

Inspection and market-based regulation through emissions trading The striking reliance on self-monitoring, self-reporting and verification

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1. Introduction¹

Climate change policies are highly characterized by the use of market-based policy instruments.² A clear example of this phenomenon is the European climate change policy dossier. An important milestone was the adoption of Directive 2003/87/EC of the European Parliament and of the Council, establishing an ambitious scheme for greenhouse gas emissions allowance trading within the EU.³ This instrument is expected to contribute to a large extent to the reduction of greenhouse gas emissions (especially carbon dioxide emissions) throughout the EU. Indeed, the EC and all EU Member States are parties to the United Nations Framework Convention on Climate Change and the subsequent Kyoto Protocol.⁴ Particularly the fact that through emissions trading pollutants can be regulated in a cost-effective way has made the instrument highly attractive for regulating greenhouse gas emissions. However, thus far only limited experience exists within the EU with this market-based instrument. Many questions have arisen and still arise about the design and implementation of the instrument. Much attention has been paid to the way in which the tradable rights (those rights are often called: allowances) will be distributed by governments to industries. Meanwhile, already quite some industries have resorted to the courts in order to challenge the distribution of the allowances by the government. The enforcement aspects of the instrument have thus far received less attention compared to the question of how to distribute the tradable emissions rights. It is indeed impressive that within the scheme more than 40 percent of the total CO₂ emissions within the EU are covered, representing more than 11,000 installations.⁵ Those installations have received allowances, each representing one tonne of CO₂ emissions. The price per allowance has already amounted to almost € 27 per allowance.⁶ With respect to this new type of market-based regulation, mostly called emissions trading, it is however necessary to consider what this instrument means for the current governmental policies that aim at the compliance of industries with environmental law. This contribution examines how

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2 See about the emerging field of 'Climate Law' and the extraordinary reliance on market-based policy instruments B.J. Richardson, 'Climate law and economic policy instruments: a new field of environmental law', 2004 *Environmental Liability*, vol. 12, pp. 19-32.

3 Directive 2003/87/EC, *OJ* 2003 L 275/32, (the greenhouse gas emissions trading directive).

4 See for the Convention: <http://unfccc.int/resource/docs/convkp/conveng.pdf> (17 February 2006), and for the Protocol <http://unfccc.int/resource/docs/convkp/kpeng.pdf> (17 February 2006). See about those commitments F. Jacquemont, 'The Kyoto Compliance Regime, The European Bubble, Some legal consequences', in: M. Bothe and E. Rehbinder (eds.), *Climate Change Policy*, Utrecht 2005, pp. 351-406.

5 European Commission, *EU emissions trading, an open scheme promoting global innovation*, September 2005.

6 www.pointcarbon.com, (17 February 2006), indicates a price of almost 27 euro.

in particular the need for inspecting the behaviour of industries has been arranged under this new instrument. To do this, we need to understand how the instrument works, so in §2 the basic features of the concept of emissions trading will be explained. In this respect it will be stressed that especially in the case of market-based policies there is a stronger need for a sound inspection and enforcement approach than compared to traditional command and control policies (§2). Then the current design of the instrument approach within the EU with regard to greenhouse gas emissions will be explained in §3. In §4 it will be discussed what specific choices have been made with regard to inspection within the Dutch implementation of the greenhouse gas emissions trading directive. A conclusion will be given in §5.

Much more could be said about inspection within the context of climate change policies. For instance, the compliance of UNFCCC parties and Kyoto Protocol Parties and the ‘inspection’ thereof is a challenging topic that also needs close attention. According to the Kyoto Protocol even states are allowed to trade in emission reduction credits.⁷ This contribution, however, does not focus on the inspection of the behaviour of states with their international or European commitments, but discusses more specifically the inspection of industries within the EU greenhouse gas emissions trading scheme.

2. Emissions trading

2.1. The concept

In general, market-based instruments for environmental policy are advocated because they encourage emissions reductions by those who can achieve them at the lowest costs. Through market-based instruments like taxes or a system of tradable pollution rights (‘emissions trading’) a financial incentive will be established in order to steer the polluting behaviour of citizens and industries. This is an important difference with the classical command and control type of regulation. In addition, emissions trading and taxes provide more room for technological innovation, and are even expected to stimulate this. Command and control approaches are more like codifying a status quo and do not so much stimulate creativity in order to seek technological solutions or alternative options for the emissions.

The basic theoretical idea for emissions trading is quite simple. It was already presented in 1969 by J.H. Dales in his small but important book *Pollution, Property and Prices*. This book was republished in 2002 by the well-known environmental economist Wallace E. Oates, thereby honouring the fresh ideas contained in the book, among which is emissions trading.⁸

In theory, the first step to be made in designing an emissions trading scheme is to decide the maximum pollution which is acceptable in a certain area or certain environmental medium, like in the example which Dales gave in a water area. The next step is to divide this maximum amount of emissions (or other form of environmental damage) into quotas, or to put it better, into transferable quotas. Subsequently, those quotas must be allocated to the possible participants in the market, in Dales’ mind through an auction. Instead of an auction, a free of charge allocation based on administrative criteria will often be preferred by politicians. The auction criteria and the administrative criteria can be designed in several ways. In both methods, a cap will be set by the government, which indicates the maximum amount of pollution that may occur in a certain area during a certain period. This cap is intended to ensure the effectiveness of the scheme, for

7 D. Freestone and Ch. Streck, *Legal Aspects of Implementing the Kyoto Protocol Mechanisms*, Oxford 2005, Part VII of the book: Article 17 of the Kyoto Protocol: emissions trading.

8 J.H. Dales, *Pollution, Property and Prices. An Essay in Policy-Making and Economics*, Cheltenham UK, 2002.

which, of course, full compliance is needed. In an emissions trading scheme, there will be a very simple rule that an emission may only occur if the firm can cover it with an allowance. Such an allowance can be obtained from the government or be bought from the market. Of course, it is of the utmost importance that control and enforcement will be safeguarded in this system. Cheating with emissions data is one of the greatest threats to compliance.

Since Dales presented his idea, many studies have been published on emissions trading, and also new design options have been developed. One of the remarkable options is the relative method of emissions trading, in which quotas can be gained when the emissions output per product unit is lower than an established performance standard rate.⁹ Hence, this emissions-trading scheme is not based on an absolute cap on pollution or environmental damage, but on production standards, which are called Performance Standard Rates. This approach has been introduced in Dutch legislation in order to reduce NO_x emissions caused by industry. The PSR system started to operate in July 2005. This system lacks a cap; the environmental effectiveness is thus not ensured by a fixed and total amount of emissions.

Much of the debate on emissions trading concerns the first steps that have to be taken in introducing and applying the instrument: what will be the legal basis; how will it fit into the existing legal system, especially the existing permit procedures or other policy instruments, and – this is a very crucial point – how will the distribution of the tradable allowances be done. Apparently, the focus on the enforcement of an emissions trading scheme has been less compared to the other topics mentioned. Even Dales did not pay much attention to the enforcement aspects of emissions trading.

