant emission, oxidation and conversion factors.
    - How to assess uncertainty, e.g. that underlying the measurement of activity data.
- It is beneficial if the inspector working with an installation has a good understanding of the industrial sector to which the installation belongs and is aware of the standards that can be expected for the sector concerned.
- Where resources and staff availability allow, it is good practice for the same inspector to work with an operator at the various stages of the regulatory process.
- For the purposes of consistency and facilitating evaluation, many Member States developed a template that operators could use to submit monitoring and reporting plans.
- Some regulators undertook a higher level of investigation when assessing the monitoring and reporting plans for larger emitters, sometimes employing external

specialists.

- A pragmatic approach was generally taken to the consideration of whether an installation should be allowed not to meet the highest level of accuracy; this was assessed on a case-by-case basis taking into account a variety of factors.

Disclaimer

This report on *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme; Report 5: Good Practice in Monitoring and Reporting* is the result of a project within the IMPEL Network. The content does not necessarily represent the view of the national administrations or the Commission.

OPTIONS AND PROPOSALS FOR CONSISTENCY IN THE IMPLEMENTATION OF THE EU EMISSION TRADING SCHEME; REPORT 5: GOOD PRACTICE IN MONITORING AND REPORTING

Contents

Glossary of terms used

Competent authority:	The government department or agency designated under national law as being responsible for the implementation of the EU emissions trading Directive
Regulator:	The government department or agency that regulates installations covered by the EU emissions trading Directive

Note on the usage of 'England & Wales', 'Scotland' and 'UK' in the report:

In the United Kingdom (UK), land-based installations in the EU emissions trading scheme in England and Wales are regulated by the Environment Agency, while in Scotland, these installations are regulated by the Scottish Environmental Protection Agency (SEPA). Both the Environment Agency and SEPA are represented at IMPEL and were involved in the project on which this report was based. The regulators for Northern Ireland, the Department of the Environment, and for UK off-shore installations, an office of the Department of Trade and Industry, have not been involved in the project. In the text, therefore, the term 'UK' is not used; rather reference is made to 'England & Wales' or 'Scotland' when referring to installations regulated by either the Environment Agency or SEPA, respectively.

1 Introduction

1.1 Background to the report

This report is the last of four good practice guides produced by the IMPEL EU ETS project 'Options and proposals for consistency in the EU Emissions Trading Scheme'. The aim of the project was to review the first year of operation of the EU ETS and to develop good practice in relation to four key areas:

- Small installations;
- Verification;
- Compliance and enforcement; and
- Monitoring and reporting.

The rationale for the project and methodology used can be found in the overview report[1].

1.2 Format and structure of this report

The issue of monitoring and reporting was addressed in considerable detail in a previous IMPEL report on good practice in emissions trading[2]. Actions identified in that report were subsequently taken forward and contributed to the revision of the European Commission's Decision establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC[3], otherwise known as the 'Monitoring and Reporting Guidelines' (MRG). Consequently, the approach taken to identifying good practice in relation to monitoring and reporting in the project on which this report was based was to focus on particular issues that were considered to be outstanding after the previous work and after the revision of the MRG. These issues relate to the following aspects of the monitoring and reporting of emissions for the purposes of emissions trading:

- The general requirements relating to monitoring and reporting in the EU ETS; and
- The assessment of the monitoring and reporting plans produced by operators.

These two aspects are addressed respectively in Sections 2 and 3, below. Section 2 also gives an overview of the general approach that is taken towards monitoring and reporting of greenhouse gas emissions within the EU ETS. Section 4 concludes the report with a summary of the elements of good practice that have been identified.

[1] IMPEL (2006a) *Options and Proposals for Consistency in the Implementation of the EU Emission Trading Scheme, Report 1: Overview of Member State practice*; see http://ec.europa.eu/environment/impel/index.htm

[2] IMPEL (2005) *Identifying Good Regulatory Practice in the EU Emissions Trading Scheme*, report number 2004/11; see http://ec.europa.eu/environment/impel/pdf/good_practice.pdf

[3] Commission Decision of 29/01/2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC

2 Monitoring and reporting requirements in the EU ETS

Directive 2003/87/EC[4] establishing the EU emissions trading scheme (EU ETS) sets out a number of requirements with respect to the monitoring and reporting of greenhouse gas emissions. First, a competent authority should only issue a greenhouse gas emissions permit for an installation if it is satisfied that the operator is capable of monitoring and reporting emissions. Second, the greenhouse gas emissions permit should include the monitoring and reporting requirements for the installation, as well as the methodology and frequency of the monitoring[5]. The detailed monitoring and reporting requirements are, however, left to the MRG, which were adopted by the Commission based on basic principles set out in Annex IV of the Directive. Member States have to ensure that emissions are monitored in accordance with these guidelines and that the operator of an installation reports annually on the emissions from that installation[6].

