

Emissions Trading Workshop: One Step Further Towards Full Compliance

Summary of INECE Workshop on 29 May 2006

Offices of the Centre for European Policy Studies, Brussels, Belgium

1 Introduction

The International Network for Environmental Compliance and Enforcement (INECE) and the International Emissions Trading Association (IETA) organized this workshop to develop an action plan for the IT-based system for monitoring, reporting, and verification and other functions in the European Union Emissions Trading Scheme (EU ETS) that included the scope of the system, timeline, the designation of responsibilities, communication of benefits concerned and involvement of other stakeholders.

This event built upon the results of the 24 February 2006 INECE workshop and the first INECE workshop on ETS held in Washington on 17/18 November 2005, and to agree on the type and sophistication of an IT-based system to automate the workflow within EU-ETS as well as the next steps forward. For further information on its results please see the summary of that workshop.¹

During the workshop several stakeholders made presentations on topics such as the current status of the revised Monitoring & Reporting guidelines, the results and conclusions of the previous INECE workshop, the experiences in Finland with development and operation of the IT based system of organising the workflow between operators, verifiers and the Finnish Energy Market Authority, and the main elements of the Finnish IT system. The presentations provided a framework for discussions between the participants representing government and regulatory agencies as well as verification bodies.

This summary reports on the main discussions during the INECE workshop and the understanding that emerged between participants. The summary concludes with a set of concrete steps and recommendations and sets the scene for the planning of actions for the upcoming period. The most important elements discussed during the workshop were: current status of monitoring, reporting and verification in the Member States, scope, procedures and functionalities of the Finnish IT system, the various possibilities of defining the scope and functionalities of an IT based compliance system, its benefits and constraints, the timing and time constraints of introducing such systems, the involvement of and communication to other stakeholders and the designation of responsibilities.

2 Current Status of Monitoring, Reporting and Verification Within EU ETS

Mr. Rob Gemmill of the UK Environment Agency outlined in his presentation that, although Member States have encountered some difficulties concerning the functioning and implementing of the registry and in the UK several installations failed to engage verifiers on time despite good planning, communication and the development of templates, the results from the first trading period with respect to verification and reporting are relatively positive. A particular point of interest is to increase awareness of installations of the importance of specific monitoring, reporting and verification requirements.

Mr. Gemmill mentioned that the review of the Monitoring and Reporting Guidelines is in its final stages of decision. The Climate Change Committee are expected to vote on the final draft of the guidelines on 28 June 2006. Compared to the present MRG the draft MRG provides for more flexibility for especially

¹ Information Technology Platform for Consistent, Transparent, and Efficient Monitoring, Reporting and Verification, Summary of a Workshop on 24 February 2006, PricewaterhouseCoopers offices, Brussels, Belgium.

small installations and installations that emit less than 50 ktonnes of CO₂. The Guidelines lay down more prescriptive and elaborated requirements with respect to monitoring plans, control and verification thereby enhancing the quality of these functionalities. Improving cost effectiveness and user friendliness have been key objectives in the review of the Monitoring and Reporting Guidelines. The need for common and clear requirements on delineating responsibilities between parties involved and defining the key concepts of monitoring, reporting and verification is essential for a proper functioning of an IT-based system. Such requirements have been laid down in the revised Monitoring and Reporting Guidelines which even explicitly allows electronic reporting.

During the first trading period member states have gained more understanding of monitoring, reporting and verification and definite progress has been achieved. Still the system could be functioning more effectively by introducing IT into emissions trading.

3 Finnish IT System

Mr. Jarno Ilme of the Finnish Energy Market Authority (EMA) explained in his presentation that, starting in October 2005, the Finnish IT system was developed jointly by EMA and Innofactor. Early this year this basically voluntary system was used by nearly all installations as most operators were quickly convinced of the benefits and the simplicity of the system. It took EMA little effort to engage stakeholders into the project which in the end provided for an efficient functioning of emission trading in Finland. There were a number of lessons learnt from this first three months and EMA and Innofactor are studying how to incorporate these into the system.