2.2. The particular need for sound enforcement in the case of emissions trading

The rationale for introducing emissions trading is that price-driven decision making by potential polluters will be enhanced, thereby facilitating the covered industry to choose between reducing emissions at a certain cost, or buying emission rights from the market, or, depending on the specific design of a scheme, from the government. The price of these emission rights does not only create an incentive to attain environmental protection at low costs, but at the same time serves as an incentive for firms to seek loopholes within the rules. It is even possible that some firms will deliberately choose not to comply when that would be profitable and when, for instance, the possibility that the illegal conduct will be detected is presumed to be low. Hence, the main and most attractive feature of market-based regulation – establishing price-driven decision making by industry with regard to their environmental behaviour – is in fact also a threat to the level of compliance.

One core obligation of an emissions trading scheme is that each covered installation needs to surrender an amount of emission rights which is at least equal to the emissions during a certain well-defined period. In this respect, close attention needs to be paid to the compliance behaviour of firms with regard to this core obligation. It is obvious that compliance with the rules of the emissions trading scheme is a precondition for allowing that market to work. Indeed, enforcement issues of emissions trading deserve especially close attention as it can be supposed that it might be financially attractive for firms to behave illegally. By introducing a financial incentive for reducing emissions, an incentive for not following the rules is in fact included. So it seems to be attractive for firms to camouflage the real data in order to ensure that less rights have to be surrendered to the government. We may indeed assume that firms to a large extent prepare their

⁹ M. Peeters, 'Emissions trading as a new dimension to European environmental law: the political agreement of the European Council on greenhouse gas allowance trading', 2003 *European Environmental Law Review*, vol. 12, p. 87.

decisions by focusing on minimizing expected costs, among which are emission control costs, receipts or expenditures from permit market transactions, and expected penalties from reporting and emissions violations.¹⁰ The possibility that any non-compliance will be detected and the type and intensity of the penalties are in this respect of crucial importance.

2.3. The American acid rain allowance trading scheme

Meanwhile, within the environmental law practice of the USA there is important experience with the emissions trading instrument. Among some other applications of this market-based approach, the so-called ‘acid rain allowance trading scheme’ has had a good environmental result. And, importantly, not much serious enforcement cases have occurred.¹¹

The acid rain allowance trading scheme concerns the emissions of sulphur dioxide and nitrogen oxide, and establishes a cap on electricity utility sulphur dioxide emissions. Tradable acid rain allowances are initially distributed by the government, mostly for free. The programme started to operate in 1995 and it applies to defined electricity generating facilities. The programme’s pollution reduction is impressive. It is designed to reduce electricity utility SO₂ emissions by more than 50% from 1980 levels by 2010, and by 2005 it has already achieved most of that reduction. An OECD evaluation showed that the instrument is environmentally effective and is equally a cost-effective way of reducing emissions.¹²

Where it concerns inspections, the acid rain allowance trading scheme relies heavily on self-monitoring and self-reporting by the facilities themselves.¹³ The so-called ‘continuous emissions monitoring system’ (CEMS) plays a crucial role within this scheme. Every covered utility is obliged to install this system, or an equivalent device, at its own expense. As its wording already states, this monitoring system must be in continuous operation, and must be able to sample, analyze and record emissions data at least every 15 minutes and then to reduce the data to one hour averages.¹⁴ CEMS is thus able to function and measure twenty-four hours a day. The system is capable of ‘providing a nearly continuous and very accurate account of the volume of emissions leaving a facility’.¹⁵ The whole process of generating emissions reports and submitting them to the government (*i.e.* the Federal Environmental Protection Agency) is fully automated. It is said that this ICT provision minimizes the opportunities for misreporting.¹⁶

There are provisions to make sure that the monitoring systems work properly, like initial equipment certification procedures, periodic quality assurance and quality control procedures, and procedures for filling in missing data. Reports of the results of daily quality assurance or quality control tests must be reported. A so-called ‘designated representative’ must certify the truth and completeness of all the compliance information sent to the government.

10 J.K. Stranlund, C.A. Chavez and B.C. Field, *Enforcing Emissions Trading Programs: Theory, Practice and Performance*, Paper presented at the 2nd CATEP workshop on the Design and Integration of National Tradable Permit Schemes for Environmental Protection, hosted by University College London, 25-26 March 2002, (the paper is also published in 2002 *Policy Studies Journal*, no. 3, pp. 343-361).

11 G.A. Pring, ‘Decade of Emissions Trading in the USA: Experiences and Observations for the EU’, in: M. Peeters and K. Deketelaere (eds.), *EU climate change policy*, Cheltenham UK (forthcoming) 2006. Pring mentions that in the programme’s first nine years, only 15 excess emissions penalties were imposed (but they were substantial, ranging from US\$ 2,682-1,580,000) and only eight enforcement cases were filed (average fine US\$ 50,000). The result has been an impressive 99.9% compliance rate.

12 A.D. Ellerman, ‘The US SO₂ Cap-and-trade program’, in: OECD report: *Tradeable permits, policy evaluation, design and reform*, OECD 2004, p. 94. See also J.A. Holtkamp, ‘GHG emissions trading, tracking and monitoring’, 2005 *Environmental Liability*, vol. 1, p. 3.

13 S. Peterson, ‘Monitoring, Accounting and Enforcement in Emissions Trading Regimes’, in: OECD (ed.), *Greenhouse Gas Emissions Trading and Project-Based Mechanism*, OECD Global Forum on Sustainable Development: *Emissions Trading*, Paris 2004.

14 Even CO₂ emissions have been covered by the scheme; see A.W. Reitze Jr. and S.D. Schell, ‘Self-monitoring and self-reporting of routine air pollution releases’, 1999 *Columbia Journal of Environmental Law*, vol. 24, p. 117.

15 Stranlund, Chavez and Field, *supra* note 10, p. 14.

16 Peterson, *supra* note 13, p. 12.

When the monitoring equipment is not working properly the amount of emissions will be estimated by the enforcing authority, which is the Federal Environmental Protection Agency. The enforcing authority is even competent to overestimate these emissions, in order to provide an incentive for industry to uphold a proper monitoring system.¹⁷

The emissions reports serve as a basis for the review, audits, and, in addition, site inspections. Section 411(a) of the Clean Air Act states that an excess emissions penalty of \$2,000 per tonne will be imposed. The rate of this fixed penalty is indexed to inflation. In addition, offenders are required to deduct the allowance allocation in a following year with the excess emissions.

The use of CEMS within the environmental law of the USA is not reserved for the acid rain trading programme alone, but is a core provision within the Clean Air Act. CEMS is indeed applicable to *major* sources of air pollution; the CEMS requirement is particularly significant for the electricity generating industry.¹⁸ In addition to CEMS, also CMS (continuous monitoring system) has been introduced as an enforcement approach. CMS means ‘a comprehensive term that may include, but is not limited to, continuous emissions monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by the regulation’.¹⁹ The capital and operating costs of self-monitoring for industries is of course a point of concern.²⁰ As a result of this, some exemptions are made for non-significant emissions units.²¹

The experience with the acid rain emissions trading scheme should of course be taken into account when designing an emissions trading system elsewhere, like in the EU. But, obviously, legal transplants do not always work. When introducing the emissions trading instrument into another legal system it should, for instance, be closely considered what adaptations should be made. One striking difference, for instance, between the USA and the EU is the centralized enforcement approach within the USA.