In all the countries that are part of the EU ETS, a monitoring and reporting plan (MRP) was included as part of the permit at least legally, if not physically. In Ireland, for example, the MRP is legally part of the permit, although it is not physically attached to the permit, thus allowing for it to be updated without the need to reissue the permit. Most Member States included some flexibility in the respective MRPs, either where this was necessary, or where the prescribed approach (e.g. as set out in the MRG) caused practical difficulties[7].

In the previous IMPEL project on emissions trading[8], there was much debate about the contents of the MRG. It was noted that the MRG were relatively flexible and left much to the discretion of Member States, as was appropriate given the fact that the EU ETS covers a range of countries with varying national conditions. As a result of this approach, however, different Member States had taken different approaches to monitoring and reporting, which has led to issues about interpretation.

A key aspect of monitoring set out by the MRG is the tier system, which defines the level to which an operator has to go in relation to certain aspects of monitoring – in general, the higher the tier the greater the level of accuracy that is required. Larger emitters are expected to achieve highest tiers more immediately than smaller emitters. Aspects of monitoring to which the tier system is applied include the determination of activity data and the relevant emission, oxidation and conversion factors that are used. The present MRG requires operators to apply the highest listed tiers in all cases, unless they can demonstrate to the satisfaction of the competent authority that this is technically not feasible or would lead to unreasonably high costs. In this case, the next tier down that is technically feasible and of reasonable cost may be agreed with the competent authority. Where necessary, the tier levels listed in Table 1 of the MRG should be applied as a minimum.

[4] Directive 2003/87/EC on Establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Council Directive 96/61/EC (OJ L275, 25.2.03)
[5] Both of these requirements are set out in Article 6 of the Directive
[6] This requirement can be found in Article 14 of the Directive
[7] See the IMPEL (2006) *Op. Cit.* for more detail of these approaches
[8] IMPEL (2005) *Op. cit.*

However, the criteria that Member States should use to determine technical feasibility or unreasonable costs are not specified in more detail, so it is left to Member State interpretation, with the result that different Member States tend to place different burdens on similar types of installation. Indeed, this has often been a concern that representatives of regulatory authorities have raised in the course of the IMPEL projects on emissions trading. It should be noted that the monitoring and reporting guidelines developed for Phase 2 (MRG 2) introduce a slightly less onerous regime regarding tier compliance, for smaller installations in particular.

As it has been left to regulatory authorities to specify the detailed monitoring and reporting requirements in their respective Member States, many have produced additional guidance to help operators achieve the highest tiers. In some cases, for example in Ireland, Norway and the Netherlands, this took the form of presentations at seminars and workshops at which operators were present. In Ireland, each installation was also assigned an inspector who visited the site and was available to deal with telephone queries in the application of the MRG, in general, for that installation. Other countries used the web, as the source of further guidance for operators (e.g. Sweden, Finland, Portugal, Hungary and Czech Republic)[9].

For each type of installation, the requirement to achieve the highest tier for, say, activity data, requires an operator to demonstrate that the uncertainty underlying the measurement of the activity data lies within a certain range – the higher the tier, the lower the level of uncertainty allowed. Specifying tier levels, and having them approved, constitutes the type of uncertainty analysis for the purposes of the MRG, unless an operator instead chooses to supply data from continuous emissions monitoring, in which case an even more involved uncertainty analysis is required.

Uncertainty analysis is not something that most operators have had to undertake as a result of most other legislative requirements. Hence, of the fifteen regulatory authorities that took part in the project, eight had provided additional guidance and interpretation on how operators should handle uncertainty. Some countries produced reports, e.g. England & Wales and Sweden, while in other cases, e.g. in Austria and Norway, guidance took the form of communication at workshops, while elsewhere, web sites were used, e.g. in Norway[10] and FAQ (frequently asked questions) in Germany[11]. In Ireland, additional guidance on how to undertake uncertainty analyses was included in the competent authority annual verification guidance note, while in Italy, an interpretation of uncertainty was inserted into national legislation. In the Czech Republic, a 'manual' was prepared in which operators could find a more detailed explanation of the MRG. Some countries also produced additional guidance on what should be considered to be best industrial practices on calibration and maintenance. In Ireland, some guidance was provided in the annual verification guidance issued by the competent authority[12], while in the Czech Republic and Germany, there was a FAQ on the respective websites, as well as informal responses to individual queries.

