ANNEX I: COMPILATION OF THE ANSWERS TO THE QUESTIONNAIRE

Return of completed questionnaire

Table 0	Questionnaire returned (EU Member States, AC-IMPEL and Norway)	Responsible persons	Institution
Austria	Yes	Otto-Werner Schaubschläger	Municipality of Linz / Department for Environmental Protection and Nature Conservation
Belgium	No		
Denmark	Yes	Jørgen Nielsen Anette Christiansen	Environmental Protection Agency (Miljøstyrelsen)
Finland	Yes	Emelie Enckell Pentti Puhakka	Uusimaa Regional Environment Centre Ministry of Trade and Industry (MTI)
France	Yes	Philippe Orignac	Ministère de l'aménagement du territoire et de l'environnement
Germany	Yes	Ulrich Buntrock	Staatliches Umweltamt Herten, North-Rhine-Westphalia
Greece	No		
Ireland	Yes	Sean Scott	Environmental Protection Agency
Italy	Yes	Alfredo Pini	National Environmental Agency (ANPA)
Luxembourg	No		
The Netherlands	Yes	Frans Bruinsma	Inspectie milieuhygiëne
Portugal	Yes	Paula Gama and Sofia Simões	General Directorate of Environment (Environmental Institute)
Spain	No		
Sweden	Yes	Erik Nyström and Mikael Hägglöf	Swedish Environmental Protection Agency
The United Kingdom (England and Wales)	Yes	Maggie Dutton	Environment Agency
Bulgaria	No		
Cyprus	No		
Czech Republic	No		
Estonia	No		
Hungary	No		
Latvia	No		
Lithuania	Yes	Vaclovas Beržinskas	Lithuanian State Environmental Protection Inspection
Malta	No		
Norway	No		
Poland	Yes	Krystyna Panek	Ministry of the Environment, Department of Environmental Protection
Romania	No		
Slovakia	No		
Slovenia	No		

1 LEGAL BACKGROUND

1.1 Implementation of the IPPC directive

1.1.1 Has the IPPC directive been implemented in your country?

Table 1	Yes or no	Please specify
Austria	Yes	The IPPC-directive has been implemented in our federal legislation in different sectoral laws (amendments of the Trade and Industry Act, Fed. Law Gaz. I No. 88/2000 (Sec. 77a, 81a - 81d, 356a, 359b (1), the Waste Management Act[1)], Fed. Law Gaz I Nr. 90/2000 (Sec. 29b - 29d, 45c (1) and (2)), the Mining Code, Fed. Law Gaz I No. 38/1999 and Fed. Law Gaz. I 21/2002 (Sec. 121 and 121 a-e). For certain sectors (intensive farming) the competence lies with the provinces (Länder). They have passed either amendments of sectoral laws or "IPPC-Acts". 1) The "Waste Management Act 2002", Fed. Law Gaz. I No. 102/2002, will enter into force on 2nd November 2002 and replace the quoted act. The respective sections will get different numbers (Sec. 40, 43 (3), 47 (3), 57, 60, 65, 78 (5), Annex 5).
Denmark	Yes	See act no. 369 of 2nd June 1999, amending the environmental protection act (integrated prevention and pollution control and consultation of employees etc.) and statutory order from the ministry of environment and energy no. 807 of 25 October 1999 on permits for listed activities and installations as last amended by statutory order no. 107 of 1st February 2000 (attached).
Finland	Yes	Environmental Protection Act 1st March 2000.
France	Yes	The implementation of the IPPC directive in France relies on an act, a decree and a ministry decision that are detailed below. In France, most of the legislation corresponding to IPPC directive was enforced at the end of the 70's. The Environment Code provides the backbone of the legislation. According to the level of danger and perturbation can cause, installations are submitted to: - environmental permit, if the level is important, - declaration, if the level is feeble but noticeable. The Environment Code states that a decree must list such installations. IPPC installations belong to the list of installation submitted to environmental permit. The environmental permit procedure is described within the Environment Code (from art. L. 512-1 to art. L. 512-7).
Germany	Yes	By the Gesetz zur Umsetzung der UVP-Änderungsrichtlinie, der IVU-Richtlinie und weiterer EG-Richtlinien vom 3.8.2001 ("Artikelgesetz") (BGBl. I S. 1950) 1 (act with which several environmental laws are changed)…
Ireland	Yes	It requires an amendment of the EPA ACT 1992.
Italy	Yes	IPPC implementation law for existing installations has been issued (DL 372 on August 4th 1999). Provisions will be considered by EIA legislation.
Lithuania	No	
The Netherlands	Yes	Type and quantity of energy used/generated (Wet Milieubeheer, art 5.1, Inrichting en vergunningenbesluit).
Poland	No	IPPC directive has been already transposed into Polish legislative system by acts: Environmental Protection Law (will come into force on 1 October 2001, articles concerning IPPC – on 1 January 2002), Act of on the Introduction of the Environmental Protection Act, the Waste Act and Amending Certain Acts (will come into force on 1 October 2001) and a number of executive orders (will be issued by the end of 2001).
Portugal	Yes	Decree-Law (DL) 194/2000 from 21st April 2000.
Sweden	Yes	The IPPC-directive was implemented in Swedish legislation through the Environmental Code (SFS 1998:808), which entered into force on January 1, 1999.
The United Kingdom	Yes	UK legislation made on 21st July 2000.

1.1.2 Did the implementation of the IPPC directive require or will it require specific changes in your legislation concerning energy efficiency?

Table 2	Yes or no	Please specify
Austria	Yes	For IPPC installations (new installations and substantial changes of installations) energy efficiency will be part of the permit (either because of the application or as permit con-

		ditions).
Denmark	No	
Finland	Yes	See below.
France	Yes	The implementation of the IPPC directive required some changes in our legislation concerning energy efficiency at decree level and at ministry decision level.
Germany	Yes	The Bundes-Immissionsschutzgesetz (BImschG =Federal Immission Control Law) and the 4. and 9. decree based on this law had to be changed/supplemented.
Ireland	Yes	As above. The new EPA Act is currently under review and has not been implemented into Irish legislation yet.
Italy	No (in principle)	Minor legislative acts could be required during the process of IPPC enforcement.
Lithuania	No	
The Netherlands	No	Already implementing with the implementation of the Wet Milieubeheer (Wm) in 1993.
Poland	-	See 1.1.1
Portugal	No	Some of the existing legislation on energy efficiency might be adapted in order to ensure that its demands are coherent with the ones likely to be imposed by the more demanding IPPC permit.
Sweden	No	The Code covers the use of resources such as energy
The United Kingdom	Yes	The legislation includes specific energy efficiency requirements for industry in addition to general existing requirements.

1.1.3 How has Article 3 (d) of the IPPC directive been or how will it be implemented in your legislation?

Table 3	Act, Decree or Ministry Decision	Please specify the wordings of the provision
Austria	Law (Section 77a of the Trade and Industry Act, Section 29 b (6) of the Waste Management Act, Section 121 of the Mining Code	The exact translation of Article 3 (d) of the Council Directive: "Energy is used efficiently" was implemented in the above mentioned laws.
Denmark	Statutory order	See statutory order from the Ministry of Environment and Energy no. 807 of 25 October 1999 on permits for listed activities and installations as last amended by statutory order no. 107 of 1 February 2000, Part 7, §13, stk. 2, 1)
Finland	Act, EPA 42 § 2 mom. Decree, EPD 9 §, 2 mom., item 3; 19 §, 3 mom.; 37 § item 6	No Ministry Decision, but a common understanding between Ministry of the Environment and Ministry of Trade and Industry (MTI), according to which the companies' report on the implementation of voluntary energy saving agreements (see chapter 5) are available to the supervising environmental authority and included in the permit applications. *Environmental Protection Act 42 § 2 mom*: "Activities may not be located in conflict with a detailed local plan. In addition, the provisions of section 6 apply to location." *Environmental Protection Decree 9 § 2 mom., item 3* : " Permit applications must also include the following information relevant to consideration of the application insofar as is applicable bearing in mind the nature and impacts of the activities:…information on proposed energy use and an assessment of energy efficiency." *Environmental Protection Decree 19 § 3 mom.:* "Where necessary, the permit decision must also indicate how environmental management systems or measures and reporting based on energy-saving agreements have been taken into account in setting the terms of the permit. The decision must also mention the provisions of section 56 of the Environmental Protection Act." *Environmental Protection Decree 37 § item 6:* "In assessing the best available techniques referred to in section 3, paragraph 1, subparagraph 4 of the Environmental Protection Act, the following factors shall be taken into consideration: …energy efficiency."
France	Decree (décret n°77-1133 du 21 septembre 1977 modifié)	The decree n°77-1133 was modified by the decree n°2000-258 quoted above in order to implement the article 3 (d).

Germany	Act	Installations, which have to be permitted on behalf of this law (annotation: that includes all IPPC installations) have to be constructed and operated to achieve a high level of protection for the environment taken as a whole by... use of energy economically and efficiently. (Art. 5 BImschG)
Ireland	Same as above. However the requirements of Article 6 "application for permits" are being met in the current IPC application procedure for a permit. Facilities already licensed before the directive will be reviewed once the IPPC directive is implemented into Irish Law.	The following is the wording of the IPC licence provision for new licences: Energy Use 4.1. The licensee shall carry out an audit of the energy efficiency of the site within one year of the date of grant of this licence. The licensee shall consult with the Agency on the nature and extent of the audit and shall develop an audit programme to the satisfaction of the Agency. The audit programme shall be submitted to the Agency in writing at least one month before the audit is to be carried out. A copy of the audit report shall be available on-site for inspection by authorised persons of the Agency and a summary of the audit findings shall be submitted as part of the Annual Environmental Report. The energy efficiency audit shall be repeated at intervals as required by the Agency. 4.2. The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2.2 above.
Italy	Decree. Refers to Decree 372/99 Art. 3	As in the Directive.
Lithuania	Ministry Decision	Article 3 is transposed to IPPC Permitting system, also particular measures are placed in to Wastes reducing plan. See 1.3.1.
The Netherlands	Act	Care for energy-efficient operation (art. 1.1.2 Wm).
Poland	Act	Environmental Protection Law art. 143: "Technology applied in newly set up or essentially altered installations and facilities should comply with requirements which setting out is driven in particular by: (...) 3) effective energy generation and consumption" art. 204: "1. The installations which the integrated permits are required for shall comply with environmental protection requirements which result from the best available technique."
Portugal	Decree	In DL 194/2000 the article 8 defines the operator obligations and uses basically the same wording of the directive. No further legislation was enacted.
Sweden	Act	"Persons who pursue an activity or take a measure shall conserve raw materials and energy and reuse and recycle wherever possible. Preference shall be given to the use of renewable energy sources." (Chapter 2, section 5 of the Code).
The United Kingdom	Ministry Decision	Regulations made under the Act include the following: *Conditions of permits: general principles* Regulation 11. – (1) When determining the conditions of a permit, the regulator shall take account…in the case of a permit authorising the operation of a ...installation…additional general principles set out in paragraph (3)…(3) The additional general principles referred to in paragraph (1) in relation to a permit authorising the operation of a…installation…are that the installation …should be operated in such a way that…(b) energy is used efficiently.

1.1.4 How has Article 6 (1) of the IPPC directive as far as the second and eighth indents are concerned (i.e. energy used or generated and measures planned to comply with the obligation to use energy efficiently) been or how will it be implemented in your legislation?