It should also be taken into account that especially in the case of the monitoring of emissions, the specific characteristic of the environmental problem will also strongly determine the design of the monitoring requirements for industries. For instance, it seems that monitoring difficulties are an important reason why several greenhouse gas pollutants are not yet covered by the EU emissions trading scheme. This scheme indeed currently concerns only CO₂ emissions.

3. EU greenhouse gas allowance trading

3.1. Introduction

Since 2005 a EU-wide greenhouse gas emissions trading system is now operating, covering more than 11,000 installations in Europe. This emissions trading instrument constitutes the biggest domestic emissions trading scheme worldwide, covering approximately 40 per cent of the CO₂ emissions in the EU. The Kyoto Protocol does not contain an obligation to establish emissions trading in the domestic legal systems of the parties: the EU emissions trading scheme is, formally, an autonomous choice of the EU itself. However, it is obvious that the EU became motivated to do this because of international developments, like the inclusion of emissions

17 Stranlund, Chavez and Field, *supra* note 10, p 15.

18 Reitze and Schell, *supra* note 14, pp. 107-108.

19 *Ibid.*, p. 109.

20 *Ibid.*, p. 135.

21 *Ibid.*, p. 123.

trading provisions within the Kyoto Protocol. Also the successful emissions trading scheme for acid rain within the USA seems to have had a significant influence in convincing the EU about the attractiveness of the instrument.

The greenhouse gas emissions trading directive uses the 'cap and trade' approach, and requires Member States to impose binding caps on CO₂ emissions from explicitly defined installations. These are (fossil fuel) power installations, refineries, ferrous metal industries, mineral industries and paper industries. The Member States need to define in their national allocation plans how many allowances will be distributed among those industries during a certain period. The first period concerns the years 2005-2007, and is seen as a warming-up experiment.²² The subsequent periods will last for five years, the first one will run from 2008 until 2013, which coincides with the (first) Kyoto commitment period.²³

As of 1 January 2005, operators of installations covered by the directive are required to monitor the carbon dioxide emissions and report them annually to the designated competent authorities of the Member States. The monitoring and reporting obligations need to be defined in the so-called greenhouse gas permit; an installation may not be in operation without such a greenhouse gas permit. In the year 2006 the covered industries need to surrender for the first time an amount of allowances to the government equal to their carbon dioxide emissions in the year 2005 (which they actually need to do before the 1st of May 2006).²⁴ It will then transpire whether firms were able to fulfil to this core obligation of the scheme.

3.2. Decentralised inspection and enforcement: the need to control the Member States

An important difference between the USA acid rain allowance trading scheme and the European greenhouse gas trading scheme is that in the latter much more competences are decentralised. Indeed, within EU environmental law the Member States are responsible for enforcing the obligations for industries and citizens. The Commission supervises whether the Member States can execute their enforcement tasks (including inspection) to a satisfactory extent and is competent to start an infringement procedure when the Member States lack this capability.

The decentralised approach within the EU greenhouse gas emissions trading system concerns both the distribution of allowances and enforcing the behaviour of the covered industries. With regard to the distribution of allowances, the Member States are required to define how many tradable allowances will be issued to their industries. In doing so, they need to substantiate how the contribution of the emissions trading sector relates to the other greenhouse gas emitting sources in their countries. The Commission announced that it would reject a so-called National allocation plan for the period 2008-2012 if it considers that the effort being asked of the emission trading sector would be too low.²⁵ Those plans need to be sent in by the Member States ultimately by the end of June 2006. The Commission here has a tough task to review whether the national allocation plans do indeed contribute in a meaningful way to the international emissions reduction commitments. It can easily be assumed that there is strong pressure from industries on the governmental bodies of Member States to distribute ample greenhouse gas allowances. It is often said that a stringent environmental policy (and, thus, a limited distribution of greenhouse gas

22 M. Peeters, 'Emissions Trading: A Matter of Learning and Earning', 2004 *Review of the Environmental Law Network International*, no. 2, pp. 12-19.

23 It needs to be noted that no international agreement yet exists concerning the following Kyoto commitment periods.

24 Greenhouse gas emissions trading directive, Art. 6(2)(e).

25 European Commission, *Further guidance on allocation plans for the 2008 to 2012 trading period of the EU Emission Trading Scheme*, 22 December 2005, COM(2005) 703 final.

allowances) would endanger the international competitive position of industry (although it remains to be seen whether this turns out to be true).

As a result of the possible lobbying and pressure by industry with regard to the national climate change policy decisions, it can even be assumed that a Member State will be reluctant to implement the inspection tasks in an optimal way and in applying, where necessary, sanctions against its industries. Enforcement by the Member States is however extremely important because the emissions trading system creates incentives for firms to act against the rules, especially when the price of an allowance is high. Different enforcement strategies (strong and weak strategies) among the Member States could even affect the level playing field between industries, and could lead to a distortion of the market for greenhouse gas allowances.

In February 2006 the price of an allowance was much higher than initially expected: it ranges up to 27 euros per allowance while the financial penalty for the first period is fixed by the directive at only 40 euros.²⁶ The Member States are probably allowed to impose a higher fine, due to the fact that the directive has set a minimum harmonization and art. 176 EC Treaty allows for a more stringent (enforcement) national approach – of course when this would be in line with the other provisions of the EC Treaty.²⁷

Within EU environmental law there is a remarkable example of a more centralised approach: with regard to the protection of the ozone layer some inspection powers, also with regard to the behaviour of industries, have been given to the Commission.²⁸ Within these ozone layer protection rules, also a form of emissions trading has been included, which is again expected to be a cost-effective tool for regulating non-local pollutants. The regulation allows the Commission to obtain all the information necessary for carrying out its tasks from the governments and the competent authorities of the Member States *and* from undertakings. When requesting information from an undertaking the Commission shall at the same time forward a copy of the request to the competent authority of the Member State within the territory of which the undertaking's seat is located, together with a statement of the reasons as to why that information is required. Furthermore, the competent authorities of the Member States shall carry out the investigations that the Commission considers necessary under the regulation. This provision constitutes a strong position on the part of the Commission, as the Member States have little or no discretion in the matter.²⁹ In addition to this, subject to the agreement of the Commission and of the competent authority of the Member State within which the investigations are to be carried out, the officials of the Commission shall assist the officials of that authority in the performance of their duties.³⁰ Equal inspection provisions for the Commission are not included within the greenhouse gas emissions directive.