Mr. Tuomas Riski of Innofactor Ltd. demonstrated in his presentation how operators, verifiers and the competent authority can access the system through a web-based interface which is basically a central database. The system uses XML as IT language and it contains among other things pre-filled reporting, permitting and data formats enabling operators, verifiers and the competent authority to update the information at any time. Browsing, printing and attachment possibilities have been built into the system. Access to the system is possible via username and password. However strong authentication by using bank authentication codes of three major Finnish banks or by using an electronic authentication card admitted by the state of Finland enables parties to sign electronically. As electronic signing does not require parties to print all documents, sign them manually and submit them in paper, Finnish operators and verifiers have indicated to prefer using strong authentication in the future. Other features of the system are its ability to accommodate versions several languages, common formats and the possibility of tracking the status of emission permits, reports etc.

Moreover it enables parties to analyse reporting data, to keep track of differences between verification bodies in verifying and to check the comments in the verification opinion statements. Participants of the workshop felt that the system shows interesting and promising elements that can be used to develop an IT based system within Europe. Moreover the system could be easily adapted to specific needs of the stakeholders. For example automatic calculation of the activity data, emission factor etc. into total emission data could be incorporated into the system. This also applies to the official and standard phrasing of a verification statement.

One of the participants pointed to a possible shortcoming that the system is based on and contains overall annual emission data per fuel instead of daily data. However, detailed and underlying data can be submitted by attaching corresponding excel sheets. Participants also wondered whether emission data in the permit could be easily changed or added. Innofactor mentioned that operators in Finland would favour that the system would be linked directly to the registry to avoid a situation that operators and verifiers had to fill in their total emission figure separately in the registry. As a result, EMA and

Innofactor are now working on an interface that will establish linkage between the IT system and the registry.

4 Defining the Scope of an IT System

Mr. Jeroen Kruijd of PricewaterhouseCoopers (PwC) presented the first results of the follow-up study commissioned by the Dutch ministry of VROM which builds on the Feasibility Report presented on the 2d INECE workshop of 24 February. He mentioned as one of the outcomes of the workshop of 24 February that there was a clear need for delineating and defining beforehand the scope and functionalities of any new system to be developed. Another outcome of the earlier workshop was the need to ascertain and identify possible legal and technical constraints as well as to identify differences and commonalities between the stakeholder member states. Only after identifying those aspects will it be possible to specify the type and precise dimensions of the system. Mr. Kruijd explained that the means and steps to implement a system will be addressed in a later stage of this project. To identify those constraints, regulatory problems, commonalities, inconsistencies and differences and to get a clear overall picture PwC has interviewed the seven likely stakeholder MS².

Building on the discussion during the INECE Workshop of 24 February, which had revealed a preference for expanding the use of IT by automating the workflow, basically four options of automating the work flow can be identified by arranging the options in a pyramid figure. The first and bottom line option would be developing a joint blue print on what the system should look like to enhance transparency (basic functionalities). The second option and base of the pyramid concerns the control requirements (common reporting formats and common security requirements). In the third option the stakeholder MS have each their own automated IT systems be it with a jointly developed IT core, i.e. by using XML. In this option MS could for example use the Finnish model and adapt it to their own specific needs. The fourth option and the top of the pyramid is a joint European IT system. The pyramid reflecting the four ambition levels could be entered by member states at different levels and at different phases of time. Some member states could for example start on the second base of the pyramid and end up in the third option in a later phase. Different phases of developments could also apply to verification, the workflow itself or the workflow connected to a database.

5 Extending the Scope of an IT-Based System

Mr. Kruijd explained that the scope of the system should not be restricted to only the basic functionalities of emission trading. In fact there is in his opinion more at stake than just emissions trading. Although participants agreed on focusing in first instance on the monitoring, reporting and verification functionalities within EU-ETS, they acknowledged that in principle an IT-workflow management approach may have a wider perspective. In principle the monitoring & reporting requirements from EU-ETS and the definition of procedures and functionalities emanating from EU-ETS could be extended to corresponding areas of interest such as E-PRTR. Much could be gained by expanding the system to those other fields since it would greatly reduce the administrative burden for all parties involved. The diversity in existing reporting requirements and the overlap in information that is to be submitted to meet those reporting requirements require streamlining and simplification by using IT to avoid duplication while greatly enhancing and improving the quality of the flow of information. Applying the IT system to other fields is an issue that could and should be considered sometime in the future.

² PricewaterhouseCoopers has been commissioned by the Netherlands' ministry of environment (VROM) to carry out a follow-up project to the earlier Feasibility Study on the use of IT for enhancing the consistency, transparency and efficiency of the EU ETS.