Table 4	Act, Decree or Ministry Decision	Please specify the wordings of the provision
Austria	Law	The translation of Article 6 (1) of the Council Directive was implemented in the Law on Trade and Industry (Article 356a), the Law on Waste Management (Article 29b).
Denmark	Statutory Order	See statutory order from the Ministry of Environment and Energy no. 807 of 25 October 1999 on permits for listed activities and installations as last amended by statutory order no. 107 of 1 February 2000. Annex 2, F18, F19 and G24
Finland	Decree, EPD 37 §	*Environmental Protection Decree 37 §:* "In assessing the best available techniques referred to in section 3, paragraph 1, subparagraph 4 of the Environmental Protection Act, the following factors shall be taken into consideration: 1) reduction of the quantity and harmful impact of waste; 2) the hazard level of em-

		ployed substances and the scope for using less hazardous alternatives; 3) the scope for recovery and reuse of substances used and waste generated in production processes; 4) the quality, quantity and impact of discharges; 5) the quality and consumption of raw materials used; 6) energy efficiency; 7) prevention of operational risks and the risks of accident, and damage limitation in the event of an accident; 8) the time needed for introducing the best available techniques and the importance of the planned time for launching operations, plus the costs and benefits of limiting and preventing discharges; 9) all impacts on the environment; 10) all the methods in use on an industrial scale for production and for controlling discharges; 11) developments in technology and natural science; 12) information on best available techniques published by the Commission of the European Communities or international bodies."
France	Decree (décret n°77-1133 du 21 septembre 1977)	The decree n°77-1133 was modified by the decree n°2000-258 quoted above in order to implement the article 6 (1).
Germany	Decree	The application has to include a description of measures to achieve an economical and efficient use of energy, in particular to achieve a high energetic efficiency, to reduce loss of energy and to use (by-)generated energy. (Art. 4d 9th Decree to the Federal Immission Law)
Ireland	Act	The paragraph above specifies how the Irish EPA is adopting Article 6 (1) of the IPPC directive. However the new Irish EPA Act replacing the EPA Act of 1992 is currently at the draft stage so a wording on the provision is not available.
Italy	Decree. Refers to Decree 372/99 Art. 4	As in the directive.
Lithuania	Ministry Decision	These provisions are transposed to our legislation as it is in the directive.
The Netherlands	Act	Type of energy used/generated (art 5.1 Inr, en verg Besluit WM).
Poland	Act	Environmental Protection Law, art. 184 para 2: "Application for granting permit shall include: (...) 9) information on energy used or generated by the installation"
Portugal		Apart from the wording in DL 194/2000 no other provision was or is planned to be made.
Sweden	Act	An application "shall contain […] any information that is necessary for an assessment of compliance with the general rules of consideration laid down in chapter 2" (Chapter 22, section 1, para. 1.3 of the Code).
The United Kingdom	Act and Regulations	Schedule 4 Grant of Permits Part 1 Application for Permits – (1) An application to a regulator for a permit… shall contain the following information… …(f) the raw an auxiliary materials and other substances and the energy to be used in or generated by the carrying out of the activities …(k) a description of any proposed additional measures to be taken to comply with the general principles set out in regulation 11.

1.1.5 How has Article 9 (1) of the IPPC directive been or how will it be implemented in your legislation?

Table 5	Act, Decree or Ministry Decision	Please specify the wordings of the provision
Austria	Law	Section 77a (1) of the Trade and Industry Act, Section 121 (1) of the Mining Code and Section 29b (6) of the Waste Management Act provide that inter alia the efficient use of energy is a criterion for the permit.
Denmark	Statutory Order	See statutory order from the Ministry of Environment and Energy no. 807 of 25 October 1999 on permits for listed activities and installations as last amended by statutory order no. 107 of 1 February 2000. Part 7, §13 and 14.
Finland	Act, EPA 43 §, 3 mom. Decree, EPD 19 §, 3 mom.	*Environmental Protection Act 43 § 3 mom.:* "When permit regulations are issued, the nature of the activity, the properties of the area where the impact of the activity shows, the impact of the activity on the environment as a whole, the significance of measures intended to prevent pollution of the environment as a whole and the technical and financial feasibility of these actions shall be taken into account. Permit regulations concerning the prevention and limitation of emissions shall be based on the best available technology. In addition, energy efficiency and precautions, pre-

		venting accidents and limiting their consequences shall be taken into account as needed." *Environmental Protection Decree 19 § 3 mom.:* "Where necessary, the permit decision must also indicate how environmental management systems or measures and reporting based on energy-saving agreements have been taken into account in setting the terms of the permit. The decision must also mention the provisions of section 56 of the Environmental Protection Act."
France	Act (Code de l'environnement art. L 512-1 & art. L 512-2) Decree (décret n°77-1133 du 21 septembre 1977)	The exact wording is even longer than the previous ones. An electronic copy of the French environment code is available at the web site aida.ineris.fr that is run by INERIS, a public institute that depends on the ministry of environment.
Germany	Act, Decree	The permit is to be granted, if it is verified, that the obligations of Art. 5 BImschG are met (Art. 6 BImschG). The permit can be connected with conditions which ensure the fulfilling of the obligations mentioned in Art. 6. The permit can be connected with conditions as far as necessary to assure that the operator will meet the obligations of Art. 5 BImschG and of other environmental, safety and health etc. laws that refer to the installation.
Ireland	Act	As above.
Italy	Decree. Refers to Decree 372/99 Art. 5	As in the Directive.
Lithuania	Ministry Decision	All general provisions mentioned in Article 3 of the Directive and requirements of BAT set in Article 10 are transposed in to Lithuanian legislation. The way of implementation of these requirements is described in the Programme for the implementation of IPPC Directive, approved by Order of Ministry of Environment on 26 February 2001, No.117.
The Netherlands	Ministry Decision	Consider measures from energy plans as the basic measures for the permit (Circulaire Energie in de Milieuvergunning).
Poland	Act	Environmental Protection Law, art.188 para 2: The permit shall specify:(...) 4) type and quantity of consumed energy, materials, raw-materials and fuels 5) the sources of origination, of the sites of substance and energy release into the environment"
Portugal		Apart from the wording in DL 194/2000 no other provision was or is planned to be made.
Sweden	Act	"A judgement for granting a permit shall, where appropriate, include provisions concerning any necessary measures relating to the management of land, water and other natural resources;" (Chapter 22, section 25, para. 1, 9th indent of the Code)
The United Kingdom	Act and Regulations	Regulation 12. –(1)... there shall be included in a permit-…. (b) (ii) such other conditions…when take with the condition applied in paragraph (10), for the purpose of ensuring a high level of protection of the environment as a whole, taking into account the general principles set out in Regulation 11. Paragraph (10)…there is implied in every permit a condition that... the operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

1.1.6 Has Article 9 (8) of the IPPC Directive (general binding rules) been used, or has its use been considered to implement IPPC requirements on energy efficiency?

Table 6	Yes or no	Please specify
Austria	No	There are general binding rules for certain categories of installations (ordinances for certain sectors according to the Trade and Industry Act or the Waste Management Act) but not specifically for the efficient use of energy.
Denmark	No	
Finland	No	
France	Yes	The environment code (art. L. 512-5) states that general rules can be imposed by the ministry of environment. In France, running a IPPC plant means the manager has to obtain an environmental permit that is delivered by the local representative of the govemment (after public consultation and the advice of environmental authority) according to local environmental conditions. Nevertheless, at national level, a binding guidance is

		provided. It will be referred to binding guidance when talked about "general binding rules". Different ministry decisions sector wise (glass industry, combustion plants, cement industry, paper industry, incineration plants or general provide binding guidance to limit the environmental impact of a plant. There are some consideration on energy efficiency in the guidance.
Germany	No	Not yet because of the political goal to meet the CO_2-reduction regarding the Kyoto-protocol by voluntary agreements (see Chapter 5). Before IPPC there have already been GBR for steel mills and waste incineration plants.
Ireland	No	
Italy	No	Article 9(8) of the Directive has been implemented in the legislation but not yet used. A GBR approach has been previously used in some cases, particularly in the field of pollutant monitoring rules.
Lithuania	Yes	IPPC requirements, including energy efficiency, are transposed in to legal document named "Regulation on IPPC permitting" and supplementary documents. There is a plan to develop General Binding Rules (GBR) for appropriate branches of industry. Requirements for energy efficiency to be included to these GBRs.
The Netherlands	Yes	We have general rules for smaller installations like offices, shop etc.
Poland	No	
Portugal	No	
Sweden	Yes	The use of general binding rules is currently under consideration as one means of partly implementing Art. 5 of the Directive.
The United Kingdom	Yes	The provision is being considered as a means of implementing energy efficiency requirements.

1.1.7 Were there, or are there, any problems in implementing the provisions on efficient energy use of the IPPC directive in your legislation?

Table 7	Yes or no	Please specify
Austria	No	
Denmark	No	
Finland	Yes	Thus far, very little reference data has been available and there is a lack of experience in how to use the data.
France	No	Those provisions on energy efficiency were quite new in environmental regulation but the existing legal frame was flexible enough to integrate them. The decree n°2000-258 modifying the decree n°77-1133 modified was the most important step towards implementation.
Germany	No	No specific problems. The only problem is that of loss of time as the German govemment intended first to implement the IPPC issues together with all of the other existing German environmental provisions in different acts in only one system (Umweltgesetzbuch-Statute Book of Environmental Law). This proved at last to be impossible for constitutional reasons, so that the government proposed a separate bill for implementing only IPPC (and EIA) issues. So the parliamentary process took more time for the parliamentary process.
Ireland		The legislation is at draft stage and has not been implemented yet, however there should not be any major issues in implementing the IPPC provisions on Energy use.
Italy		NO ANSWER
Lithuania	No	
The Netherlands	Yes	When the IPPC came there was already an existing voluntary agreement with the major energy consuming branches of industry. This arrangement had to linked with the permit by means of a paper of the minister of environment: "de Circulaire: energie in de milieuvergunning". In the meantime all other approaches have surfaced. A complete description is given under the comment of this chapter.
Poland	-	The requirement of energy efficiency is general only, it is difficult to define the details.
Portugal	No	
Sweden	No	Legislative implementation has caused no such problems.
The United Kingdom	Yes	There are existing provisions for energy efficiency in the UK which already apply to installations covered by the Directive.

Comments:
Denmark:
The problems arise when the provision in the statutory order is to be implemented in the environmental permit. Only a few BREFs have until now dealt with energy efficiency.

The Danish reimbursement scheme for the CO2-tax on industry provides subsidies for companies making an agreement on energy saving measures with the Energy Agency (formerly an agency within the Ministry of Environment and Energy, now a part of the (restructured) Ministry of Industry and Economy). The agreement is not a part of environmental permit. The Energy Agency has published a number of pamphlets and guidelines on energy saving measure in order to inspire companies and an 'Energy Management Scheme' like the known voluntary environmental management schemes.

The Netherlands:
Energy measures are implemented in general on the base of the environmental law the "Wet milieubeheer" (Wm). The way this happens depends on the category installation and whether a company has joined a voluntary reduction agreement:

a. Benchmarking: applicable for biggest energy consumers (> 0,5 PJ p/a)
b. MJA: applicable to other big (mainly industrial) consumers (covers together with a about 90 % of total energy consumption of the industry)
c. Non MJA-companies: all remaining installations with the exception of (d)
d. AMVB-installations (general binding rules for smaller installations and buildings)

At a. Installations are compared with the world best performing installations. In case their performance is less then they have to make an improvement plan. The measures will be implemented in the Wm-permit. About 200 companies have joined this scheme and are now in the process of starting the comparison.
At b. In 1992 this voluntary agreement started, aiming at reduction of specific energy consumption (about 2 % per year, depending on the branch). This agreement has been implemented in about 29 industrial branches (from refineries to all kind of food industries) and 14 non industrial branches like the insurance business, banking, hospitals etc and agricultural branches like glasshousing. The overall reduction in 1999 was 20 % in comparison to 1989. In most agreements participants are obliged to analyse the situation and make plans for improvement. These plans are approved by the national bureau of energy savings (NOVEM). Measures from approved plans are implemented in the Wm-permit.
At c. Companies or branches that did not join the MJA-agreement are requested to apply for an adaptation of Wm-permit. Measures can be proposed by the applicant but will be selected by the authority. Guidelines for this process and possible measures are made available by means of technical information sheets. The selection depends largely on the payback-period of the required investment (generally 4 years).
At d. This applies mainly to smaller installations exempted from the need for Wm-permit. Examples are: offices, restaurants, shops, glasshouses

Sweden:
It is too early to evaluate how this legislation has functioned in practice.