This contribution will not elaborate further on the specific question of how the Commission can inspect the enforcement policies and activities of the Member States, and, particularly, in the case of greenhouse gas allowance trading, whether some inspection powers for the Commission should be considered. It is sufficient here merely to emphasize that sound inspection and

26 Greenhouse gas emissions trading directive, Art. 16.

27 See for a (Dutch) elaboration on that issue: Ch. Backes and R. Teuben, 'Verhandelbare emissierechten', in: F.C.M.A. Michiels and L. Lavrysen, (eds.), *Milieurecht in de lage landen: rechtsvergelijkende studie over de milieuvergunning, emissiehandel, de watertoets, natuurbescherming en bestuurlijke handhaving in Vlaanderen en Nederland*, The Hague 2004. p. 115.

28 M. Peeters, 'Legal feasibility of emissions trading: learning points from emissions trading for ozone-depleting substances', in: M. Faure, J. Gupta and A. Nentjes, (eds.), *Climate Change and the Kyoto Protocol. The Role of Institutions and Instruments to Control Global Change*, Cheltenham UK 2003, p. 161.

29 J.H. Jans, *European Environmental Law*, Groningen 2000, p. 367.

30 Art. 20(4) Regulation 2000/2037/EC as amended by Regulation 2000/2038/EC (the consolidated version can be found at http://europa.eu.int/comm/environment/ozone/pdf/reg2037_2000_en.pdf, accessed 9 March 2006).

enforcement approaches by the Member States are certainly also a crucial condition for a credible and well-functioning European greenhouse gas emissions trading scheme. Here lies an important task for the Commission and, of course, attention to the use and the improvement of its competences would be necessary – while still keeping into account the principle that competences should not be centralised when that would not be necessary. Meanwhile, although very slowly, important case law is emerging with respect to the enforcement of EC law by infringement procedures initiated by the Commission. The case from 12 July 2005, concerning an infringement procedure against France, indeed concerned a lack of inspection activities by the Member State in question. The possibility also to impose a lump-sum payment as a penalty when a Member State acts in breach of EC law, as was determined in this case, is furthermore a promising development.³¹

3.3. Inspection provisions within the European greenhouse gas emissions trading scheme

The greenhouse gas emissions trading directive provides for an extensive framework for the monitoring, reporting and – to a lesser extent – the verification provisions to be implemented by the Member States. In other words, the inspection provisions and sanctions have been harmonised to quite a large extent. Those provisions as stipulated by the directive will be discussed below.

3.3.1. The greenhouse gas permit as an inspection tool

The directive prescribes that no installation may undertake any activity as specified in Annex I to the directive resulting in CO₂ emissions unless the operator has a permit issued by a competent authority. The permit needs to be issued in accordance with articles 5 and 6 of the directive, wherein rules for an application for the permit and the necessary contents of the permits are specified.

This greenhouse gas permit is *not* a tradable right: tradable rights are those greenhouse gas allowances which will be separately issued by the governments in question through another procedure which cannot be compared to the one for the greenhouse gas permit.

Remarkably, the greenhouse gas permit is in fact a kind of an inspection tool, because it needs to contain monitoring and reporting duties for the operator. Where in classical command and control permits the behaviour of the operator is specified, here we see that the permit serves another goal: it is meant to ensure that it will be reported what the specific choices of the operator with regard to the emissions level of the installations have been. Indeed, within an emissions trading scheme the operator may choose how many pollutants the installation shall emit. The greenhouse gas permit obliges the operator to monitor the amount of emissions and to report them. Furthermore, according to the directive the permit needs to contain the obligation that each operator needs to surrender allowances equal to the total emissions of the installation in each calendar year as verified in accordance with the directive. The surrender of the allowances needs to be done ultimately before the May of each calendar year.

Thus, three important aspects with regard to compliance are regulated by the greenhouse gas permit:

1. the self-monitoring of emissions;
2. reporting on the result of this self-monitoring;
3. the verification of the emissions report.

31 ECJ 12 July 2005, Case C-304/02, *OJ* 2005 C 217/3.

Beforehand, the permitting authority is required to assess whether it expects the operator to be able to fulfil its monitoring and reporting obligations. Only when the authority is satisfied that the operator is capable of doing this may it issue the permit.³² This means that the permitting authority must be extensively convinced that in principle no problems will occur concerning the monitoring and reporting requirements. This assessment seems to me not always to be a simple matter. It can be assumed that poor compliance behaviour in the past, probably also with regard to other environmental law rules, could serve as an indication for not having enough confidence in the capabilities of the operator. However, the denial of a permit request based on the ground that the operator will probably not be able to fulfil the monitoring and reporting emissions clearly needs a sound argumentation. Denying the request for a permit places an industrial operator in the unfortunate position of not being able to emit greenhouse gases, which can mean that the whole plant is in fact unable to operate. Such a serious consequence needs a very strong justification. As far as is known, no legal disputes have occurred with regard to this requirement up until now.

3.3.2. Harmonization through monitoring and reporting guidelines

Article 14 of the directive obliges the Commission to adopt 'guidelines' for the monitoring and reporting of emissions by industry. These guidelines need to be based on the principles for monitoring and reporting as set out in Annex IV of the Directive. The Member States are expected to ensure that the emissions of the pertinent industries are monitored in accordance with these guidelines. Among other things, they must ensure that each operator of an installation reports the emissions from that installation during each calendar year to the competent authority after the end of that year in accordance with the guidelines.

It can be argued that the Commission's guidelines have a rather important legal meaning. According to the Commission, Member States are indeed not allowed to derogate from these guidelines unless this is explicitly allowed according to the guidelines.³³ However, the guidelines as such do provide a certain degree of discretion in deciding on the specific monitoring and reporting duties for industries. And, eventually, any derogation should take place when the application of the guidelines would come into conflict with rules which have a stronger status than guidelines.

The guidelines for the monitoring and reporting of greenhouse gas emissions were adopted a little too late when compared to the deadline stipulated within the directive: on 29 January 2004.³⁴ The guidelines set out general guidelines (in annex I) and activity-specific guidelines (in several annexes).

The principles for monitoring and reporting included in annex IV of the directive state that carbon dioxide emissions shall be monitored either by calculation or on the basis of measurements. For the calculation of the emissions a formula is prescribed (Activity data x Emission factor x Oxidation factor). Indeed, the specification of the exact monitoring methodology to be used by the operator is an important element of the enforcement package. The guidelines stress not only the accuracy and completeness of the data, but also the cost-effectiveness of a monitoring methodology: the monitoring and reporting of emissions should be done with the highest achievable accuracy, unless this is technically not feasible or will lead to unreasonably high

32 Greenhouse gas emissions trading directive, Art. 6(1).

33 Answers to Frequently Asked Questions on Commission Decision 2004/156/EC of 29 January 2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC (version: 2 March 2005).