Other future expansions to the system could be to update permits in real time thereby enhancing the reporting of emissions, allowing at least partially off-site verifications, and also off-site enforcement, allowing a range of statistical analyses, linkages to the registry and online verification and accreditation status tracking. It was mentioned also that quarterly and six monthly data flow instead of annual data should be worth exploring as this would certainly enhance the trust in emissions trading by providing more transparency to market participants. This non-exhaustive list of options could be supplemented depending on the needs and wishes of the stakeholders involved.

6 International Dimension to an IT-Based System

Mr. Jeremy Schreifels explained that over the years the Environment Protection Agency (EPA) in the US had learnt some lessons in applying IT systems in Emission Trading which could be very useful for Europe. At this moment EPA is integrating different state and governmental IT systems by using among other things XML. Because of its ability to attach labels to the data being transferred between various users of data and incorporating these in their own in-house IT network and databases, XML encourages a continuous data flow between different users and enables consolidating data from different systems. The lessons from integration experiences in the US could be very useful when the EU member states integrate the different national and local systems and adapt, for instance, their own IT systems to the Finnish IT model. From the discussion that followed participants felt that they could benefit from the practical and technical experiences in the US when in a next stage the option would be to extend an IT-system outside the boundaries of ETS to other reporting requirements like the PRTR. The USEPA is daily tracking emission data, storing information from a large number support of installations and using additional IT tools for analysing data. EPA has created an alert system which detects misrepresentations and errors in data. EPA has also provided guidance on how to communicate the benefits of the system to the different users of the system. But of course a voluntary user of the system has a different perspective on its benefits and disadvantages than a regulatory agency which is concerned with an obligatory system. So any communication should always be geared to the specific target group which is being addressed. For instance, in the US some experience has been gained in applying a IT guidance model originating from the tax system. This model basically takes the user through certain questions and detects the needs and obligations of that user from the answers to these questions.

Mr. Kunihiko Shimada of the Ministry of Environment of Japan explained that since the workshop of 24 February, Japan has made major progress in developing an IT-based system for emissions trading. The development of the online data flow is highly encouraged by the government and legislation requiring electronic transfer of data has entered into force. In order for the system to be compatible to the EU-ETS and with other ETS as much as possible, he welcomes to be part of the discussion on functionalities, criteria and other elements of the IT based systems as Japan is looking with great interest towards the EU and the grand experiment with ETS. His country would like very much to be involved in the further development. It would enable Japan to design its own national system along similar lines. Given the speed with which Japan is setting up its system, he would encourage the quick development of an EU IT based compliance system.

7 The Need for Outlining the Advantages of an IT-Based System

Various participants stressed the importance of covering the transboundary aspects of emissions trading: the highly international dimension and profile of ETS is already now a key element in the consideration of and need for an IT-based system as it will ultimately encourage the acceptance of ETS by various stakeholders. It was felt that the advantages of using an IT-based system should be clearly communicated to all stakeholders involved. This could be done by emphasizing the advantages of the IT based system

developed jointly by stakeholder MS compared to the alternative that Member States develop their own automated systems, paper-based systems or other instruments.

The added value of using IT based compliance is believed to be the most substantial in the permitting, e.g. approval of the monitoring plan and its amendments as this activity is highly labour intensive and involves major flows of information between operators and the competent authority. Less reduction of administrative burdens can be gained in the data flow between operators and the verifier. Outlining and specifying those advantages in a working document would certainly help clarifying the basic functionalities, dimensions and scope of such systems and would be indispensable in getting the benefits and advantages across to other stakeholders who may be interested in this project. The follow-up study of PwC will take all these elements into account.

8 Practical, Technical and Legal Constraints

Despite the clear benefits and advantages, some constraints need to be considered when defining the proper functionalities in developing an IT-based system, and efforts should be made to tackle these constraints. One of the constraints is the diversity with respect to implementing the monitoring, reporting and verification requirements by each of the member states. These differences are also due to the fact that so far EU ETS has been regarded by nearly all stakeholders as primarily an environmental instrument rather than a primarily financial instrument in the eyes of the financial sector and trades. In order to achieve a common currency and common denominator the financial aspects of ETS should be highlighted and strengthened.

There are still some bottlenecks that hold member states back from finding common solutions and denominators, as a result of which one tonne in one member state is not always the same tonne in the other. However at a higher and more abstract level a general common denominator can and should be identified. Because of the requirements in the EU Directive and the Monitoring and Reporting Guidelines member states basically perform the same processes.