[9] Section 4.2.2.1.4 of the MRG
[10] See http://www.sft.no/english/
[11] See FAQ at. www.dehst.de
[12] See http://www.epa.ie/Licensing/EmissionsTrading/MonitoringReportingVerification/fileupload,8173,en.pdf

It is generally good practice to produce guidance on issues that the regulator considers may be problematic for the operator, such as on assessing uncertainty.

3 Assessing operators' monitoring and reporting plans

As noted in the previous section, the greenhouse gas emissions permit sets out operators' responsibilities with respect to the monitoring and reporting of emissions. Many regulators developed guidance for operators with respect to certain elements of monitoring and reporting. All the project participants whose countries take part in the EU ETS, except those from Austria and Poland, stated that some form of template was supplied which operators could use to submit their MRPs, thus ensuring that information was supplied in a consistent and comparable manner. In Finland, this was an internet-based tool, while in Hungary and Ireland[13], for example, it was based on Excel and Word files. In the Netherlands, templates were only supplied for simple installations (i.e. those emitting less than 500,000 tonnes CO_2 per year and those using natural gas, biogas or diesel). In England & Wales, there was an Excel spreadsheet[14], as well as examples of plans for different industry sectors (e.g. iron, glass, cement, small combustion, different types of power generation) to indicate the type and quantity of information, and general tier compliance, expected in completion of the M&R plan template[15].

A key part of the permitting process underlying the EU ETS is the assessment of the operator's proposed approach to monitoring and reporting. There are potentially, various levels of investigation that a competent authority might apply in this assessment, which can be broadly characterised as:

- High, i.e. investigating the metering, analysis and monitoring procedures in detail; using industry, metering and calibration specialists in the assessment process; and encouraging operators to achieve the highest tiers.
- Medium, i.e. the operators' proposals are investigated to identify whether they meet the highest tiers.
- Minimum, i.e. the operators' proposals are checked to ensure that operators have applied the correct tiers, but further investigation is left for the verification process or a later inspection.

The approach taken to the assessment of the monitoring plant depends on the type of installation. In some countries, all three of the levels of investigation noted above were potentially applied (e.g. in the Netherlands and Portugal) depending *inter alia* on the size of the installation. The application of a high level of investigation was generally reserved for large emitters, e.g. in Scotland, Portugal and Hungary. In both Portugal and Hungary, external specialists were used to assess the monitoring plans of the major emitters. In the Netherlands, in cases where the high level of investigation was applied, particular attention was given to the validation of data management systems and the assessment of the monitoring plan to ensure that it replicated well the real world situation; in addition a completeness test was undertaken.

[13] See http://www.epa.ie/Licensing/EmissionsTrading/MonitoringReportingVerification/fileupload,891,en.xls

[14] See http://www.environment-agency.gov.uk/commondata/103601/ets2mrtemplate_1334077.xls

[15] See http://www.environment-agency.gov.uk/commondata/acrobat/cement_exemplar_1339616.pdf

In some countries, e.g. England & Wales and Ireland, only a medium level of assessment was made of monitoring and reporting plans. In the former, this consisted mainly of desk-top determinations in order to avoid duplication of cost and effort with the subsequent work of the inspectors (when they visit the site) and the verifiers. In the latter, some checks were undertaken by the competent authority to confirm that installations had correctly applied the tiers and also that the appropriate metering capability was on site. Elsewhere, a medium level of assessment of monitoring plans was the approach taken in the majority of situations, e.g. in Hungary and Austria, or in the case of the smaller emitters, such as universities and hospitals, e.g. in Scotland. Sweden was the only country in which a low level of assessment was applied in all cases, although such an assessment was also undertaken in Finland, Portugal and the Netherlands, in some situations.