1.2 Definition of efficient energy use

1.2.1 Is there or will there be a reference to or a specific definition of efficient use of energy in your legislation?

Table 8	Yes or no	The exact wording of the provision:
Austria	No	Not yet.
Denmark	No	
Finland	No	
France	No	The closest to a definition is provided by the act on air and rational use of energy that recommends to save on energy to reduce or suppress air pollution (including green house gases).
Germany	Yes*	On the level of law/decree: *Only for waste incineration in the 17. decree to the BImschG: (translated): "…generated heat is to be used in installations, as far as this is technically possible and demandable…as far as in that case the heat is not used, it has to be transformed in electrical energy if more than 0,5 MW could be produced."
Ireland	Yes	The exact wording is not finalised as the legislation is at the draft stage.
Italy	Yes. Law 10.91	A mix of measures towards the saving of energy, the proper use of energy sources, the improvement of technologies for energy use or transformation, the use of renewable and the replacement of import energy source.
Lithuania	Yes	Regulations on IPPC permitting (Articles No. 8.4; 11.7; 35.1) sets requirements for energy efficiency.
The Netherlands	No	The need for taking measures is related to a pay back time of the measure of five years. If this kind of measures can not be defined within the process or factory, energy use is

		stated efficient.
Poland	No	
Portugal	No	
Sweden	No	
The United Kingdom	No	

1.2.2 Does your country provide any guidance on defining efficient use of energy?

Table 9	Yes or no	What kind of guidance?
Austria	No	Not yet.
Denmark	Yes	Sector energy analysis and some horizontal guidelines (e.g. on ventilation, heating, compressors and electric light) from the Energy Agency.
Finland	Yes	"Energy efficiency in the environmental permit procedure and energy saving Agreements" Energia-Ekono Ltd., MTI, FEI 1999; "Background report on energy efficiency in environmental permit procedure" MoE 2001
France	Yes, partly	The act on air and rational use of energy provided a frame to give some guidance on energy efficiency. Based on the law, a imposed minimal yields for boilers whose power lies between 400 kW and 50 MW. A second imposed regular controls of the yields.
Germany	Yes	No guidance for authorities so far, but Paper of UBA, Berlin (Federal Environment Institute): e.g. „Specific Energy Figures", Cumulated Energy Demand http://www.oeko.de/service/kea and "Guidelines for Energy Management in Companies" (ISSN 0722-186X); Guidelines of VDI – Verein Deutscher Ingenieure (Federation of German Engineers) e.g. VDI 3922 (http://www.vdi.de)
Ireland	Yes	The EPA has not developed any guidance notes for the efficient use of energy. However the Irish Energy Centre, a body specially set up to deal with Energy management issues in Ireland offer guidance to industry on this issue. Their web site address is as follows - http://www.irish-energy.ie
Italy		There are some guidance or technical rule prepared by CNR, ENEA, ANPA (ANPA – Strategies and measures for reducing greenhouses gases emissions through efficiency in final use of electrical energy) (See Annex).
Lithuania	No	
The Netherlands	Yes	Support by the national advisory body for energy saving (NOVEM) for the MJA-members. Technical information sheets for general use.
Poland	No	
Portugal	Yes	Definition of minimum efficiency requirements for hot water boilers; Definition of energy consumption optimums for some industry sectors (Food and Drinks, Textiles, Wood and Cork, Pulp and Paper, Chemistry and Cement, Ceramics and Glass) under the Decree-Law no. 58/82 of 26 February 1982 (RGCE); Definition of adequate values for energy consumption in buildings considering energy efficiency, under the Regulation of the Thermal Characteristics of the Thermal Behaviour of Buildings (RCCTE) (DL 40/90 of February 6th); Guidelines on Energy Auditing in Textiles, Ceramics, Dairies and Wood and Cork Sector (prepared by Centre for Energy Conservation in 1998).
Sweden	No	
The United Kingdom	Yes	Non-statutory guidance on general energy efficiency and by industrial sector is provided by regulators.

Comments:
France: A guidance for combustion plants is provided by the ministry of economy finance and industry. There is sector-wise guidance about efficient use of energy issued by ADEME.

1.3 Implementation in practice

1.3.1 Is the obligation to use energy efficiently also applied to or will it be applied to other installations than those mentioned in the IPPC directive Annex I?

Table 10	Yes or no	Please, specify which types of installations:
Austria	No	Not yet.
Denmark	Yes	In principle, all installations are obliged to use energy efficiently. The incentive to do so is coming from the taxation of energy and CO2 and grants for energy saving projects.

		Installations mentioned in Annex 1 (in total 6 500 off which 1200 are IPPC installations) to the statutory order from the Ministry of Environment and Energy no. 807 of 25 October 1999 on permits for listed activities and installations as last amended by statutory order no. 107 of 1 February 2000, have special requirements, see section 3.2. below.
Finland	No	The general understanding is that the obligation will at least be applied to IPPC plants, however, the permitting authority has the freedom to consider energy efficiency also on a smaller scale.
France	Yes	All installations that have an environmental permit. They are more numerous than IPPC installations.
Germany	Yes	See attached list (translation can be provided if necessary)
Ireland	No	Installations other than IPC and IPPC installations are not enforced by the Irish EPA.
Italy	Yes, in principle.	Italian laws regarding energy efficiency refer to installations other than those covered by IPPC (for example services, goods production) and also to installations within the categories of Annex 1 of IPPC (without any production level threshold.).
Lithuania	Yes	There is the same obligation to use energy efficiently to other installations, than those mentioned in the IPPC Directive Annex I. This obligation is applied both for the installations, mentioned in Annex I, and for other installations, it is transposed from Directive Article 3 (d). Exact wording is such: "Common provisions to grant permits: 8.4. Nature recourses, including water, should be used economically, energy should be used effectively. For this purpose the cycle of use of materials and raw materials should be monitored and controlled". The criteria for permitting for "other" installations are: Abstraction of water from environment (underground water, surface water), more than 10 m^3 per day; Waste water discharge to environment, more than 5 m^3 per day; Collection of storm water from territories more than 10 hectares; Pollutants emissions to atmosphere, more than 10 t per year; Emission of hazardous pollutants to the air (I and II class of toxicity); Waste incineration, including used oils, waste disposal and use; Generation of hazardous waste, more than 50 kg/monthly average; Generation of non hazardous waste, more than 1000 kg/monthly average; Etc.
The Netherlands	Yes	Various smaller installations like shops, offices, greenhouses etc.
Poland	Yes	All the types of installations
Portugal	Yes	All installations that are considered to be energy intensive consumers according to Decree-Law 58/72 of 26th February and Decree (Portaria) 359/82 of 7th April, namely those with: - energetic consumption bigger than 1 000 TOE/year (Tonnes of Oil Equivalent) - total equipment nominal consumption bigger than 0,5 TOE/hour - the nominal consumption of a single equipment exceeds 0,3 TOE/hour
Sweden	Yes	All types of human activity are covered by the Code.
The United Kingdom	No	

Comments:
Germany: Annex to 1.3.1:
Installations which require the permit in regard of the Federal Immission Control Law but are not listed in Annex I of the IPPC directive.

Anlagenart	***Ziffer der 4. BimSchV***
Feuerungsanlagen 0,1 bis 50 MW (je nach Brennstoffart)	Ziffer 1.2 Spalte 2 und 1.3
Verbrennungsmotorenanlagen	Ziffer 1.4
Gasturbinen für Arbeitsmaschinenantrieb	Ziffer 1.5
Säurepolieren und Ätzen von Glas mit HF	Ziffer 2.9
Verschmelzen von Stahl mit weniger als 2,5 t pro Stunde	Ziffer 3.2
Herstellung und Reparatur von metallischen Schiffskörpern	Ziffer 3.18
Bau von Schienenfahrzeugen	Ziffer 3.19
Bau von Kraftfahrzeugen	Ziffer 3.24
Bau von Luftfahrzeugen	Ziffer 3.25
Malen, Mischen und Abbacken von Pflanzenschutzmittel	Ziffer 4.2
Destillation zur Aufarbeitung von organischen Lösungsmitteln	Ziffer 4.8
Herstellung von Anstrichstoffen	Ziffer 4.10
Tränken und Überziehen von Stoffen unter Verwendung organischer Lösungsmittel mit einem Verbrauch von 25-150 kg pro Stunde	Ziffer 5.4

Holzspan- und Holzfaserplatten	Ziffer 6.3
Tierintensivhaltung, z. B. 1.500–2.000 Schweine; 560–750 Sauen; mehr als 250 Rinder; mehr als 1.000 Kälber; 15.000–40.000 Stück Geflügel,	Ziffer 7.1
Tierkörperbeseitungsanlagen für weniger als 10 t pro Tag	Ziffer 7.12
Brauereien mit weniger als 300 t pro Tag	Ziffer 7.27
Abfallbehandlungsanlagen zwischen 1 und 20 bzw. 50 t pro Tag, je nach Abfallart	Ziffer 8.11
Anlagen zur Wiedergewinnung von Sprengstoffen	Ziffer 10.1 Spalte 2
Anlagen zur Herstellung von Zellhorn und Zellulosenitrat	Ziffer 10.2 und 10.3
Anlagen zum Vulkanisieren von Kautschuk	Ziffer 10.7
Anlagen zum Bleichen oder zum Färben von Textilien mit 2-10 t pro Tag	Ziffer 10.10
Anlagen zur Textilveredelung	Ziffer 10.23
Kälteanlagen	Ziffer 10.25

1.3.2 How much of the total industry energy use do these installations cover?

Table 11	IPPC installations, (average ….%)	Other installations, (average ….%)	Please specify:
Austria	Total energy end-use (IPPC and other installations) 276 PJ		The data are based on statistics from 1998 (the IPPC-directive was not implemented at that time), so we had no data about the number of IPPC installations. For the next year we can calculate the average for IPPC and other installations.
Denmark			NO ANSWER
Finland	80–85 %	< 2 %	
France			In 1999, industry represented 49,4 Mtoe (millions of tons oil equivalent) without energy production sector. No detailed cross-study of IPPC installation and energy use was yet conducted at national level. But from national statistics on energy use, siderurgy and first steel transform (10 490), organic chemistry industry (6 902), mineral chemistry industry (5 251), paper industry (3 479), ceramics and construction materials (3 267), production of non ferrous metals (2 793), glass industry (1 879) and automobile industry (1 197) account for 70 % of brut energy consumption in industry. Industry represents about 20 % of total French energy consumption. Energy sector represents about 10 % of total French energy consumption. Thus, industry and energy sector account for 30 % of total energy consumption in France (precisely 32,2 % in year 2000).
Germany			No figures available at the moment. The other (not IPPC) installations are in general smaller ones without big energy consumption.
Ireland	-	-	
Italy	72,7 %	27,3 %	Approximate data are reported due to the share given to some category of installations and to the threshold of production that excludes some IPPC installations. Data refer to year 1995.
Lithuania	About 65 %	About 35 %	
The Netherlands	80 %	20 %	This question is very difficult to answer. I am particularly confused by the word "average". If you want a rough indication of the percentage IPPC vs. others I would guess 80 % vs. 20 % of total industry energy.
Poland	-	-	We don't have such information at the moment.
Portugal	-	-	Not known.
Sweden	85 %	15 %	For electricity about 80 %, while for fuels and heat about 90 %.
The United Kingdom	82 %	18 %	1998 estimates, excluding power generation

1.3.3 Are there, or will there be, differences in energy efficiency requirements between the existing and new IPPC installations?

