

EU Climate Policy and Integrated Pollution Prevention and Control

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Introduction

Climate change policy documents at both the national and European levels have highlighted the potential role of the Integrated Pollution Prevention and Control (IPPC) regime in tackling climate change. For example, the DETR originally suggested that the requirements of IPPC could significantly reduce carbon dioxide emissions from industrial sources (DETR, 1998). Similarly, last year the European Commission highlighted the potential role that the monitoring and reporting requirements of the regime could have with respect to climate change (CEC, 1999). As the Regulations that fully transpose the 1996 IPPC Directive (CEC, 1996) finally come into force, this article explores the connections between IPPC and climate policy. However, it does not discuss the voluntary agreements that have been concluded with industry in the UK as part of the climate change levy, even though the conclusion of these may have an effect on the application of IPPC in practice. The article starts with an overview of the IPPC Directive and of its requirements in relation to climate change. This is followed by a discussion of the reporting requirements of the Directive and the implications of these for climate policy. The article concludes with a discussion of the potential importance of IPPC for climate change.

The IPPC Directive

The principal aim of the IPPC Directive is to introduce a more integrated approach to controlling pollution from industrial sources. Whereas traditional approaches to pollution control have focused on one pollutant or type of pollutant (eg gaseous emissions) to one environmental medium (eg air), IPPC aims to consider all emissions to all environmental media. Consequently, in regulating industrial installations under IPPC, emissions to air, water and the soil must be considered together, alongside the production of waste and other environmental considerations, including energy efficiency.

IPPC applies to major industrial activities and is wide-ranging as it includes, for example, the intensive farming of poultry and pigs. Existing installations will have to be brought under IPPC by 2007, while new installations should have been subject to IPPC from October 1999. The primary piece of legislation to implement IPPC in the UK received Royal Assent in July 1999, but this does not fully implement the Directive into UK law. The Pollution Prevention and Control Regulations 2000, which complete the transposition, have only recently come into operation.

The IPPC regime puts the onus on controlling emissions on the operator of the proposed installation. Each operator will have to apply for a permit to operate its installation from the competent regulatory authority. In England and Wales, the regulatory authority is either the Environment Agency or local authority depending on the type of installation, whereas in

Scotland it is the Scottish Environmental Protection Agency and in relation to offshore installations it is the Secretary of State for Trade and Industry. Operating an installation without such a permit will not be allowed. The permit application must show, among other things, that the operator has:

- fully considered the potential environmental effects of the proposed operation;
- identified proposed techniques to prevent, or at least minimise, pollution; and
- detailed the proposed measures to monitor emissions to the environment in the course of the operation of the installation.

After sufficient consultation and due consideration, the regulator has to decide whether or not to grant the permit to operate the installation. If granted, the permit will include a set of emission limit values (ELVs) for the pollutants likely to be emitted as well as identifying the 'Best Available Techniques' (BAT) which are to be used to ensure the necessary level of environmental protection. The conditions of the permit will also include monitoring and reporting requirements, including the monitoring methodology, frequency of monitoring and how the monitoring is to be evaluated. The ELVs are to be determined in accordance with BAT, but should also be sufficient to ensure that emissions do not breach local environmental quality standards.

ELVs can potentially be set for any pollutant or group of pollutants, but a list of particular pollutants that should be considered is given in Annex III of the Directive. None of the six greenhouse gases in the Kyoto Protocol is explicitly included in the list, but most of them are implicitly included. For example, methane (CH₄) and nitrous oxide (N₂O) are implicitly included as the list contains volatile organic compounds and oxides of nitrogen, respectively. Having said that, when the term 'oxides of nitrogen' is used in relation to pollution, it is usually taken to refer to nitric oxide (NO) and nitrogen dioxide (NO₂), but not N₂O as the latter's principal adverse environmental effect is with respect to climate change. Similarly the principal adverse environmental effect of CH₄ is in relation to climate change, so CH₄ would not necessarily be included in a list of 'volatile organic compounds' in this context. Hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆) are also implicitly included on the list as it contains 'fluorine and its compounds'. However, carbon dioxide (CO₂), which is the most significant greenhouse gas, is not included, even implicitly, on the list.

Even though an ELV need not necessarily be set for CO₂, emissions of the gas could be controlled by the fact that IPPC requires the consideration of energy efficiency in two respects. First, energy efficiency is one of the considerations in determining BAT for a particular process. However the determination of BAT may require trade-offs, so the most energy efficient technique need not necessarily be identified as BAT after other considerations have been taken into account. Second, energy efficiency is a general principle to be considered in the operation of installations regulated under IPPC. This includes the need to consider the energy efficiency of such things as components involved in process control and building services, eg lighting. A permit may impose conditions for energy efficiency, but this is discretionary.