34 Commission Decision 2004/156/EC 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, C(2004) 130 final, OJ 2004 L 59/1.

costs.³⁵ The monitoring and reporting guidelines of the Commission thus try to strike a balance between the problem of technological uncertainties and costs when monitoring emissions and the need for accurate reporting. In the specific annexes, several tiers of approaches are presented, representing different levels of accuracy. An operator has to choose the tier with the highest level of accuracy. The guidelines point out that only if it is shown to the satisfaction of the competent authority that the highest tier is technically not feasible or will lead to unreasonably high costs may a next lower tier be used, subject to the approval of the competent authority.³⁶ According to the guidelines, lower tiers may be applied for minor sources which would also need the approval of the competent authority.³⁷

The identification of the monitoring methodology that should be followed by the operator has to be made within the greenhouse permit decision. For instance, the assessment as to whether the specific costs of a monitoring methodology would be unreasonable can obviously result in a conflict between operators and the permit-issuing administrative authorities. This scheme has just begun to operate, and it will be very interesting to review what the experiences have been with the issuing of permits with respect to the monitoring provisions. In that respect it is important to assess not only the pertinent case law, because such cases would not arise when the permitting authorities would be too reluctant to take strong positions towards the industries in question. In other words, when in a specific Member States no cases would arise as a result of a conflict of ideas between the operator and the permit-issuing authority on the monitoring methodology, the content of the issued permits should certainly be assessed. They could probably be too loose.

3.3.3. Reporting

In addition to the monitoring requirements, the permit must contain ‘reporting requirements’ according to art. 6(2)(d) of the directive. Article 14 of the Directive urges Member States to ensure that each operator of an installation reports the emissions from that installation during each calendar year to the competent authority after the end of that year in accordance with the guidelines as published by the Commission.³⁸ According to Annex IV of the directive the reporting requirements need to refer to data identifying the installation, specific data referring to the calculation of emissions and the measurement of emissions, and some specific data for emissions from combustion. According to Annex IV, in the case of the reporting of data with respect to the calculation or measurement of emissions, also the ‘uncertainty’ has to be pointed out, and specifically for measurement purposes, ‘information on the reliability of measurement methods’ should be included. It can be expected that these kinds of points of reference can lead to different opinions between operators and the authorities concerned, and will thus give rise (probably to a certain extent unavoidably so) to legal conflicts.

Following the guidelines there is thus some room for uncertainty as to whether the data represent factual emissions. As a general rule, the guidelines specify a ‘permissible uncertainty’, which is expressed as ‘the 95% confidence interval around the measured value’.³⁹ The monitoring and reporting guidelines also introduce the term ‘materiality’: ‘materiality means the professional judgement of the verifier as to whether an individual or aggregation of omissions, misrepresenta-

35 Commission guidelines for monitoring and reporting of greenhouse gas emissions, p. 7.

36 Commission guidelines for monitoring and reporting of greenhouse gas emissions, p. 12.

37 Commission guidelines for monitoring and reporting of greenhouse gas emissions, p. 15: ‘Minor sources are those emitting 2.5 ktonnes or less per year or that contribute 5% or less to the total annual emissions of an installation, whichever is the highest in terms of absolute emissions.’

38 Greenhouse gas emissions trading directive, Art. 14(3).

39 Commission guidelines for monitoring and reporting of greenhouse gas emissions, p. 19.

tions or errors that affects the information reported for an installation will reasonably influence the intended users decisions. As a broad guide, a verifier will tend to class a misstatement in the total emissions figure as being material if it leads to aggregate omissions, misrepresentations or errors in the total emissions figure being greater than 5 percent.’

The guidelines state that, within the verification procedure (see below), the verifier has to assess the materiality of the reported facts. When the verifier concludes that the emissions report does not contain ‘any material misstatement’ (and it can be assumed that this assessment could include the margin of 5 percent as specified in the definition of materiality), the report is verified as being satisfactory. The operator can then submit the report to the competent authority.

Of course, the question arises whether operators will try to profit as much as possible from the room for interpretation that has been provided by the directive and the guidelines. Principally, one would prefer that no error or mistake would be accepted, so that no room for any misstatements would be included. It is recalled that art. 6(2)(e) of the directive states that there is an obligation to surrender allowances equal to the total emissions of the installation in each year, as verified. Annex V states that a high degree of certainty needs to be achieved. Complete certainty in every case is probably not feasible in practice. However, the assessment of ‘materiality’ can obviously lead to legal disputes, and accepting a rather broad, unjustifiable margin of error would be in conflict with the provisions of the directive.

3.3.4. Verification

According to the directive, the annual reports that need to be compiled by the operators of the installations have to be verified in accordance with the criteria set out in Annex V. Emissions from each covered activity shall be subject to verification.⁴⁰ The directive *does not oblige* the Commission to lay down guidelines for verification. However, the published guidelines do in fact refer to verification to a certain extent.

The verification has to be accomplished by 31 March each year where it concerns the emissions during the preceding year. A strict sanction has to be automatically applied by the Member States when this deadline is not met: the Member States must ensure that the operator in question cannot make further transfers of allowances until a report from that operator has been verified as being satisfactory.⁴¹ Subsequently, following art. 16(3) of the directive, any operator must surrender sufficient allowances by 30 April of each year to the government.

Member States may choose whether to attribute the verification task to administrative authorities, or to independent private verifiers. According to the wording of the directive the competent authority for issuing the licence shall not carry out the verifying tasks, as article 15 stipulates that ‘Member States shall ensure that the reports submitted by operators ... are verified in accordance with the criteria set out in Annex V, and that the competent authority is informed thereof.’

The verifier must carry out its activities in a ‘sound and objective professional manner’.⁴² A practical question (with possibly legal consequences) is whether there will be enough (qualified) verifiers, at reasonable prices, able to verify in time. The directive does not stipulate any specific accreditation standards for verifiers; meanwhile the need for such a harmonised accreditation throughout the EU is already being debated, and some progress seems to have been made.⁴³ Such a harmonization would stimulate the free trade in verification services.

40 Annex V sub. 1 of the greenhouse gas emissions trading directive.

41 Art. 15 of the greenhouse gas emissions trading directive.

42 Annex V sub. 12 of the greenhouse gas emissions trading directive.

43 *Kamerstukken II* 2003-2004, 29 565, no. 3, p. 40.

The emission reports have to be ultimately presented by 31 March of the each year for emissions during the preceding year. It would probably be problematic subsequently to control whether the presented report provides a true insight into the emissions during the whole preceding year. Hence, the verification process only seems to be adequate if it also concerns the credibility of the monitoring *during* the preceding year. Only ex-post verification would not be sufficient. A more or less continuous control – by, for instance, random checks – during the whole period of monitoring seems to be necessary. It is clear that the verification process must be accompanied by site inspections in order to investigate whether the prescribed monitoring provisions are being followed by the operator. According to annex V to the directive, the verifier shall indeed be given access to all sites and information in relation to the subject of the verification.⁴⁴ This provision is an important one and, according to annex V(11), the verifier must make clear in its verification report how the verification has been executed, including information on the site inspections carried out. Reported emissions may only be validated if reliable and credible data and information allow the emissions to be determined with a *high decree of certainty*.⁴⁵ The guidelines on monitoring and reporting state that the verifier shall establish an acceptable materiality level within the context of the nature and complexity of the installation's activities and sources.⁴⁶ In my opinion, this is exactly a point that needs serious consideration. It can readily be imagined that some industries will try to convince the verifier to accept a more pliable materiality level. Another crucial part of a sound inspection and enforcement approach would be the credibility of the verifier. Annex V states that the verifier shall be independent from the operator. It can be assumed that some provisions are necessary in order to make the verifiers as credible as possible, like the accreditation of private verifiers by the government.⁴⁷ Anyway, the government should inspect the credibility of the verifiers where it concerns their independency and professionalism. With the use of private verifiers, some specific problems might arise. For instance, it could occur that a verifier has stated that an emissions report is satisfactory, but that the government would doubt whether the verifier has been executing its task in an independent manner. Doubt can also exist as to whether the verification process has been executed in a professional way. It cannot be excluded that it might occur that the government has evidence that the (private) verifier has made an error in its assessment. Hence, in order to comply – as a Member State – with the obligations laid down in the greenhouse gas emissions trading directive, additional competences for administrative authorities are required to overrule the findings of the verifier. This also means that administrative authorities need competences for on-site inspections.