Table 12	Yes or no	Please specify
Austria	No	The requirements in permits for existing installations that have been substantially changed and new installations will be the same. Note the transition period for existing

		installations (31st October 2007).
Denmark	Yes	New installations must comply with BAT. Existing installations have according to Danish law a legal protection for 8 years from the date of the first permit. After this period the principle of proportionality applies.
Finland	No	At this time, no requirements need to be applied. Considered case by case.
France	Yes	The consideration on energy efficiency are now a full part of the permit procedure. The existing IPPC are bound to level with the new ones: energy efficiency will be studied in the permitting process and the reference to best available technology is compulsory in the revision of environmental permits.
Germany	Yes	It is a general principle of German administration law, that for legally existing installations costs and advantages for new legal requirements have to be balanced carefully and a shutdown caused by the new condition has to be avoided. In addition, the measures must be technically and practically possible in that given special structure of the installation. The method to implement new techniques is therefore in the most cases to set an individual or branch-wise time frame for a transitional period by law or ministerial decision or general administrational regulation or individual regulation by .the competent authority.
Ireland	Yes	Many existing facilities operate older equipment that is not as efficient as the current day equivalent. These facilities often operate on tight margins so in some cases they find it difficult to obtain capital investment to upgrade to a modern system, despite the fact that it will actually save them money in the long term. In most cases new installations are designed with a point of view towards reducing energy costs and therefore capital investment is more readily available.
Italy	No, in principle	The main difference is the time available for existing plant to adopt BAT.
Lithuania	No	Requirements for energy efficiency for existing installations will be implemented later than in new ones.
The Netherlands		The requirement are the same, the moment of implementation can differ.
Poland	Yes	Environmental Protection Law, art. 143: "Technology applied in newly set up or essentially altered installations and facilities should comply with requirements which setting out is driven in particular by: (...) 3) effective energy generation and consumption". Requirements for application and permits content are the same.
Portugal	Yes	The level of demand is likely to be higher for new installations (similarly to the philosophy of the BAT definition in the BREFs, e.g. for clinker and lime production). Permits based on environmental performance to be achieved by BAT that are set differently for new and existing will therefore reflect these differences. Furthermore, for existing installations, costs and advantages for new legal requirements regarding this aspect will have to be balanced in order to avoid shutdowns.
Sweden	No	Not as a general rule. In practice, however, new installations are likely to find requirements on energy efficiency easier to fulfil than would older installations.
The United Kingdom	Yes	Only to the extent that there are always differences in requirements between new and existing installations.

1.3.4 Is there a transitional period for the existing IPPC installations to achieve the general requirements of energy efficiency?

Table 13	Yes or no	Please specify
Austria	Yes	The transitional period is the same as in the Directive (e.g. Section 81c of the Trade and Industry Act): 31st October 2007.
Denmark	No	We have no general requirements of energy efficiency, see also 1.3.3.
Finland	No	Nothing is defined.
France	Yes	A decree (décret du 21 sept. 77 modifié) and a ministry decision (arrêté du 17 juillet 2000) gave IPPC installation a transitional period.
Germany	Yes	See 1.3.3. In general, the existing installations have to meet the requirements in the year 2007.
Ireland	Yes	As soon as the IPPC directive is introduced to Irish Law the existing installations will be reviewed sector by sector between 2002 and 2007, so in effect there will be a five year transitional period.
Italy	Yes	Existing plants already meet requirements of current energy laws. If additional requirements will be issued by integrated Permits (as defined by IPPC Directive), existing plants will comply before October 2007.
Lithuania	Yes	According to the Directive.

The Netherlands	Yes	
Poland	-	Transitional period refer to the following types of installations which may achieve integrated permit after 2007: municipal heat sources with a rated thermal input between 50 and 300 MW and municipal waste landfills receiving 10 to 20 tonnes per day) and those larger installations failing to meet all the requirements of the IPPC Directive that will successfully pass the procedure for adopting compliance programmes will be able to obtain integrated permits. Transitional period doesn't refer in particular to energy efficiency requirements.
Portugal	No	At the moment we have no general requirements of energy efficiency. However all the installations will have to have the environmental permit by October 2007.
Sweden	Yes & no	There is no transitional period apart from the one provided for in the IPPC Directive.
The United Kingdom	Yes	Transitional periods will be specified in permits.

1.3.5 If you have general binding rules (Article 9 (8) of the IPPC directive) do they apply to

Table 14	All installations	Industrial branches	Categories of installations	Specific pollutants	Please, specify:
Austria	No	No	Yes	No	Till today we have no binding rules relating specifically to efficient use of energy (but there are ordinances based on the Trade and Industry Act, the Waste Management Act and the Water Act).
Denmark	No	No	No	No	
Finland	No	No	No	No	No binding rules
France	Yes (arrête du 2 février 1998)	Yes (glass industry, cement industry,..)	Yes (Large Combustion Plant, installation for the incineration of waste, activities emitting VOC)	Yes (Ammonia,…)	As specified above, here, general binding rules should be understood as a binding guidance on environmental permits. The ministry decision (arrêté du 2 février 1998) applies to all plants excepts for combustion plants, quarries, cement industry, paper industry, glass industry, surface treatment, installation for the incineration of waste, whose cases are treated apart in separate ministry decisions. There are too ministry decisions giving prescriptions for specific pollutants.
Germany	No	No	No	No	There are no plans at the moment for general binding rules. Before IPPC existing GBR refer to waste incineration plants and to steel mills.
Ireland					Not applicable.
Italy					No GBR have been issued according to Art. 9(8) of IPPC Directive (See 1.1.6)
Lithuania	No	No	No	No	We have no general binding rules for branches of industry yet.
The Netherlands	No	No	Yes	No	See 1.1.7
Poland	No	No	No	No	No general binding rules.
Portugal	No	No	No	No	We have no general binding rules.
Sweden	No	No	Yes	No	Currently, there are no general binding rules for IPPC-installations. However, such rules exist for some other industrial installations.
The United Kingdom	No	No	No	No	Consideration of GBRs is taking place for certain industry sectors and possibly for energy efficiency provisions.

1.3.6 What is or would be the main content of the general binding rules?

Table 15	Clarification (determination) of energy consumption	Energy analysis	Energy inspection	Plan for making energy savings more effective	Energy savings measures	Reporting	Other	Please, specify:
Austria	No	No	Yes	No	No	No	No	No horizontal regulations for efficient use of energy planned (for the Trade and Industry Act).
Denmark	No	No	No	No	No	No	No	
Finland	Yes	Yes	No	Yes	Yes	Yes	No	Included above, are only indications of what obligations are included in the voluntary energy saving agreements
France	Yes	Yes	No	Yes	Yes	Yes	No	The ministry decisions demands elements on efficiency energy use: clarification of energy consumption and justification of energetic choice. Apart from ministry decision, operator have to report on fuel consumption every year.
Germany	Yes	Yes	No	Yes	Yes	Yes	No	The underlined items are most probably chosen, eventually some energy saving measures too.
Ireland								Not applicable.
Italy								See 1.3.5. Recent IMPEL report tries to define possible contents of GBR.
Lithuania								See answer in 1.3.5.
The Netherlands	Yes	Yes	Yes	Yes (larger consumers)	Yes	Yes	Energy performance for buildings	
Poland	No	No	No	No	No	No	No	
Portugal	No	No	No	No	No	No	No	Not applicable (no general binding rules).
Sweden								All of the above given alternatives are likely to be considered.
The United Kingdom	No	No	No	No	No	No	No	Not known

1.3.7 Can the environmental permit authority deviate (in any direction) from the provisions of the general binding rules on energy efficiency?

Table 16	Yes or no	Please, specify in which direction:
Austria	-	
Denmark	-	
Finland		If there would be generally binding rules, they would also bind the authorities.
France	No	The ministry decision apply even if the environmental permit has not been up-dated. Still, according to local conditions, environmental permit can be stricter than ministry decision.
Germany	Yes	Due to German general administrational law, an authority can only deviate if it is evident, that the state of technology/BAT has developed considerably to a higher level.
Ireland		Not applicable.
Italy	No	See 1.3.5. In principle no, because GBR will be issued (if any) at State level.
Lithuania		See answer in 1.3.5.
The Netherlands	Yes	If they have good reasons.
Poland	-	There are no general binding rules.
Portugal	Yes	This is not defined yet, but possibly general binding rules are minimum requirements and the permits can be more strict.
Sweden	Yes	Existing general binding rules are minimum requirements. Thus, the permit/supervisory authority can impose stricter requirements.
The United Kingdom	-	Not known.

2 THE AUTHORITIES AND ORGANISATIONS

2.1 The competent authorities and organisations

2.1.1 Which ministry/authority is responsible for the national policy on energy?

Table 17	
Austria	Federal Ministry of Economic Affairs and Labour.
Denmark	The Energy Agency (formerly a part of the Ministry of Environment and Energy, now a part of the Ministry of Industry and Economy).
Finland	Ministry of Trade and Industry.
France	The ministry of economy, finance and industry is responsible for the definition of national policy on energy and its enforcement. Part of the energy administration is at the disposal of the ministry of environment as the ministry of environment is associated to the definition and enforcement of rational use of energy.
Germany	Federal Ministry for Economy (BMWi).
Ireland	Department of Environment, Department of Public Enterprise.
Italy	At national level the Ministry of industry is responsible for the definition of the targets and guidelines. The energy plan is defined at regional level.
Lithuania	Ministry of Economics.
The Netherlands	The Ministry of Economic Affairs.
Poland	Ministry of Economy.
Portugal	Economical Affairs Ministry/General Directorate of Energy.
Sweden	At the ministry level, responsibility is shared between the Ministry for the Environment and the Ministry of Industry. At authority level, there is the Swedish National Energy Administration, but all authorities must take energy aspects into consideration as appropriate.
The United Kingdom	Department of Trade and Industry.