However the organization of these functionalities and the permitting and verification processes may differ among member states. In some member states like Austria a federal structure causes the permitting and inspection function in the ETS to be decentralized since local and regional authorities are designated competent authorities and therefore responsible for the permitting. Austria expressed some concern on keeping the various authorities on the same path and convincing them to participate in a national IT-based system. Participants of the workshop felt that decentralization in itself should not stand in the way of developing an IT-based system, as in such a situation assistance could be provided at federal level through an IT based compliance tool. This would however require careful manoeuvring in order not to impose on and constrain the “competence” of the provinces or counties.

In some member states like the Netherlands an IT based compliance approach must address also the existence of a national NO_x emissions trading which will require integration of the CO₂ and NO_x trading schemes in the functionalities of an IT based compliance tool.

It was felt that adapting the automating systems already developed by some member states to the Finnish model would take some effort. XML could however facilitate that process. The universal language and adaptability of XML would allow competent authorities, operators and verifiers to keep and manage their own autonomous IT systems.

PwC reported that real legal constraints had not been reported by the respondents. Moreover, electronic “signatures” of emission reports is already regulated in the Commission regulation on the registry. On the other hand however, differences in interpretations of EU regulations could lead to some

problems. Technical constraints could be re-entering data in one central database. This is not a major bottleneck since re-entering would have to be done only once. Another constraint might be the compatibility of the system with existing e-government projects. Furthermore the Monitoring and Reporting Guidelines require operators to keep records for a period of 10 years. Some participants expressed concern that storage capacity problems might arise when in an It-based compliance structure huge data and attachments will be submitted into one central database. In the US EPA has solved this problem by using two servers; one server functions as a database, the other one is used for uploading files. Based on that experience no major problems with storage of data would be expected.

In addition to the outlining of the advantages of an IT-based system and identifying the differences and commonalities between member states concerned, also the costs involved should be carefully assessed. PwC will address these points in the report of this project. Given the time available and the diversity in monitoring and reporting it was felt that the Finnish model should be used as a departing point and the system should be developed step-by-step taking into account implications, advantages, commonalities, differences and lessons learnt.

9 Criteria and Elements of an IT-Based System

Between the participants to the workshop a common understanding emerged on the basic functionalities of an IT-based system. It was felt that the system should be kept simple and that it would be advisable to concentrate first on the workflow for the approval of the monitoring plan/permitting, the reporting function and for the verification. Moreover, it was felt that enforcement and inspection functions are basically complementary to the approval process and functionality of the monitoring plan. In addition most participants felt that the system should leave enough flexibility for member states to manage their own autonomous IT-based systems. Integration with the registry and with other systems as well as incorporating concepts and functions such as statistical analyses should be explored.

Mandatory requirements to set up an IT-based system are not feasible at this moment. As a centralized European IT-based system is regarded as too ambitious at this point, developing a system on a voluntary basis seems to be the best way forward. If the system proves to be successful, other stakeholders will be easily convinced of the advantages and efficiencies of a well functioning IT-based system.

10 Timeline

Developing an IT-based system is not something that should be postponed or undertaken at any later stage. Participants felt that the window of opportunity is now. Waiting till a later stage would undoubtedly lead MS to the development of their own systems, which would make to synchronisation and defining common solutions more difficult later. So, proper and early communication of the intended scope, functionalities and dimensions of the system as well as the elaboration of specific tools and particular solutions should be appropriate to avoid member states from investing scarce money in the development of national IT systems. Another reason for timely action is the updating of the monitoring plan and possibly permits which will be necessary as a result of the review of the Monitoring and Reporting Guidelines. Although the Monitoring and Reporting Guidelines will take effect on 1 January 2008, most member states will probably have to start as early as October 2006 in communicating the new requirements on monitoring, reporting and verification to operators and verifiers. The scope and dimensions of an IT-based system and its characteristics should be crystallized by the end of 2006 or the beginning of 2007 so that operators are well prepared for it. Delaying the process will mean that common IT based compliance systems cannot be introduced into the second ETS period. Participants of this workshop concurred with this sharp timetable which should encourage stakeholders to participate as early as possible in practical discussions. Developing and implementing an IT-based compliance system is

one, but another is the need to look ahead to 2012 and beyond to ensure that future developments and technical options are taken into account. As common and clear requirements on the verification and reporting functions are necessary to develop a proper functioning IT-based system, amending the Directive on EU-ETS to improve and expand on the requirements on verification and accreditation should be explored further. A revised EU-ETS directive is expected to come into force in 2010, and will then be effective for the third trading period.