Another question to be resolved is to what extent the verifier is obliged to inform the enforcing authority about any errors or other irregularities he detects. Indeed, when an emissions report cannot be qualified as satisfactory according to the directive, the verifier might have some important information for an enforcement action by the government. It is by no means clear-cut that the verifier would be obliged to dismiss such information. The implementing legislation should pay attention to this specific issue. The Dutch explanatory memorandum to the implementing legislation, however, remarkably indicates that the verifier will compile an 'internal report' to substantiate the reasoning for the conclusion concerning the emissions report, but that

44 Annex V, sub. 7 of the greenhouse gas emissions trading directive.

45 Annex V, sub. 3 of the greenhouse gas emissions trading directive.

46 Guidelines for the monitoring and reporting of greenhouse gas emissions, C(2004) 130 final, p. 28. The directive does not prescribe that the Commission should publish guidelines with regard to verification!

47 See further on certification in a more general sense the paper by Ph. Eijlander, G. Evers, and R. van Gestel, *De inkadering van certificatie en accreditatie in beleid en wetgeving*, Schoordijk Institute, Tilburg University, April 2003; G. Evers, *Blind vertrouwen? Een onderzoek naar de toepassing van certificatie ten dienste van de handhaving van wettelijke voorschriften*, The Hague 2002.

report would only become available to the emitter.⁴⁸ It is however not yet clear whether the enforcing authority or the criminal prosecutor would indeed have no possibility to request this specific information as established and collected by the verifier. I would say that this would be necessary.

Also the contractual relationship between the operator and a verifier deserves attention. One may wonder what is the legal position of a firm that has presented a report to a verifier on time, but where the verifier subsequently appears to be unable – for instance, due to internal poor organisation – to verify in good time. In such a case, the consequences are serious for the firm concerned, as it will mean a breach of the rule laid down in art. 6(2)(e) of the directive specifying the obligation to surrender allowances equal to the total of emissions of the installation in each calendar year, as verified, within four months following the end of that year. In addition, the firm will not be allowed to take part in emissions trading (meaning in particular the selling of allowances). It can be recommended to operators, contracting with a verifier, to refer to this possible situation in the contract with the verifier, and to claim a financial compensation for the damage which has occurred.

Another particular problem will arise if the verifier would discover that the monitoring method approved within the greenhouse gas permit is not an adequate one and leads to a misrepresentation of factual emissions. It seems to be unreasonable to hold the firm fully responsible in this case because of the fact that the competent authority has indeed approved of this method within the permit-issuing process.

In their implementing legislation the Member States should also consider which specific sanctions should be provided for the verifiers. Indeed, the credibility and professionalism of the verifiers is a crucial point of attention, and when verifiers are unable to meet these criteria this should also be sanctioned.

Finally, it also needs to be taken into account that even the integrity of the civil servants and administrators is not naturally guaranteed. Unfortunately, we have already seen that fraud is committed by civil servants as well. Thus, as it can be financially attractive to aid and abet industry and/or verifiers in cheating or falsifying data, the integrity of the administration should also be given the necessary attention.

All these kinds of possible situations should already require attention within the implementing processes of the Member States. Legal conflicts, as indicated, cannot be excluded; case law can indeed be expected on this new environmental law provision.

3.3.5. Sanctions

Of course, inspection would become a toothless instrument when the detection of non-compliance would not be followed up with proportionate and effective sanctions. The greenhouse gas emissions trading directive is also in this respect a remarkable one within EU environmental law, because it defines some specific sanctions that need to be applied by the Member States.⁴⁹ Among those sanctions is a financial penalty of 40 euro per tonne of carbon dioxide emissions not covered by an allowance during the period 2005-2007. In the following periods this sanction is fixed at 100 euro per tonne. In addition, the industries in question are required to compensate the shortage of surrendered allowances in the following calendar year.

⁴⁸ Regeling monitoring handel in emissierechten, 14 December 2004, *Staatscourant* 27 December 2004, no. 250.

⁴⁹ M. Peeters, 'Enforcement of the EU greenhouse gas emissions trading scheme', in: M. Peeters and K. Deketelaere, (eds.), *EU climate change policy*, Cheltenham UK (forthcoming) 2006.

4. Inspection of greenhouse gas emissions trading in the Member States: the case of the Netherlands

As shown above, the greenhouse gas emissions trading directive has harmonized the inspection duties to a rather large extent, thereby establishing an approach based on self-monitoring, reporting and verification. There is nevertheless a great deal of room for Member States to make certain choices when implementing the directive. Nothing has been said about how the government is going to inspect (1) the self-monitoring and reporting behaviour of industries and (2) the activities of the verifiers.

According to the subsidiarity principle the directive does not prescribe the organisation of the inspection tasks within a country. In European environmental law this topic is principally and normally left to the competence of the Member States. Within the Netherlands, it was found necessary by the Ministers responsible for proposing the implementing legislation to Parliament that an independent agency would become responsible for the practical governmental tasks which are needed for the functioning of the emissions trading scheme. This new governmental body would be called the 'Dutch Emissions Authority' ('Nederlandse Emissie Autoriteit', the 'NEA'). Especially the licensing, inspection and enforcement tasks should be attributed to the independent agency. This independent agency should also register the transactions relating to the allowances and other emission rights.⁵⁰

This idea of establishing an independent agency for emissions trading was much debated during the implementation process. Especially the question of how the independent agency would be controlled was discussed. Meanwhile, the rules for the establishment of this independent agency have in fact already been accepted by Parliament and are thus law, although this law has not yet entered into force. Therefore the agency does not yet formally exist.

It is important to know that within the Netherlands a more general debate is ongoing as to the many independent agencies that have been established by the central government. Especially the democratic control of the functioning of those agencies is at stake. With regard to the control of the decisions of the agency, the Dutch Council of State (which is an important advisory body that tests every legislative proposal that is meant to be placed before Parliament) argued that the proposed broad competence of the Minister to repeal decisions of the agency was not in line with the fundamental choice to establish an independent agency.⁵¹ The Ministers found it necessary, however, to uphold that provision because this would improve democratic responsibility. However, it was said by the Ministers in their answer to the Council of State that the competence to repeal a decision by the agency would be used as a last resort. The minister's inspection of the agency is intended to be limited to focusing on the high points and not to follow concrete cases in detail. In addition, there is another way in which the emissions authority would be controlled, namely by a specific inspection department belonging to the Ministry of Housing, Spatial Planning and the Environment. This department supervises the activities of those authorities that implement environmental law, which are mostly decentralised. This office, called the Environmental Protection Inspectorate ('Inspectie milieuhygiëne'), is also expected to control the central and independent Dutch Emissions Authority (when it is established). The Inspectorate can indeed

50 See Art. 19 of the greenhouse gas emissions trading directive, and Regulation 2216/2004 of 21 December 2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No. 280/2004/EC of the European Parliament and of the Council Text with EEA relevance, *OJ* 2004 L 386/1.