2.1.2 Is this ministry/authority also responsible for environmental issues?

Table 18	Yes or no	Please specify
Austria	Yes	Partially (Trade and Industry Act covers commercial installations).
Denmark	No	

Finland	No	
France	No	The ministry of economy, finance and industry is not responsible for environmental issues. The ministry of spatial planning and the environment is responsible for environmental issues.
Germany	No	Federal Ministry for the Environment (BMU)
Ireland	Yes	Department of the Environment
Italy	No	The Ministry of industry agrees with ministry of environment for environmental issues.
Lithuania	No	
The Netherlands		This is a joined responsibility of the Ministry of Economic Affairs and the Ministry of Housing, Spatial Planning and the Environment (VROM).
Poland	No	Ministry of Environment is responsible for environmental issues.
Portugal	No	
Sweden		At the ministry level, the main responsibility lies with the Ministry for the Environment. At authority level, there is the Swedish Environmental Protection Agency, but all authorities must take environmental aspects into consideration as appropriate.
The United Kingdom	No	

2.1.3 Which ministry/authority is competent for giving guidance on energy efficiency in environmental permits?

Table 19	
Austria	Federal Ministry of Economic Affairs and Labour (Trade and Industry Act, Mining Code); Federal Ministry of Agriculture and Forestry, Environment and Water Management (Waste Management Act, Water Act).
Denmark	The Danish EPA is responsible for making guidelines concerning environmental permits. The Danish Energy Agency gives guidance to the companies. This guidance is seldom used in the permitting process.
Finland	Ministry of the Environment.
France	The Ministry of Land Use Planning and the Environment is competent for giving guidance in environmental permits.
Germany	Federal Ministry for the Environment. So far as they don't give guidance the Länder can give guidance themselves.
Ireland	EPA once IPPC comes into legislation and the Irish Energy Centre a public body, which will operate as a statutory body under the Department of Public Enterprise from 2002. This body is currently funded by the EU under the Occupational Programme for Economic Infrastructure.
Italy	Ministry of environment in agreement with ministry of industry.
Lithuania	Ministry of Environment (Regional Environmental Protection Departments).
The Netherlands	This is a joined responsibility of the Ministry of Economic Affairs and the Ministry of Housing, Spatial Planning and the Environment (VROM).
Poland	There are no such guidance.
Portugal	Environmental and Land Planning Ministry in co-ordination with the General Directorate of Energy.
Sweden	The Swedish Environmental Protection Agency is competent to give such guidance, but permit authorities, i.e. the regional Environmental Courts and the county administrative boards, are not bound by it.
The United Kingdom	Department of the Environment, Food and Rural Affairs and the Environmental Regulators

2.1.4 Which authorities are competent for issuing permits including energy efficiency?

Table 20	National/Federal level:	Province/"Länder" level:	Regional level:	Local level:
Austria	Federal Ministry for Economics and Labour (for Mining Code)	Independent administrative tribunal (for appeals); provincial government (for EIA); provincial governor (for Waste Management Act)	Municipality/district authority	-
Denmark	The Danish Environmental Protection Agency	-	The Counties (the County Councils of which DK has 14).	The municipalities (the Municipal Councils of which DK has 275).
Finland	-	Environmental Permit Authorities	Regional Environment Centres	-
France	-	Does not exist in France.	Department level: The representative of the government (Préfet) issues environmental permits after a public consultation was conducted.	The local representative of national environment inspectorate study the documents provided.
Germany	-	-	Mostly that are Staatliche Umweltämter, Bezirksregierungen /Regierungspräsidien (reporting to the Länder ministry), or Landratsämter, so the organisation of the permitting system is different in the various Länder.	-
Ireland	Irish EPA & Irish Energy Centre (agreements on a voluntary basis).	Not applicable	Not applicable	Local Authorities (County Councils)
Italy	Ministry of Environment for installations of national significance (as far as IPPC permit is concerned).	-	Regional Authorities for installations of regional significance (as far as IPPC permit is concerned).	-
Lithuania	Regional Environmental Protection Departments (REPD).	Regional Environmental Protection Departments (REPD)	Regional Environmental Protection Departments (REPD)	Regional Environmental Protection Departments (REPD)
The Netherlands	The State	Provincies	-	Municipalities
Poland	-	Voivod	Starost	-
Portugal	General Directorate of Energy, regarding DL 58/82 of 26th February.	-	-	-
Sweden	See below.	See below.	See below.	See below.
The United Kingdom				Environment Agency, Scottish Environmental Protection Agency, Environment and Heritage Service (NI)

Comments:

France:

The legislation comes from the environment code and the decree (décret n°77-1133 du 21 septembre 1977).

Sweden:

Major installations, a concept which comprises most of the IPPC installations, obtain permits from five regional Environmental Courts whereas the rest of the IPPC installations and other medium sized installations obtain theirs from the 21 county administrative boards.

2.1.5 Which authorities/organisations are responsible for monitoring compliance with energy efficiency conditions?

Table 21	National/Federal level:	Province/"Länder" level:	Regional level:	Local level:
Austria	Federal Ministry for Economics and Labour (for Mining Code)	Provincial governor (for Waste Management Act)	Municipality/district authority	-
Denmark	The Danish Energy Agency when an agreement is made. In other cases it is the environmental authorities, see 2.1.4.	-	-	-
Finland	Energy Information Centre for Energy Efficiency and Renewable Energy Sources Motiva (voluntary agreements).	-	Regional Environment Centres	-
France	Ministry of Land Use Planning and the Environment and Ministry of Industry.	-	Direction Régionale de l'Industrie de la Recherche et de l'Environnement under the responsibility of the representative of the government (préfet).	-
Germany	-	-	Yes	-
Ireland	Irish Energy Centre, Irish EPA and the Electrical Supply Board.	-	-	Local Authorities (County Councils)
Italy	As far as the Integrated Permit is concerned, compliance is ensured by national and regional environment agencies.			
Lithuania	REPD (for all conditions of permits)	REPD (for all conditions of permits)	REPD (for all conditions of permits)	REPD (for all conditions of permits)
The Netherlands	Ministry of Economic Affairs (MJA-schemes), supported by branch organisations and NOVEM.	Provincies (permits)	-	Municipalities (permits)
Poland	-	Yes	Yes	-
Portugal	General Directorate of Energy, regarding DL 58/82 of 26th February.			
Sweden	See below.	See below.	See below.	See below.
The United Kingdom				Environment Agency, Scottish Environmental Protection Agency, Environment and Heritage Service (NI)

Poland: Chief Inspectorate for Environmental Protection is the competent authority for inspection and monitoring in Poland. The tasks at province and regional level are implemented by Voivodship Inspectorates for Environmental Protection.

Sweden: The county administrative boards carry out the monitoring of compliance of all types of conditions in permits for almost all IPPC installations. However, such monitoring is mainly based on data from self-monitoring.

2.1.6 Which authorities/organisations are competent to enforce energy use and efficiency?

Table 22	
Austria	National/Federal level: Federal Minister for Economics and Labour (for Mining Code) Province/"Länder" level: Provincial governor (for Waste Management Act) Regional level: Municipalities/district authorities.
Denmark	The Ministry of Environment and the Ministry of Industry and Economy (the Energy Agency).
Finland	Environmental Permit Authorities, The Ministry of Trade and Industry (voluntary agreements).
France	According to the decree quoted above, the energy authority is competent to enforce energy use and the environment authorities are associated to the energy authorities to enforce energy efficiency.
Germany	In most of the German Länder the Staatliche Umweltämter as regional authorities reporting to the Länder-Ministry for the Environment, in a few Länder the general local authorities („Kreise").
Ireland	All of the above in 2.1.5.
Italy	Competent authorities as in 2.1.4.
Lithuania	REPD (in frame of requirements on energy use reflected in permit only).
The Netherlands	Same as 2.1.5.
Poland	Ministry of Economy, Energy Regulatory Office, Ministry of Environment (in relation to environmental issues).
Portugal	General Directorate of Energy.
Sweden	See comment below.
The United Kingdom	Environment Agency, Scottish Environmental Protection Agency, Environment and Heritage Service (NI).

Comment:
Sweden: As we understand it, enforcement consists of at least two parts. First, the supervisory authority may order the operator to take compliance measures. Second, e.g. non-compliance with permit conditions is a criminal offence and in such cases the supervisory authority will notify the public prosecutor, who will then decide whether or not to prosecute. Of course, a combination of these two parts is possible (or even likely). Moreover, the Swedish Environmental Protection Agency and a number of other authorities may participate in permit procedures and request the permit authority to require measures for e.g. the efficient use of energy from the applicant.

2.2 Co-operation between authorities/organisations

2.2.1 Which organisations are involved in energy efficiency issues in your country?

Table 23	Please, specify in which way they are involved:
Austria	Federal Ministry for Economics and Labour, Federal Ministry of Agriculture and Forestry, Environment and Water Management, Federal Environment Agency Ltd.
Denmark	A wide spectre of organisations, including all industrial organisations, the energy producing sector, the consumers and the Government are involved. The outcome of the involvement is guidelines on energy saving.
Finland	Ministry of Trade and Industry: Energy Efficiency Action Plan; state grants for certain energy efficiency investments, including energy audits; energy efficiency minimum standards (EU-directives). Ministry of the Environment: building code including energy efficiency issues, environmental permits. Energy Information Centre for Energy Efficiency and Renewable Energy Sources (Motiva), Finnish Standards Association SFS (labelling), NGOs (industry, The Finnish Association for Nature Conservation etc.), Municipalities (e.g. Agenda21), Helsinki Metropolitan Area Council (YTV).
France	Ministry of Land Use Planning and Environment, Ministry of Economy Finance and Industry, ADEME (Agence de l'Environnement et de la Maîtrise de l'Energie).
Germany	BMU: (see 2.1.3). BMWi: Steering energy issues in general by means of energy taxes, promoting and funding of investments and research in special energy installations e.g. windmills or fixing special fees for (electrical) energy generated e.g. by windmills. Länder-Ministries for Environment: Issuing administrational regulations and advice for their competent authorities how to manage the federal laws and decrees. Länder-Ministries for Economy: Promoting and funding of investments and research in special energy installations e.g. windmills. Umweltbundesamt (UBA-Federal environment institute, Berlin): Providing information; help the Federal Ministry for the Environment (BMU) to give guidance;

	Länder-Umweltämter (LUA-Länder environment institutes): Providing information to the Staatliche Umweltämter; Staatliche Umweltämter etc. (see 2.1.6).
Ireland	Irish Energy Centre, Irish EPA, and the Electrical Supply Board, Local Authorities. Irish Energy Centre – Operate a Voluntary agreement system for Energy efficiency. EPA & Local Authorities – Legislative involvement.
Italy	National Environmental Agency – ANPA (as technical support for Ministry of environment). National Organisation for new technologies, energy and environment – ENEA (as technical support for Ministry of Industry and occasionally for Ministry of Environment).
Lithuania	Energy efficiency fund.
The Netherlands	Besides the authorities there are: - Branch organisations, involved in negotiations about voluntary agreements and involved in monitoring performance; - The national institute for energy saving (NOVEM), advising companies about the voluntary agreements; - Special bodies like the benchmarking authority (an independent body, controlled by a committee with representatives of the authorities and the industry), supervising the benchmarking process (see also 1.1.7).
Poland	See 2.1.6.
Portugal	- Ministry of Environment and Land Planning / Environment Institute – developing the Climate Change National Strategy, with energy efficiency targets for various consumers; attribute IPPC permits including energy efficiency; - Ministry of Economy/General Directorate for Energy – development and implementation of several policy instruments to promote energy efficiency (minimum standards, labelling, regulation, energy efficiency grants; - AGEEN – National Energy Agency and Municipal energy agencies – develop guidelines for the efficient use of energy, communication and promotion of the efficient use of energy; - Regulator of the Electric Sector – ERSE – creation of incentive for DSM through the electricity tariff formula; - Electricity Producers – implementation of DSM (Demand Side Management) programmes (not very relevant up to the moment); - Industrial organisation and technical centres – provide guidance on energy efficiency; - NGOs – communicate the relevance of energy efficiency – increase consumer's awareness.
Sweden	Industrial organisations by participating in permit procedures and by taking own initiatives.
The United Kingdom	For industry only: National Government is responsible for non-regulatory energy efficiency mechanisms such as energy taxation, emissions trading and voluntary agreements. National Government is also responsible for provision of energy efficiency best practice advice, including industrial sectors.

2.2.2 Is there co-operation between environmental authorities, energy authorities and other organisations in the implementation and guidance on energy efficiency in the permit procedure?