As noted in the previous section, a key aspect of monitoring and reporting emissions under the EU ETS is the requirement that operators demonstrate that the uncertainty associated with their approach lies within the required ranges. When approving monitoring and reporting plans (MRPs) for large emitters, regulators from most countries assessed operators' approach to uncertainty to some extent, although some did not require operators to include a full uncertainty assessment in their MRPs. However, the approach taken towards this assessment varied considerably between countries, for reasons often linked to the way in which the ETS is administered in each country. It should also be remembered at this point, that the regulatory aspects of the scheme were often set up in a relatively short time period. Hence, the approaches taken by the various competent authorities are not necessarily those that would have been undertaken if the pressures of time had not been so great.

Of those countries that assessed uncertainty, most used in-house expertise, which was usually supported by training for staff. In addition, some countries also used external expertise to increase either technical capacity or the amount of human resources at the disposal of the regulator. In some countries, a paper was developed which outlined the approach to be taken by competent authorities, including the approach to uncertainty analysis. For example, in Sweden a report[16] was produced setting out the approach to be taken by the regional competent authorities for permitting (the County Administrative Boards). In England & Wales and Scotland, a paper setting out what was acceptable to the UK regulators in relation to operator uncertainty analysis was agreed.

Neither England & Wales nor Sweden used external expertise for assessing uncertainty, whereas many other countries did. In Ireland, for example, it was the responsibility of the operators of large emitting installations to engage external consultants to calculate the uncertainty associated with the proposed approach to the metering of fuels. This was because it was considered that the approaches used differed significantly from the standard approach set out in the MRG. Once the operator had submitted the monitoring and reporting plans, the competent authority reviewed the uncertainty assessments. In many other countries external expertise was used simply to enable them to review the monitoring and reporting plans, including the uncertainty assessments, in the time available, e.g. in Scotland, Hungary and the Czech Republic.

[16] Swedish Environmental Protection Agency *Measuring Technique for emissions of carbon dioxide*; see www.utslappshandel.se

In the Netherlands, external consultants were engaged to help to review all the MRPs due to the short timeframe involved. However, in order to ensure that the consultants took a relatively standard approach to their work, they were given training and the issues raised were included in a 'living document' on 'emerging issues' that was used by those assessing MRPs to be developed as and when issues emerged. In Finland, the issue of uncertainty assessment was covered in seminars, which were organised by the competent authority, and attended by operators. Sweden also organised seminars for officials of the regional competent authorities.

As noted in the previous section, it was left to Member States to interpret what costs were unreasonable in relation to the requirement that operators meet the highest possible tier. Hence, it is not surprising that different approaches were taken in different countries. In England and Wales, consideration of 'unreasonable costs' has been carried out on a site-specific basis. It is accepted that various factors may need to be taken into consideration in each case, but one approach published as a specific example suggests that operators relate the cost of an improvement to the value of allowances potentially affected by the improvement. In Scotland and Finland, unreasonable costs are determined on the basis of cost as a percentage of turnover, although decisions are made on a site-specific basis, while elsewhere there is no definition in use (e.g. Sweden, Czech Republic). In the Czech Republic, the decision was usually based on a combination of factors (e.g. cost as a proportion of turnover, allocation value and emissions), while in Austria, the decision was based on the expert judgement of the relevant competent authority. In Ireland, the decision is based on a range of factors, and thus undertaken on a case-by-case basis. In the Netherlands, it was assumed that, if facilities could not reach the highest tier, but could reach the overall level of uncertainty, then requiring the facility to reach the highest tier was not cost-effective. In some cases, costs were considered unreasonable if the actions that were required to achieve the highest tier would significantly affect the industrial process, e.g. required shut-downs (e.g. in Scotland and Portugal).

At the second workshop, it was noted that the definition of unreasonable costs that has been included in the revised MRG – i.e. if costs are considered to be disproportionate to the overall benefit – is a positive step, but that there is still scope for further interpretation. There was a detailed discussion, based on some hypothetical examples, about what might be considered unreasonable. For example, if a tier required an operator to meet a 3% level of uncertainty, but the operator's current uncertainty was 3.2%, would an action taking the operator up to exactly the 3% level be considered to be reasonable expenditure? If the operator's level of uncertainty were 5%, then arguably the case would be more clear-cut. Alternatively, if an improvement took the uncertainty level down to 2.2%, which would be significantly below the required uncertainty level, should this be considered differently? The discussion underlined the need to determine unreasonable costs by taking into account a range of different variables. It was underlined that what was fundamentally important was to be able to justify the approach chosen in each case, both internally and to the operator. It was also noted that what is considered to be unreasonable can change over time, as with previous debates about actions that should be taken to address acidification, for example. It was concluded that the determination of unreasonable costs is one of the most difficult issues for both operators and regulators. Possible approaches suggested were to organise dedicated workshops to discuss and share practice and experience, or

the development of a guidance table based on examples to be provided by competent authorities.