11 How And When To Involve Other Stakeholders?

Other stakeholders have shown interest in this IT-based project. Denmark, Sweden and Norway have reported that they want to be involved in the process and keen on joining the discussions between UK, Austria, Netherlands, Finland and Ireland on the creation of an IT-based system. Likely candidates for joining in a later stage would be the new member states such as Slovenia, Czech Republic, Hungary and Poland, while also Spain and Portugal might be wanting to join. The project will be developed in close cooperation and consultation with the other member states, the European Commission, INECE, IETA, US-EPA, Japan and other countries like Canada, Australia and software suppliers.

In order to attract other stakeholders and reach out to a broader audience it is not only necessary to outline the benefits and advantages of an IT-based system. The best marketing tool to convince other stakeholders would be by showing that the IT based compliance system actually works and provides the clear benefits to all parties involved, i.e. operators, verifiers and competent authorities. Participants to the workshop felt that an efficient and good business and marketing plan is the right instrument to communicate the type, dimensions and characteristics of an IT-based system. Such a strategic marketing plan should be drafted within five weeks.

Before communicating these aspects to a broader audience and taking it to the Climate Change Committee the report of PwC should be ready and well discussed so that the basic functionalities and other elements of the IT system would be clearly delineated and defined. Other stakeholders should be involved when a clearer picture has emerged. Eventually the November COP meeting in Nairobi could be used when reaching a more international audience. Furthermore, participants agreed that also the Finnish presidency which starts in July could play an important role in encouraging an IT-based system based on the Finnish model.

12 Designation of Responsibilities

It was agreed that the participants of the workshop would communicate the findings of the workshop with experts and management in their own organizations to get support internally for the projects' objectives and the discussions on exploring commonalities and functionalities for the joint development of an IT-based compliance system. Also budgets and funds should be explored to finance the development of such a system. Moreover, also within 5 weeks a business and marketing plan should be ready. By then something definite should be on the table.

In its interim report PwC lists the various ETS processes applicable in the Member States. The major task is now to agree on the functionalities that the stakeholder MS would want to incorporate. Participants agreed to meet again on the afternoon of 26 June 2006 with the aim to discuss and decide on the processes and functionalities to be taken on board in the IT-based system and which processes should be given priority. Prioritizing and defining the processes will further specify the scope and dimensions of the IT-based system to be developed. The meeting of 26 June is scheduled to take place before the stakeholders' verification day in Brussels so that the results and latest developments from the Stakeholder meeting can be reported to the stakeholders. PwC will submit its 2d interim report as input

for this “functionality validation” meeting well before 26 June 2006. In order to inform and report progress on the project to other interested member states, especially the new MS Slovenia, Czech Republic, Hungary and Poland, as well as countries such as Spain and Portugal, a meeting will be planned for the evening of 27 June or the morning of the day thereafter, preceding or parallel to the Climate Change Committee meeting of 28 June. A summary of this workshop will be distributed to the participants of this workshop by 14 June 2006.

Annex I: Attending the Workshop

Tom Spencer (European Centre for Public Affairs, UK), presiding workshop discussions

Jeroen Kruijd (PricewaterhouseCoopers, Netherlands)

Ken Markowitz (INECE Secretariat, Washington)

Jeremy Schreifels (US-EPA, Washington)

Kunihiko Shimada (Ministry of Environment, Japan)

Johan Pype (Tractabel, Belgium),

Tuomas Riski (Innofactor, Finland)

Jarno Ilme (Energy Market Authority (EMA), Finland)

Andreas Barkman (European Environment Agency (EEA), Copenhagen, Denmark)

Andrew Vincent Alder (European Centre for Public Affairs, UK)

Hubert Fallman (Austrian Federal Environmental Agency)

Rob Gemmill (UK Environment Agency (England & Wales))

Mark Kierans (EPA, Ireland)

Anne-Marie Warris (Lloyd’s Register)

Sven Starcks (DNV verification)

Ton Grosjean (Netherlands Emission Authority)

Chris Dekkers (Ministry of Environment (VROM), Netherlands)

Machtelt Oudenens (consultant to VROM, Netherlands)