Table 24	Yes or no	Please, specify what kind of co-operation?
Austria	Yes	See for example Sec. 356b Trade and Industry Act e.g. (concentrated permitting procedure managed by the "Gewerbebehörde" = local authority). Co-ordination e.g. with the nature protection authority. See also Section 121 of the Mining Code.
Denmark	No	
Finland	Yes	Between the Ministry of the Environment (MoE) and the Ministry of Trade and Industry (MTI). MoE, The Confederation of Finnish Industry and Employers (TT), the Regional Environment Centres and Energy Information Centre for Energy Efficiency and Renewable Energy Sources (Motiva) has organised joint seminars for regional and local authorities and industrial stakeholders, including presentation by MTI on energy efficiency. MTI has participated in guidance workshops for regional authorities arranged by MoE, having presentation on energy efficiency.
France	Yes	At national level, environment authority consults the energy authority when elaborating the legislation. The two ministries share local representatives within regional direction of research, industry and environment (DRIRE). These local representatives belong to the local commissions of ADEME that grant financial support for the industry.
Germany	No	
Ireland	Yes	The EPA and Irish Energy Centre co-operate closely on this issue. The Irish Energy Centre also works very closely with Local Authorities and Industrial organisations such as IBEC (Irish Business and Employers Confederation).
Italy	Yes	Normally they co-operate in working groups.

Lithuania	No	
The Netherlands	No	In general not for individual permit procedures.
Poland	No	
Portugal	No	Not at the moment, but possibly some changes will occur.
Sweden	Yes	The Energy Administration and the EPA have an on-going dialogue on energy efficiency issues and also certain projects in common.
The United Kingdom	Yes	The government and regulating authorities co-operate in establishing compatibility between regulatory and non-regulatory energy efficiency schemes to meet the requirements of IPPC. Consultation also takes place between regulating agencies and government, or government-appointed bodies, in development of energy efficiency guidance to industry.

2.2.3 Is there co-operation between environmental authorities, energy authorities and other organisations in the monitoring of energy use and its efficiency in the permit procedure?

Table 25	Yes or no	Please, specify what kind of co-operation and between whom?
Austria	Yes	See 2.2.2
Denmark	No	
Finland	Yes	Between the MoE and the MTI. There was a joint venture project MTI/MoE/FEI/industry to determine monitoring system suitable both VAs (Voluntary Agreements) and Environmental Permits (IPPC).
France	Yes	The local representatives of energy authority and environment authority are under the same regional director (DRIRE), that depends upon the Ministry of Environment and the Ministry of Industry.
Germany	No	
Ireland	No	
Italy	Yes	Only information exchange.
Lithuania	No	
The Netherlands	Yes	Authorities are informed by the NOVEM (see 2.2.2) if companies do not perform adequately.
Poland	No	
Portugal	No	
Sweden	No	
The United Kingdom	Yes	Where non-regulatory energy efficiency schemes are used as part of the permit requirements for IPPC, these are monitored by government.

2.2.4 Is there co-operation between environmental authorities, energy authorities and other organisations in the enforcement of energy use and efficiency in the permit procedure?

Table 26	Yes or no	Please, specify what kind of co-operation?
Austria	Yes	See 2.2.2
Denmark	No	
Finland	Yes	When drafting a guidebook for energy efficiency in environmental permit produced by Ministry of the Environment, there was a steering group from MoE/MTI/ The Confederation of Finnish Industry and Employers (TT)/regional authorities guiding the work. They also participated in drafting the permit application form for energy efficiency details.
France	Yes	The local representatives of energy authority and environment authority are under the same regional director (DRIRE).
Germany	No	Energy authorities in Germany are competent only for economic issues
Ireland	No	
Italy	Yes	Only information exchange.
Lithuania	No	
The Netherlands	Yes	Same as 2.2.3. Authorities will then start a procedure to enforce or adapt the permit.
Poland	No	
Portugal	No	
Sweden	Yes	
The United Kingdom	Yes	Where the conditions of non-regulatory energy efficiency schemes are not met by a permit-holder to the satisfaction of the government, the regulating authorities are notified and enforcement action may result.

Comments:
Sweden: As mentioned above, the Swedish Environmental Protection Agency, the county administrative boards and some other authorities may appear as parties to the proceedings. In such cases, there is often co-operation between the "state parties". Moreover, the permit authority may request the opinion of other authorities, such as the Energy Administration.

3 ENERGY EFFICIENCY IN THE PERMIT PROCEDURE

3.1 Guidance for the applicant

3.1.1 Is there any national guidance provided to the applicant in order to evaluate energy efficiency of the operation/activity? If yes, what kind of guidance?

Table 27	No national guidance	Official documents (guide)	Application forms	Negotiation between the applicant and the competent authority	Other, e.g. sector-wise	Please, specify:
Austria	x	-	-	-	-	
Denmark	-	-	-	-	x	Sector energy analysis and some horizontal guidelines.
Finland	-	x	x	x	-	Motiva's activities and financial support for analysis; Energia-Ekono's report 1999.
France	-	-	-	x	-	There is binding guidance about energy efficiency but it does not provide quantified objectives. There are documents from ADEME (Agence de l'Environnement et de la Maîtrise de l'Energie) that provide sector-wise information about energy efficiency, energy efficient technology. Information about voluntary energy saving agreements or emission reduction are made available for the local representatives of the environment authority.
Germany	-	x [1) 2)]	-	-	x [3) 4)]	[1)] Leitfaden für das betriebliche Energiemanagement (Guidelines for energy management in companies UBA Texte 44/97 ISSN 0722-186X) including Guidelines for the applicant on the Pinch Point Analysis for improvement of energy efficiency by Linnhoff March Ltd., Northwich GB for UBA [2)] KEA (UBA 1999, see 1.2.2) [3)] Praxisleitfaden zur Förderung der rationellen Energieverwendungin der Industrie (Practical guidelines for the improvement of rational energy use in the industry – VIK-Verband der Industriellen Energie- und Kraftwerkswirtschaft, Essen, Germany ISBN 3-933826-00-4) [4)] Guidelines of VDI – Verein Deutscher Ingenieure (Federation of German Engineers) e.g. VDI 392 (http://www.vdi.de) as a source of information from a non-government-organisation.
Ireland	-	x	x	x	-	
Italy	x	-	-	-	-	No guidance is available for applicants at the moment. Some studies have been produced (ANPA, ENEA), but most of the guidance will be based on negotiation be-

						tween applicant and competent authority.
Lithuania						Requirements to use energy efficiently are set in permit rules, but not detailed how to evaluate energy use efficiency.
The Netherlands	-	x	x	x	x	E.g. AMVB's (binding rules). Larger (MJA) companies are also advised by NOVEM.
Poland	x	-	-	-	-	Application forms are under preparation.
Portugal	-	-	x	-	x	To apply for an environmental permit the applicant must fill an application form (Formulario) that has an immense number of questions including some relative to energy consumption and energy efficiency. Furthermore, the General Directorate of Energy and the Centre for Energy Conservation have developed several sector initiatives providing guidance of energy auditing (Textiles, Ceramics, Dairies and Wood and Cork), together with two training courses on the rational use of energy in industry (from 1998), as mentioned before (1.2.2).
Sweden	x	-	-	-	-	
The United Kingdom	-	x	-	x	x	General energy efficiency guidance is provided for IPPC installations by the regulators. In addition, sector-specific guidance (based on BREFs) provides further sector specific energy issues. Applicants use this guidance but may ultimately negotiate actual conditions with the competent authority.

3.1.2 What is the official status of the guidance?

Table 28	Binding or non-binding	Please, specify:
Austria	-	
Denmark	Non-binding	They are only guidelines for the industry.
Finland	Non-binding	
France	-	
Germany	Non-binding	
Ireland	Non-binding	
Italy	Non-binding	For example, a research project is in progress in ANPA aiming to issuing of guidelines for the evaluation of the potential of energy saving in industry using the method of "Pinch Analysis".
Lithuania	-	See 3.1.1.
The Netherlands	Binding and non-binding	AMVB's (binding rules), Others; authority can always decide otherwise, if motivated properly.
Poland	-	
Portugal	Binding and non-binding	The application form (Formulario) was published by Decree (Portaria) 1047/2001 of 1st September 2001 is binding, whereas the other guidance are solely intend to provide information on the theme.
Sweden	-	
The United Kingdom	Non-binding	

Comments:
Portugal: The application form (Formulario) is designed to contain general information about the installation and its activities and all the environmental information regarding its operation, maintenance and shutdown.
Sweden: If there would be guidance, it would be non-binding.

3.2 Application documents

3.2.1 What kind of information concerning energy use is the operator required to include in the application?

Table 29	Total energy balance	Energy production	Energy consumption	Assessment of energy efficiency	Energy saving plan	Earlier saving measures	Energy used for environmental protection measures	Description on energy use	Other	Please, specify:
Austria										Sec. 356a of the Trade and Industry Act requires (for IPPC installations) data on substances used or produced in the installation and on energy which leaves a certain discretion to the authorities (e.g. one authority holds the view that all mentioned areas except data on earlier saving measures are important to judge effective energy use).
Denmark	Yes	Yes	No	Yes	Yes	No	No	Yes	No	See statutory order from the Ministry of Environment and Energy no. 807 of 25 October 1999 on permits for listed activities and installations as last amended by statutory order no. 107 of 1 February 2000. Annex 2, F18, F19 and G24.
Finland	No	Yes	Yes	Depends on the permitting authority	Depends on the permitting authority	Depends on the permitting authority	Depends on the permitting authority	Depends on the permitting authority	The report required by the MTI/ Motiva, if there is an agreement.	
France	Yes (input, output)	Yes (fuel used for the production of electricity or heat)	Yes (electricity or heat)	Yes (compared to BAT/ similar installations/ benchmarking)	Yes	Yes	No	Yes	No	

Germany	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Declaration of delivering usable off heat to third parties, if not used in the company itself; possibilities to achieve high usable energetic ratios and energetic optimisation, energy recovery, insulation measures.
Ireland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	
Italy	Yes	Yes	Yes	Yes	Yes	Yes	Included in the previous points.	Included in the previous points.	No	Discussions on this topic are ongoing. The ANPA Project mentioned at point 3.1.1 should help in defining the information required to the applicant.
Lithuania	Yes	Yes	Yes	Yes	No	No	No	Yes	No	
The Netherlands	Yes (input, output)	Yes (fuel used for the production of electricity or heat)	Yes (electricity or heat)	Yes (compared to BAT/ similar installations/ benchmarking)	Yes	Yes	Yes	Yes	No	All types of information is used, depending on the authority and the approach (see 1.1.7).
Poland	Yes	Yes	Yes	No	No	No	No	No	No	
Portugal	No	Yes	Yes	No	No	Yes	No	No	Yes	The operator is required to declare the energy consumption by product, and the quantification of CO_2 emissions.
Sweden	Yes	Yes	Yes	(Yes)	(Yes)	(Yes)	(Yes)	(Yes)	(Yes)	The three first are always included and the others may be required. “Other” could be how the use of fossil fuel can be reduced.
The United Kingdom	Yes	Yes	Yes	No	Yes	No	No	Yes	No	

3.2.2 What kind of additional monitoring information is required?

Table 30	Effects of measures for energy saving	Other	Please specify:
Austria	No	No	
Denmark	-	-	None.
Finland			
France	No	Yes	Effects of measures for rational use of energy and investments contributing to rational use of energy.
Germany	Yes	No	
Ireland	Yes	No	The activity may include the effects of the measures in the licence application but it is also addressed in the licensing permit condition quoted earlier.
Italy	Yes	No	Again no binding act is now in force.
Lithuania	No	Yes	Lithuanian companies are preparing waste reducing plans. In these plans energy saving issues are used too and these measures should be described in a detailed way.
The Netherlands	Yes	If the authority wants more.	
Poland	No	Yes	Proposed methods for monitoring of technological processes, including the measurement and registration of concentration or levels of substances or energy released to the environment.
Portugal	-	-	None
Sweden			Additional to what?
The United Kingdom	No	No	

3.2.3 Can information from the voluntary systems be used in the applications?

Table 31	Voluntary energy saving agreements	Voluntary environmental management schemes	Please, specify how the information is used:
Austria	Yes	Yes	
Denmark	Yes	Yes	To verify current effort and status.
Finland	Yes	Yes	Depends on the permitting authority.
France	Yes	No	
Germany	No	Yes	Information has to be concrete and detailed for the installation itself and has to be declared a part of the application documents. These requirements refer rarely to the voluntary energy saving agreements.
Ireland	Yes	Yes	The information is used in the application assessment. It is also used to set a bench mark against which the company will achieve various objectives and targets.
Italy	Yes	Yes	Applicant can refer to voluntary energy saving agreement or environmental management schemes without producing additional written information.
Lithuania	No	Yes	
The Netherlands	Yes	Yes	The energy plans made as part of the agreements are part of the application. Management scheme info is sometimes used as background material
Poland	-	-	There is no such an obligation in law.
Portugal	No	Yes	The operator is responsible for filling the permit so he can use whatever information he wants.
Sweden	(Yes)	(Yes)	Any relevant information can be used regardless of source.
The United Kingdom	Yes	Yes	Voluntary energy saving agreements may be used to meet part of the requirements for IPPC. In addition, each installation has to meet a set of basic energy requirements as a minimum. Environmental management systems may be used to demonstrate compliance with specific requirements.