Additionally, the MRG does not specify the nature of the costs that should be taken into account in the assessment of unreasonable costs. Hence, different regulators took different costs into account when assessing whether these were 'unreasonable'. Examples of the type of costs included are the costs of additional investment and resources (e.g. Finland), measuring instruments and their replacement costs (e.g. Netherlands) and the costs associated with the calibration of existing meters, the acquiring of ISO 17025 accredited laboratories and analysis costs (England & Wales). In Sweden, the EPA issued guidelines to the regional competent authorities with examples of what could be considered to be unreasonable. Issues to be considered included the extra costs of investments, the total uncertainty of the emissions related to the monitoring costs, whether the highest tier could be achieved by existing equipment and routines, and whether the tier could be met by spreading investment over a number of years.

In most Member States, a small number of operators of certain installations were allowed to meet a lower tier than that specified in the MRG on the basis of either technical feasibility or unreasonable costs, as allowed for by the MRG. A minority of countries did not allow operators to justify the inability to meet the required tier on the basis of one of either technical feasibility or unreasonable costs. However, in reality, there are probably few examples of a practice that is not technically feasible if enough money is spent, so the distinction between not meeting the required tier due to technical or economic reasons is not clear-cut. Additionally, the time-scale within which operators had to instigate the necessary technical changes to meet the necessary tier requirements was relatively short, which was also a factor that some Member States considered when allowing operators to meet lower tiers.

Most Member States, therefore, took a pragmatic approach to determining whether an installation should be allowed to meet a lower tier than specified. In the Netherlands, Finland and Austria, operators were allowed to meet lower than specified tiers where there was a lack of clarity in the MRG as to what was required. In Austria, some general instances where meeting a lower tier should be allowed were set out in national legislation, for example, in relation to the use of ISO 17025 labs, emissions and oxidation factors and stock taking, many of which have subsequently been addressed by the revised MRG. In England & Wales, when an operator of a large-emitting installation requested an exemption from meeting the specified tier, the regulator usually requested more detailed information and justification than would be the case from the operator of a smaller emitter.

Where an exemption from meeting the specified tier was granted as a result of a lack of clarity in the MRG, this was generally applied for the entire first phase of the EU ETS, i.e. until the end of 2007. For the second phase, permits may have to be amended to take into account the revised MRG and thus the exemptions will be removed from permits at this stage if they are no longer needed. It was also highlighted that one of the intentions behind having a first phase of the EU ETS, prior to the Kyoto commitment period, was to enable Member States and their competent authorities to learn by doing. It was suggested that allowing exemptions to apply for the entire first phase was consistent with this intention.

In Scotland, in the one case where an installation was allowed not to meet the specified tier, the operator was required to commit to an improvement plan to enable the highest tier to be met in the course of the first phase of the EU ETS. In Italy, exemptions were allowed until the end of 2006, as this was the date agreed, in consultation with operators, by which the necessary changes to installations could be achieved. In Ireland and England & Wales, exemptions were time-limited to enable the investigation and application of alternative methods to achieve the required tiers and to improve the quality of monitoring methodologies and equipment. In England and Wales, operators that are not meeting highest tier requirements have to submit an improvement report. The accompanying guidance provides details on the consideration of unreasonable cost. In those cases where exemptions were not given for the entire first phase, the length of the derogation was decided on a case-by-case basis.

In Sweden, a slightly different approach was taken, as operators applying to meet a lower tier had to convince the regional competent authority concerned that meeting the highest tier was not reasonable. Competent authorities assessed these requests on the basis of guidance provided by the Swedish Environmental Protection Agency as to what could be considered when decided what is unreasonable.

4 Good Practice in Monitoring and Reporting

This report has identified good practice in relation to monitoring and reporting in the context of the regulation of the EU ETS. This practice could be summarised, as set out below.

4.1 Monitoring and reporting requirements

While making the monitoring and reporting plan *legally* part of permit is good practice, as it ensures that operators are clear as to the monitoring and reporting requirements that have been placed on the installations, it is also good practice to make the administration of the scheme as efficient as possible. Hence, keeping the MRP physically separate from the permit to enable easier updating is also good practice. When resources are limited, it could be considered good practice to adopt a more flexible approach to smaller emitters in order to reduce the administrative burden on both operator and regulator.