The European Pollutant Emission Register

As there is no explicit requirement to report greenhouse gas emissions in the IPPC Directive, it would not, in itself, be able to inform climate change policy in this respect. However, the Directive requires the development and maintenance of a European Polluting Emissions Register (EPER). This will contain information supplied by the Member States, which the Commission will aggregate into an inventory of emissions and sources responsible, which will be published every three years. The Directive does not stipulate the particulars of the information to be included on this register, but effectively delegates this responsibility to a Committee composed of representatives of the Member States and chaired by the Commission.

The information requirements for the EPER have recently been published, after consultation with Member States, in a Commission Decision. As expected, they go farther, in some respects, than the list of pollutants for which an ELV might be set, as contained in Annex III of the Directive. The list of pollutants to be reported to the Commission for inclusion in the EPER is set out in Annex A1 of the new Decision and includes the six Kyoto greenhouse gases. Member States are, therefore, required to report emissions of these gases from IPPC installations to the Commission. Consequently, Member States will have to obtain this information in respect of IPPC installations, for example by requiring the reporting of such emissions in the permit conditions. However, emissions of a particular pollutant only have to be reported if its respective threshold value, which is also set out in the Annex, is exceeded.

IPPC and Climate Change

In its 1998 consultation on its climate change strategy, the UK Government estimated that as a result of the requirement to consider energy efficiency under IPPC, UK annual carbon emissions might decline by as much as 3 million tonnes a year by 2010 (DETR, 1998). However this estimate has since been revised downwards to 2.5 million tonnes of carbon a year (and this figure includes reductions to be achieved by agreements with the energy intensive sectors under the climate change levy) by the draft climate change programme (DETR *et al*, 2000). This is less than a tenth of the reduction required if the UK is to achieve its Kyoto greenhouse gas reduction target of 12.5 per cent by 2008-2012. However, as the figure of 2.5 million tonnes of carbon also includes reductions achieved through agreements with energy intensive sectors under the climate change levy, the impact of IPPC will be significantly less than this in practice.

The fact that the UK's draft programme no longer contains an estimation of the potential emission reductions that could result from the energy efficiency requirements of IPPC underlines the uncertainties regarding its potential effect. Part of this results from the difficult balancing act that operators and regulators might have to perform in the determination of BAT. For example, some processes that reduce pollution, such as flue gas desulphurisation, increase energy consumption. In these cases, therefore, regulators will have to make an assessment of whether it is better to pursue lower emissions or higher energy efficiency. In general terms, however, IPPC is intended to promote the development of clean technology which should normally reduce emissions and energy consumption rather than end-of-pipe

measures which often have an energy penalty. In this respect, IPPC is seeking to change the culture of industry, which may mean that its greatest benefit will be achieved over the long-term.

The development of the EPER is a potentially useful aspect of the IPPC Directive with respect to climate change. However, it may be more useful in relation to emissions trading, than with respect to monitoring emissions. Its potential use in relation to the latter is limited as the emissions that will be reported to the EPER will not be comprehensive. This is true from the perspective of climate change in general, as IPPC only covers 60 per cent of energy used in the manufacturing sector in the UK, and by no means all emissions sources in either the energy or agricultural sectors. The lack of comprehensiveness is also relevant with respect to the installations regulated under IPPC, as only emissions released above a certain threshold have to be reported. This varies for each of the greenhouse gases, for example, for CO₂ it is 100,000 tonnes. Consequently, even for those installations regulated under IPPC, not all emissions will be included on the EPER.

However, the emissions and sources reported to the EPER are increasingly being seen as potentially forming the basis of a European emissions trading regime. This year's Commission green paper on emission trading asked for comments on whether the IPPC Directive offered a useful starting point for a Community emissions trading system (CEC, 2000). Under this scenario, installations covered by IPPC could be used as a starting point to define the scope of a trading system and the emissions reported on the EPER could be used as the basis of the trading system, itself. The fact that some emissions and sources are not included on the EPER need not be of concern as the principal emitters will be included, and it is these which are most likely to be included in any future emissions trading system.

In conclusion, while the role of IPPC in reducing greenhouse gas emissions has been revised downwards in recent years, the Directive does have a role to play in reducing emissions from the installations that it covers. However, the development of the EPER, which will require the reporting of emissions of CO₂ and other greenhouse gases from major emitters, could well turn out to be a suitable basis on which a future European emissions trading system. Whether it will, depends on the result of the consultation on a European emissions trading system that began with the publication of the Green Paper earlier in the year. All in all, therefore, the potential links between IPPC and climate policy are more numerous than they first appear, especially when the voluntary agreements with industry under the climate levy are also included.

References

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