3.2.4 Are there any differences between the requirements in the application documents for new and existing installations?

Table 32	Yes or no	Please, specify:
Austria	No	
Denmark	No	
Finland	No	
France	Yes	Compared to new installations, existing installations must provide a report on past years. The complete list of differences is available in the ministry decision. The main ones are: - an assessment of the effects of the plant on health and environment during past years; - an account of investments to prevent or reduce pollution during past years, the flux of pollutants towards water or air during past years.
Germany	Yes	Application documents for existing installations have to be sent in only in the case of planned substantial changes. They refer to the changed parts of the installations. The authority has to decide separately to the permit procedure, if there should be requirements to the unchanged parts. This would be the case if the installation does not meet achievable goals, then the authority issues an administrational order. For existing installations it is a matter of individual discussion if there would be documents necessary.
Ireland	Yes	New licences are now issued with an energy condition as quoted earlier. Existing IPC facilities will have to be reviewed once the IPPC directive is introduced to Irish Law.
Italy		No in the description part of the application. Differences can be anticipated as long as the updating of existing plants is concerned.
Lithuania	No	
The Netherlands	No	
Poland	No	
Portugal	No	
Sweden	No	
The United Kingdom	No	

Comments:
Austria: The permission procedure for a new installation and permission process for a installation with substantial changes (including the part of the existing installation) will be the same.

3.3 Permit consideration

3.3.1 How specific is the competent authority in terms of energy efficiency measures required in the permit?

Table 33	There are require-ments on energy use in the per-mit condi-tions (ex-amples)	There are references to the appli-cation	There are references to voluntary energy saving agreements	There are references to voluntary environ-mental manage-ment schemes (EMS)	Other	Please, specify:
Austria	No	No	No	No	No	
Denmark	No	Yes	No	No	No	
Finland	No	No	Yes	Yes	No	Most likely there will be refe rences.
France	No	Yes	No	No	No	In the application form, operator must provide information on energy use and energy efficiency as quoted in 3.2.1.
Germany	No	Yes	No	No	No	Permit conditions will be necessary, if the authority has to fix other or additional measures than those described in the application documents. In other cases the energy efficiency measures are usually determined by reference to the application documents.
Ireland	No	No	No	No	Yes	The current licence template has a condition that requires the activity to carry out a thorough energy audit which will identify all opportunities for energy use reduction and efficiency. This information is submitted to the EPA in an Annual Environmental Report (AER).
Italy						No single answer is possible. According to the devolution of jurisdiction towards the regions in force in Italy, each competent authority acts individually within the defini-tion of energy efficiency (see 1.2.1).
Lithuania	Yes	Yes	No	No	No	
The Nether-lands	No	No	Yes	Yes	Yes	See 1.1.7
Poland	Yes	No	No	No	No	Permit specify the condition for type and quantity of consumed energy, materials, raw-materials and fuels.
Portugal	No	No	No	No	Yes	In the permit, the operator is required to monitor its energy production and usage, and promote an annual self assessment of its energy efficiency. However the experience with permits issuing is still limited and it is likely that there might be some future changes.
Sweden						The experience is still very limited, but in principle all of the above alternatives can be used, e.g. a condition stating that “Not more than 5 GJ of heat may be used per tonne of product produced as an annual average”.
The United Kingdom	Yes	No	Yes	No	No	

3.3.2 What are the specific energy saving items that the authority takes into consideration when evaluating energy efficiency?

Table 34	Choice of fuel	Use of electric-ity	Use of heat	Process optimi-sation	Other technical measures	Index for energy effi-ciency or specific use of energy	Use of waste energy	Previous measures for en-ergy saving	Planned measures for en-ergy saving	Planned measures for envi-ron-mental invest-ments	Other	Please, specify:
Austria	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	
Denmark	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	See statutory order from the Ministry of Environment and Energy No. 807 of 25 October 1999 on permits for listed activi-ties and installations as last amended by statutory order no. 107 of 1 February 2000. Annex 2, F18, F19 and G24.
Finland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Thus far, there has not been much experi-ence and all alternatives seem to have some kind of relevance.
France	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	
Germany	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	If applicable: Considerations of co-generation of power and heat.
Ireland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	All of the above including any other pro-posals for the conservation of energy are evaluated in the Objectives and Targets set by the EPA and in the Annual Envi-ronmental Report submitted by the licen-see to the Irish EPA.
Italy												See previous point
Lithua-nia	Yes	No	No	Yes	No	No	Yes	No	Yes	No	No	
The Nether-lands	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes (e.g. pay-pack-period see 1.1.7)	

Poland	Yes	Yes	Yes	No	No	No	No	No	No	No	No	It's difficult to say at the moment (when new law is not in force yet) what other items the authority will take into consideration. It takes time to develop good practice in that field.
Portugal												As mentioned previously, the experience with IPPC permits is still limited and consequently, no evaluation was performed yet. However, in the evaluation promoted by the General Directorate for Energy (outside IPPC), indexes for energy efficiency or specific use of energy are used (under the Decree-Law no. 58/82 of 26 February 1982). The use of waste energy, previous measures for energy saving, planned measures for energy saving and planned measures for environmental investments are also considered when providing grants for industry within several financing programmes with the objective to improve energy efficiency (among other objectives), such as: the Energy Programme; the POE, Operational Programme for Economic Activities; the PEDIP II, Strategic Programme for the Dynamisation and Modernisation of Portuguese Industry; and the SIURE, Incentive System for the Rational Use of Energy (all of them a responsibility of the Ministry of Economy, which also involves the General Directorate of Energy and the General Directorate of Environment).
Sweden	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	All of the above will be taken into consideration as appropriate.
The United Kingdom	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	

3.3.3 Are there other items that the authority takes into consideration when evaluating energy efficiency? Are there any integrated measures to evaluate energy efficiency with these other items?

Table 35	Use of non fossil fuels	Transportation	Water consumption	Air pollution abatement	Noise abatement	Waste management	Other	Please, specify:
Austria	Yes	No	Yes	Yes	Yes	Yes	No	
Denmark	Yes	No	Yes	Yes	Yes	Yes	No	
Finland	Yes	No	Yes	Yes	Yes	Yes	Yes	The cross-evaluation of the effect on energy efficiency might occur as a secondary issue.
France	Yes	No	Yes	Yes	No	Yes	No	
Germany	No	No	Yes	Yes	Yes	Yes	Yes	Fuel etc. and their emissions.
Ireland								The above issues are addressed in the permit under a condition called Objectives and Targets. The EPA has always tried to encourage projects, which have a “Cleaner” approach and also reduce energy consumption.
Italy								See previous point.
Lithuania	Yes	No	Yes	Yes	No	No	No	
The Netherlands	Yes	Yes	Yes	Yes	Yes	Yes	No	
Poland	-	-	-	-	-	-	-	See: comments above.
Portugal	Yes	No	Yes	Yes	Yes	Yes	Yes	Water pollution abatement and risk assessment. See the previous answer – under the financing programmes mentioned, all these issues are considered, but its integration with energy efficiency issues can be improved.
Sweden	Yes	Yes	Yes	Yes	Yes	Yes	Yes	All of the above will be taken into consideration as appropriate and in addition, energy used in producing the raw material or chemicals used might be considered.
The United Kingdom	Yes	No	No	Yes	Yes	Yes	Yes	Water pollution abatement.

3.3.4 Do you have any guidelines on how the choice of fuel is dealt with in the permit?

Table 36	Yes or no	Please, specify what kind of guidelines:
Austria	No	
Denmark	No	
Finland	No	
France	No	
Germany	No	
Ireland	Yes	There is a BATNEEC Guidance note for each sector. This note supplies information such as the types of fuel that should be used.
Italy	No	
Lithuania	No	
The Netherlands	No	No general guidelines, but minimal CO_2 effect and other emissions like SO_2, NO_X etc. are normally considered.
Poland	No	
Portugal	No	
Sweden	No	
The United Kingdom	Yes	Selection is based on minimisation of all pollutants and may therefore need to include wider consideration other than just energy efficiency.

3.3.5 Do you have any guidelines on how co-generation of heat and power is dealt with in the permit procedure?

Table 37	Yes or no	Please, specify what kind of guidelines:
Austria	No	
Denmark	No	
Finland	No	
France	No	
Germany	No	
Ireland	No	
Italy	No	
Lithuania	No	
The Netherlands	Yes	The use of residual heat is stimulated, but can not be enforced.
Poland	No	
Portugal	No	
Sweden	No	
The United Kingdom	Yes	CHP is considered as one of the techniques to improve efficiency of energy conversion and use.

3.3.6 Could changes in energy efficiency affect an existing permit?

Table 38	No	Yes, reconsid-eration of the permit	Yes, consideration/ reconsideration of a permit condition	Please, specify:
Austria	-	x	x	If changes in the energy situation leads to higher emissions (offending emission limits), the permit or conditions of the permit needs to be considered.
Denmark	-	x	x	
Finland	x	-	-	
France	-	-	-	According to French legislation, an important change in process allow the environmental authority to re-consider the permit.
Germany	-	x	x	If it is a severe deviation from the permit and the re-ferred planning application there has to be a new permit.
Ireland	-	-	x	
Italy				See point 3.3.1
Lithuania	-	-	x	
The Netherlands	-	x	x	For example if a company does no longer comply with the voluntary agreement.

Poland	-	x	-	Changes in BAT may affect an existing permit – if these changes allow to reduce the emissions significantly without excessive costs, the permit is reconsidered.
Portugal	-	x	-	
Sweden	-	-	x	Conditions can be reconsidered e.g. if BAT has changed (Chapter 24, sections 3 and 5 of the Environmental Code).
The United Kingdom	-	-	x	

Comments:
Portugal: The environmental permit has to be re-evaluated by the authorities if there is a change in the type of fuel used or a higher production and/or higher consumption of fuel, among other things.