51 *Kamerstukken II* 2003-2004, 29 565, no. 4, p. 15.

explicitly request the Dutch Emissions Authority to start an enforcement procedure, and when this request would not be followed it can go to court to try to effectuate this request.

Meanwhile, the 'agency' has in fact not yet been formally established as an independent agency, but is now functioning as a specific section under the responsibility of the Dutch Minister of Housing, Spatial Planning and the Environment. Parliament can of course control the supervision of this specific section by the minister. Its website announces that at a certain point in time the section will become an independent organisation.⁵²

The Ministers who proposed this independent body also stressed that it is necessary that expertise and knowledge needs to be built within the organisation, as a precondition for becoming an independent agency.⁵³ Besides the concentration of expertise and knowledge, there is another reason for establishing the NEA, which is that the government itself would also trade in credits.⁵⁴ Therefore it is necessary that an independent authority should execute the registration tasks concerning the transfer of tradable greenhouse gas credits. The Council of State has said that this problem could have been solved if the several responsibilities for registration and trade would have been split and distributed among some ministers. So the agency would then not be dependent on the Minister who would be responsible for governmental trading activities.

The choice also to give licensing competence to the centralised agency is also a remarkable one. The greenhouse gas emissions trading directive prescribes that the issuing of a greenhouse gas permit should be coordinated with another permit, which is the permit for integrated pollution and prevention control.⁵⁵ Both directives do not prescribe to what level of government this task should be attributed, and, moreover, what the specific democratic and other rules are that govern the establishment and functioning of such an authority. So here ample room for decision has been left to the Member States.

In the Netherlands the competence to issue the IPPC permit has been given to the provinces and municipalities (for the water pollution permit, however, some competences still belong to the water boards or the Minister responsible for water management; it is however prescribed by Dutch law that both the 'environmental' permit and the water quality permit need to be coordinated. However, the competence to issue a greenhouse gas permit is centralised, because it will be issued by the emissions office under the responsibility of the State Secretary for the Environment (and later, the independent authority). An industry operator thus has to go to several authorities in order to obtain the required permits. Despite the current serious efforts towards a one-stop shop in the Netherlands, it is thus remarkable that the competence to issue the greenhouse permit has not been attributed to the provinces or municipalities which are experienced in environmental law decisions and are thus already familiar with the specific industries.⁵⁶ This centralised approach can probably be explained by the fact that the greenhouse gas permit mainly needs to contain inspection tasks for the operator (monitoring and reporting requirements), and does not refer to local environmental effects. The emissions authority will be the centre of expertise with regard to the practicalities of emissions trading, and, indeed, it makes some sense to concentrate the activities with regard to the inspection and enforcement of greenhouse gas

52 See the website <http://www.vrom.nl/pagina.html?id=16695&ref=> (accessed on 24 February 2005).

53 *Kamerstukken II* 2003-2004, 29 565, no. 4, p. 15.

54 Regulation 2216/2004 of 21 December 2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision no. 280/2004/EC of the European Parliament and of the Council, *OJ* 2004 L 386/1.

55 Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control, *OJ* 1996 L 257/26; A.M. Fernandez, 'Synergies between the Emissions Trading Proposal and the IPPC Directive', 2003 *Review of the Environmental Law Network International*, no. 1, p. 13.

56 See for a brief announcement concerning the serious Dutch efforts towards integration: 2005 *Environmental Liability*, vol. 13, no. 2, Current Survey pp. 25-27.

emissions trading. But one may wonder why it was also really necessary to concentrate the permit-issuing tasks in that new centralised office (and later authority), and why the route towards the one-stop shop has not been followed. Moreover, it is now prescribed by Dutch law that the emissions authority should ensure that the tasks concerning inspection and enforcement are split from other tasks, like licensing.⁵⁷ This idea to divide permit-issuing activities and inspection activities over separate offices makes the case for giving competence to issue the greenhouse gas permit to the decentralised authorities even stronger. So, in that case, the provinces and municipalities would have competence concerning greenhouse gas permits (prescribing the self-monitoring obligations), and could easily coordinate that permit with the general environmental law permit (the IPPC permit), while the emissions authority would inspect the behaviour of industries (and the verifiers) with regard to greenhouse gas emissions trading. Within the explanatory memorandum to the legislative proposal it is however argued that in order to ensure competitive positions just one single authority should be competent. This approach would avoid unjustifiable differences among industries with regard to their permits, and thus with regard to their monitoring duties.⁵⁸ One may wonder why this argument has been used with respect to the greenhouse gas permit, knowing that much of the other important environmental obligations like the IPPC permit are decided by the decentralised authorities; there could also be competitive positions at stake. However, the choice for a centralised approach in issuing the greenhouse gas permit has already been made and has been accepted by Parliament.

The Dutch emissions office (or, in the future, the independent authority) will not, however, be solely responsible for the inspection tasks. Indeed, the inspection powers do not need to be given to the employees of the emissions authorities alone: even civil servants from the decentralised permit-issuing authorities could be empowered to exercise that task.⁵⁹ The administrative *enforcement* powers, however, are meant to be executed solely by the emissions office or, later, the independent authority. Teuben has argued in her Dutch Ph.D. thesis, however, that the way in which the actual Dutch legislation attributes the enforcement competence is not in line with the clear intention of the legislator. The existing legislation could be interpreted in such a way that both the general (that is to say, IPPC licensing) competent body as well as the emissions authority would be competent to execute enforcement competences. Obviously, the legislator intended to give this competence only to the emissions authority, but the implementing legislation is not completely clear on this.⁶⁰

One of the more practical questions is how the emissions authority will execute its inspection tasks. One remarkable aspect is that the Dutch legislator has provided for the possibility that the emissions authority itself may declare that an emissions report is not in accordance with the rules as prescribed by law, even when this emissions report has been verified as being satisfactory.⁶¹ So, although the verifier has given a positive assessment, the authority can still reject the emissions report.

However, daily practice with respect to inspection is also an important topic. Will the emissions authority indeed carry out random inspections among the industries in question and, if so, with what intensity and frequency?⁶² The current emissions office announced, for instance, during a

57 Art. 2.7 sub. 3 of the Dutch Environmental Management Act.

58 *Kamerstukken II* 2003-2004, 29 565, no. 3, p. 13.

59 Art. 18.4a of the Dutch Environmental Management Act.

60 R. Teuben, *Verhandelbare emissierechten: Juridische aspecten van emissiehandel voor CO₂ in Nederland en de EU*, Deventer 2005, p. 431.