If a trading system leaves room for interpretation of monitoring and reporting requirements at either the national or the regional level, it is beneficial for the regulator to provide additional guidance for operators to ensure as much as possible a level playing field between the operators. Where resources allow, it is also good practice to assign an inspector to each installation for the purposes of continuity. This enables the development of a relationship between operator and regulator, and ensures that the inspector has a good understanding of the installation and thus is able to respond better to any queries in relation to monitoring and reporting. The use of the internet to communicate guidance to operators is also good practice. It is also beneficial if the inspector has a good understanding of the industrial sector to which the installation belongs and is aware of the standards that can be expected for the sector concerned.

It is generally good practice to produce guidance on issues that the regulator considers may be problematic for the operator, such as on assessing uncertainty. The format that such guidance should take depends on the nature of the relationship between the operator and regulator, as well as any parallel guidance that has been produced. It may also facilitate electronic handling of data.

4.2 Assessing operators' monitoring and reporting plans

The provision of a template that operators can use is considered to be good practice, as it ensures that the monitoring and reporting plans submitted by operators will be consistent and comparable, both in terms of the information that they supply and the way in which this information is presented. This facilitates uniformity in the regulators' assessment of such plans, as the format in which the plan is submitted will be familiar to the assessors and promotes comparisons with other MRPs. It also facilitates possibilities for electronic handling of the information received.

The level of assessment adopted by different countries is influenced by a number of factors, such as the way in which the national systems have been set up and the resources available. While the requirements of the MRG need to be enforced in the

long run, if resources limit the level of investigation that can be applied to every MRP immediately, it is good practice to apply a higher level of investigation for large emitters, as, from the environmental perspective, it is the emissions from these installations that need to be monitored most closely. The use of specialists to assess the approach proposed by large emitters could also be seen to be good practice, particularly when this expertise is not present in-house or is limited. Finally, it is also good practice to focus on the assessment of key parts of the system, e.g. the data management systems, particularly when resources are limited.

Assessing the uncertainty calculations of large emitters is good practice, as a small error in terms of the percentage uncertainty calculated will be equivalent to a significantly larger amount of CO_2 emissions than would be the case for the same percentage error for a small emitter. Where there is more than one regulator, it is good practice to ensure, as far as possible, that a standard approach is taken. Agreeing a common approach between the regulators is important. The use of training, either for regional regulators or external expertise, is another way of attempting to ensure a consistent approach. Also, given that the assessment of the MRPs supplied by operators will take place over a relatively short time period (i.e. just after the deadline for their submission), the use of external expertise to facilitate this process is also good practice, provided a consistent approach is ensured.

Given the range of variables that could be taken into account in the determination of unreasonable costs, it is good practice to take a pragmatic approach in the absence of clearer guidance. In this respect, making decisions on a site-by site basis seems sensible as long as a common set of criteria are used. An inability to meet the required tier for a particular aspect of monitoring should also be seen in the context of the ability or not of the installation to meet the overall level of uncertainty required. For example, if a failure to meet the highest tier level on one particular aspect of monitoring does not affect the installation's ability to meet the overall level of uncertainty required, then arguably these is no major cause for concern. It could also be considered that an unreasonable cost would be incurred if the changes to the installation that are required to meet the highest tier necessitate the temporary closure of the installation. A range of costs might be taken into account when assessing whether any costs incurred might be considered to be unreasonable, such as the costs of additional investment, the costs of the associated resources (e.g. to integrate the new equipment into existing systems) and any additional costs associated with analysis.

Regulators generally took a pragmatic approach towards allowing operators exemptions from meeting the highest tiers. Given that the first phase of the EU ETS, which runs from 2005 to 2007, is a pilot phase in which all involved can 'learn by doing', some regulators exempted operators from meeting MRG requirements if the latter were unclear. In many cases where such an approach was taken, the revised MRG have indeed addressed these concerns. In other cases, where the tier requirements could not be met immediately, but where action could be taken in the course of the first phase, then exemptions were allowed until the necessary improvements could be made. In such cases, it is good practice to specify such improvements either in the permit or in an improvement plan.

Annex 1: Participants in the Workshops

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- REMAS

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