61 Art. 16.16 of the Dutch Environmental Management Act.

62 Teuben, *supra* note 60, p. 447

public seminar that it will visit each enterprise at least once every three years.⁶³ One may wonder whether this will indeed be sufficient in order to obtain a clear insight into the compliance behaviour of industries. In other words, the practical execution of the inspection tasks is something that needs to be seriously considered. At least one could ask the emissions authority to report on its inspection policy and its factual inspection activities. It is ultimately up to the national parliament to consider whether it is satisfied with inspection by the minister or the emissions authority. In addition, the Commission could, of course, decide to start an infringement procedure if it finds that the inspection activities are too lax.

5. Conclusion

When using the instrument of emissions trading it can be expected that the monitoring efforts appear to be more intensive compared to the command control approach. Indeed, the total amount of emissions during a certain period must undoubtedly be clear, otherwise it could not be defined how much tradable emissions allowances must be surrendered. However, the overall benefits of the emissions trading instrument, enabling industries to make cost-effective choices, have preference over the probably higher inspection and enforcement costs of the scheme.

The acid rain allowance trading system and the greenhouse gas emissions trading system expect industries to install and to use monitoring methods. The main inspection task with regard to the amount of emissions thus rests with the industries themselves. Without the imposition of self-monitoring requirements the emissions trading system could not be executed in practice: it is out of the question that the government could indeed inspect all industry emissions by itself.

The striking reliance on self-monitoring concerning emissions trading is fully in line with the idea that the government should give as much responsibility as possible to society. Of course, a balance must be found between giving responsibility in this respect to the operators and the sufficient fulfilment of the governmental task to ensure that the environmental goal will be attained. In other words: the self-monitoring activities by industries need to be inspected. This can be done by private verifiers but, then again, the verifiers also need to be inspected.

Within the greenhouse gas emissions trading system, the definition of the monitoring method to be used by a particular industry is a core element. The method will be defined in the so-called greenhouse gas emissions permit. Legal procedures can be expected, especially when industries would find that the method that the government expects to be used would be technically unfeasible or too expensive. New case law is likely to emerge, and a comparative investigation into the permits and – when available – the case law would be very interesting.

Furthermore, much will depend on the practical inspection strategies to be developed and executed by the Member States. It would not be surprising if it would appear that Member States would themselves fill in the given framework for monitoring, reporting and verification with different levels of ambition. A basic question in this respect is whether the Member States will provide sufficient financial capacity for carrying out the necessary inspection tasks, like, for instance, carrying out regular on-site inspections by competent officers in order to control the industries or the verifiers in question.

Ultimately, the Commission needs to take seriously its responsibility to check whether the Member States effectively implement their inspection tasks. In EC law we do now have an

63 Congress *Emissiehandel; Balans opmaken en vooruit kijken*, 14 October 2005 (attended by the author; personal note).

important ECJ case where it was concluded that a Member State had not satisfactorily fulfilled its inspection tasks, so this confirms that the Commission is certainly not toothless in this respect. The introduction of the emissions trading instrument within the EU was in fact an important milestone; another milestone will be when we are able to decide – after a couple of years, on the basis of sound assessments – that this instrument has indeed functioned effectively. Those assessments should also investigate what improvements are recommendable. In this respect we can already learn from the environmental law of the USA, where self-monitoring is additionally stimulated by the specific design of sanctions. For instance, in the case of the Emergency Planning and Community Right to Know Act an industry that acts in violation of the rules will have to face an aggregated fine to cover the time when the violation remained unreported.⁶⁴ This kind of specifically adapted financial sanctioning in order to stimulate self-monitoring and the immediate self-reporting of violations has not yet been included in the EU greenhouse gas trading system, but could indeed be considered. And within the acid rain allowance trading system the agency can, in the case of lacking data, determine an overestimation of emissions which embodies an incentive for industries to avoid this financially unattractive situation. This approach, stimulating self-monitoring behaviour, could also be considered for the EU emissions trading scheme. Member States should already consider including these kinds of provisions in their national legislation. Other ideas that are useful to consider are: (1) to require industries which have been in non-compliance to deliver emissions reports more frequently than only once per year, and (2) to require enterprises to appoint compliance representatives within the firm, who will be responsible for informing the government about emissions.

It should further to be noted that when an operator of a firm or a verifier would make false statements, he can be prosecuted under criminal law for *e.g.* fraud or corruption. This criminal prosecution, which could lead to financial penalties or even imprisonment, could of course be another incentive for providing correct data.

Could the intensive use of self-monitoring and self-reporting requirements within the emissions trading instrument possibly influence the inspection strategies with regard to other instruments, like the traditional command and control approach? In the Netherlands the administrative courts do not generously allow self-monitoring requirements within the traditional environmental permit, but require a specific reason which would justify such a requirement.⁶⁵ However, it cannot be excluded that – maybe influenced by the emissions trading instrument – a national legislator would consider more explicitly allowing the permit-issuing authorities to establish more self-monitoring requirements. A climate of ‘self-inspection’ by industries would mean that administrative costs for the government would be reduced.⁶⁶ It seems justifiable that the polluters should indeed pay for these inspection tasks simply by carrying out a large part of the inspection activities themselves. The government would then be able to adopt a supervisory approach, controlling much more loosely the more substantive environmental law obligations for industries, but inspecting more intensely the methods for self-monitoring by industries.

The usefulness of private verification is not a clear-cut fact. Is the use of private verifiers indeed a promising instrument, relieving the government from enforcement costs, or is it in contrast a cumbersome extra requirement with additional costs for industries that are not justifiable when compared to the benefits? Greenhouse gas emissions trading will be an important experiment to

64 Reitze and Schell, *supra* note 14, p. 79.

65 Teuben, *supra* note 60, p. 437. Teuben also argued that the *nemo tenetur* principle, included in Art. 6 ECHR, would not be expected to prohibit the imposition of self-monitoring activities as has been done within the EU greenhouse gas emissions trading scheme (p. 456).

66 Reitze and Schell, *supra* note 14, pp. 63-135.

discover the advantages and disadvantages of this specific inspection approach. In Section 4 a couple of possible problems have been described, and it will be interesting to follow the practice and the case law on this topic. It is remarkable that in the extensive list of aspects that need to be reviewed by the Commission, the self-monitoring, reporting and, indeed, also the verification elements are not explicitly mentioned as points that need to be taken into consideration by the Commission.⁶⁷ Nevertheless, it is necessary to examine whether (private) verification is indeed to be considered as a useful addendum to the enforcement package. Is private verification, maybe in an improved form, indeed capable of taking over a meaningful part of governmental inspection tasks? Both the costs for industries (they presumably need to pay the verifiers) and the costs for the government (the government needs to inspect the credibility, professionalism and the current practice of the verifiers) need to be taken into account in this respect. In addition, many legal questions need to be resolved, starting with the possibility for the government to have access to the information on the behaviour of an industry as collected by the verifiers.

67 Greenhouse gas emissions trading directive, Art. 30.