3.4 Permit conditions

3.4.1 How is the requirement for energy efficiency incorporated into the permit?

Table 39	As a binding permit condition	As a general consideration within other permit conditions	As a general consideration in the general/ recital part of the permit	Please, specify:
Austria	No	Yes	Yes	
Denmark	No	Yes	No	See statutory order from the Ministry of Environment and Energy No. 807 of 25 October 1999 on permits for listed activities and installations as last amended by statutory order no. 107 of 1 February 2000. Part 7 §12-13 and Annex 2, F18, F19 and G24.
Finland	Yes	Yes	Yes	
France	No	No	Yes	
Germany	Yes	No	No	Mostly like this: "The application documents ...(cited) are part of the permit." That means, the applicant is legally bound to each detail in that documents. The document must show energy efficiency concrete, detailed and specific.
Ireland	No	No	Yes	Please revert to Question 1.1.3 which shows the wording of the "Condition" adopted by the Irish EPA when granting new licences.
Italy				See point 3.3.1
Lithuania	No	Yes	No	
The Netherlands	Yes	Yes	Yes	
Poland	Yes*	No	No	*The permit shall specify in particular: type and quantity of consumed energy, materials, raw-materials and fuels, the sources of origination, of the sites of substance and energy release into the environment.
Portugal	No	No	Yes	However, this might be changed with the attribution of more permits to energy-intensive installation whose BREFs explicitly state energy consumption values as result of one/more BATs. In these situations, the requirement for energy efficiency may be incorporated into the permit as a binding permit condition.

Sweden				Experience is still very limited, but, in principle, both the first and the third alternatives are likely to be used. It is not entirely clear to us what is meant by the second alternative.
The United Kingdom	Yes	No	No	

3.4.2 What kind of binding permit conditions are in use or considered to be used?

Table 40	Energy use per tonnes of product	Maximum use of energy per year	Obligation to improve the energy efficiency	Other specific measures	Please, specify:
Austria	Yes	No	No	No	
Denmark	No	No	Yes	No	See statutory order from the Ministry of Environment and Energy No. 807 of 25 October 1999 on permits for listed activities and installations as last amended by statutory order no. 107 of 1 February 2000. Annex 2, F18, F19 and G24.
Finland	No	No	Yes	Yes	
France					No study were conducted up to now. The first item was used for energy saving agreements.
Germany	No	No	No	Yes	What other specific measures are required depends on what is missing or insufficient in the application documents.
Ireland					Not applicable
Italy	No	No	Yes (usually)	No	
Lithuania	No	No	Yes	No	
The Netherlands	No	No	No	Yes, often derived from agreement plans	If the energy situation is not clear at the moment of application often an analysis or investigation of the situation is imposed.
Poland	-	-	-	-	The law doesn't specify that matter, besides the obligations are not in force yet.
Portugal	Yes	No	Yes	Yes	Obligation to monitor energy consumption to evaluate energy efficiency, as well as an obligation to develop actions aiming to obtain maximum energy efficiency. These actions are required to have associated deadlines and have to be integrated in the Environmental Performance Plan to be approved by the Environmental Authority (General Directorate for Environment # Environment Institute), as a part of the IPPC permit.
Sweden	Yes	Yes	No	-	The experience is still very limited, but, in principle, the two first alternatives could be used including a specification of the maximum permissible amount of fossil fuel that is allowed to be used any year. The last alternative does not sound precise enough to be used as binding permit conditions.

The United Kingdom	No	No	Yes	Yes	Applicant must comply with specific basis energy requirements and further conditions based either on a site-specific BAT appraisal or participation in (and compliance with) a non-regulatory energy efficiency scheme.

3.4.3 Do you have any other kind of permit conditions about energy use?

Table 41	Condition on clarifying energy use and efficiency	Condition on goals concerning energy use and efficiency	Please, specify:
Austria	No	No	
Denmark	No	No	
Finland	No	No	
France	Yes	No	
Germany	No	No	
Ireland			Please see question 1.1.3.
Italy			Quantified target concerning energy use are set by law in Italy but they must be achieved by energy (detentors) delivering companies.
Lithuania	No	No	
The Netherlands			See 3.4.2
Poland	No	No	
Portugal	No	No	No other conditions are applicable presently, but in the future both can be used.
Sweden			Experience is still very limited, but, in principle, both could be used. However, the clarifying in the first should in principle be done in the application.
The United Kingdom	No	No	

3.4.4 Are there any differences between new and existing installations (e.g. in terms of the timetable for implementing energy efficiency)?

Table 42	Yes or no	Please, specify:
Austria	No	Energy efficiency is only considered for new installations and substantial changes of existing installations. See 1.3.3.
Denmark	No	The legislation has not been changed on this part.
Finland		This far, there is too little experience to judge. If the efficiency at a new plant is worse than that of the old plant, the reasoning behind it all, would probably be accepted by the authority.
France	Yes	
Germany	Yes	Existing installations have to meet the general principle of energy efficiency in 2007.
Ireland	Yes	New facilities and facilities that are having their old licence revised have the permit condition (Question 1.1.3) included in their licence. Facilities, which received their licence before the IPPC Directive, have not a specific permit condition in their licence in relation to Energy efficiency. For this reason, once the IPPC Directive is enacted in Ireland (2002), there will be a revision of the licences for all existing facilities between 2002 and 2007.
Italy		NO ANSWER
Lithuania	Yes	From the year 2003 new installations should comply BAT requirements, existing installations during period 2003–2007, the latest 2007, have to meet the same requirements.
The Netherlands	Yes	For new plants generally immediately, existing plant in accordance to the proposed (or imposed) timetable.
Poland	-	See point 1.3.3.
Portugal	No	Currently, energy efficiency is dealt only by the specific legislation regarding energy intensive consumer installations, which have to comply with DL 58/82 of 26th February and Decree (Portaria) 359/82 of 7th April, as mentioned before.

Sweden	No	Not as a general rule. In practice, however, new installations are likely to find requirements on energy efficiency easier to fulfil than would older installations.
The United Kingdom	No	See response earlier.

Comments:
Portugal: Energy efficiency is dealt only by the specific legislation regarding energy intensive consumer installations, which have to comply with DL 58/82 of 26th February and Decree (Portaria) 359/82 of 7th April.

3.5 Best available technique (BAT)

3.5.1 Are the EU BREFs useful when assessing energy efficiency in the permitting process?

Table 43	Yes or no	Please, specify:
Austria	Yes	For the applicant: BREFs are basic requirements for planning. For the authority: BREFs represent minimal demands for the project.
Denmark	No	The experience from the use of the recommendations in the BREFs are still very limited. In our opinion only very few BREFs deal with energy efficiency in a way that make them useful. Hopefully next generation of BREFs will deal with this question in more details.
Finland	Yes	At least some BREFs already include useful information (e.g. cement and lime).
France	Yes	The aspects related to energy efficiency are not enough developed in some BREFs.
Germany	Yes	But not very much, because data are not very specific.
Ireland		NO ANSWER
Italy	Yes	In principle all the information about energy use of technologies is useful.
Lithuania	No	
The Netherlands	No	Generally not as there are few documents with specific demands for energy. Exceptions are the BREFs on ammonia, chlorine alc. and aluminium.
Poland	-	It is impossible to answer the questions if the new law concerning IPPC and BAT is not in force yet. It takes time to learn what documents and in what way will be used in practice in the permitting procedure.
Portugal	Yes	As a guidance document for the authority. However, there is room for improvement in the usefulness of the BREFs.
Sweden		The usefulness of the BREFs could in general be improved in this respect. One example of a useful BREF is the one on the Pulp and Paper Industry.
The United Kingdom		Yes in part. Some BREFs do not provide a great deal of information and a consistent format is not used.

3.5.2 Are there differences concerning energy efficiency in BREFs between new and existing installations?

Table 44	Yes or no	Please, specify:
Austria	No	It has to be considered though that existing installations are the basis for energy data included in the BREFs.
Denmark	No	
Finland		We have not evaluated all BREFs for this purpose. There should not be remarkable differences because data in BREFs are based on well-performing installations.
France	Yes	Usually, new processes are more energy efficient than old processes. Thus, it is harder to make the process of an existing installation as efficient as a new process. In that respect, differences are not surprising.
Germany		Should be investigated within the project.
Ireland		NO ANSWER
Italy		Being the BREFs basically sectoral documents, each consideration or comparison is very difficult and in any case requires the thorough knowledge of all the documents.
Lithuania	Yes	In BAT Reference documents are set parameters for assessment of compliance to BAT. These parameters are applied for new installations. Existing installations use these parameters as a target.
The Netherlands		Not applicable, with the exception of those mentioned in 3.5.1.
Poland	-	See 3.5.1.
Portugal	Yes	For example Cement and Lime Industry BREF, where the heat balance value associated to BAT is only valid for new plants and major upgrades.

Sweden	We have not studied and evaluated all BREFs for the purposes of this exercise, but there should be no distinction since the BREF data are based on existing well-performing installations and reflect BAT for the sector. Of course, in individual cases, BAT could differ between new and existing installations e.g. as regards the timetable.
The United Kingdom	Possibly, I have not checked this. It seems more relevant that they are listed for different technology types and then to consider which technology would be the "new" plant.

3.5.3 Are data in current BREFs sufficient for considering energy efficiency in new and existing installations?

Table 45	New installations: Yes or no	Please, specify:	Existing installations: Yes or no	Please, specify:
Austria	No	In most BREFs there are no detailed energy data. The BREF on glass manufacturing industry does not contain BAT conclusions relating to energy efficiency. The same is the case for the cement and lime manufacturing BREF, although energy use was marked as a key environmental issue. In any case the energy data are kept far too general, which is not a great help for complex industry sectors.	No	
Denmark	No		No	
Finland	No		No	Better monitoring and data required.
France	No	This topic is quite complicated. Data in BREF are still too scarce. Data provided by the applicant are hard to cross-check at project level.	No	The topic is still complicated. Data in BREF are still too scarce. But data from the applicant are easier to check.
Germany	No	Data are not very specific.	No	Data are not very specific.
Ireland		NO ANSWER		NO ANSWER
Italy		See above.		See above.
Lithuania	Yes		Yes	
The Netherlands	No	See exceptions in 3.5.1	No	See exceptions in 3.5.1
Poland	See 3.5.1			
Portugal	No		No	Many BREFs still do not have detailed information or all the relevant activities regarding energy efficiency (e.g. for lime production there is no such information). The BREFs content could be made more readable and uniform (e.g. using similar parameters, such as energy consumption per tonne produced). All the values indicated should be clearly presented as benchmarks to the sector and, if possible for each process considered. Especially for new installations there should be always an energy efficiency value attainable with the suggested BATs.
Sweden	No	They can never be since the BREFs are based on existing installations.	No	It varies between the BREFs, but, in general, there is considerable room for improvement. In principle, a BREF can never be sufficient for determining BAT for any aspect. They are only guiding documents, which are to be taken into account.

The United Kingdom	No	No

3.5.4 Are there some specific problems with the use of BREFs concerning energy efficiency?

Table 46	Yes or no	Please, specify:
Austria		As energy efficiency is a rather new permit condition there is not much experience.
Denmark	Yes	See 3.5.1
Finland	Yes	Lack of comparable data.
France	Yes	Some processes designed to reduce pollutants emissions enhance energy consumption. These aspects should be made clear in BREF.
Germany	Yes	It is not possible, to distinguish whether a higher energy input is caused by harder efforts for cleaning of air and water or worse insulation, reuse of heat, insufficient catalysts or site-specific factors or whatsoever.
Ireland		NO ANSWER
Italy		See above.
Lithuania	Yes	It is not always clear how to use data from BAT while setting permit conditions.
The Netherlands	Yes	See 3.5.1
Poland	-	See 3.5.1
Portugal	Yes	See answer to the previous question. Furthermore, the BREFs could deal in more detail with the integration of energy efficiency and reduction of greenhouse gases (when applicable). Finally, the fact that some abatement techniques lead to increase in energy consumption is not sufficiently dealt with.
Sweden	Yes	Yes, lack of data which is due to the fact that industry tends to keep energy data secret.
The United Kingdom	Yes	There is not enough information on energy and the basis is not always presented clearly.

3.5.5 How should BREFs be developed in terms of energy efficiency?

Table 47	More information on energy consumption	More information on energy efficiency techniques	Consistent basis for energy reporting	Consideration of trade-offs between energy use and other environmental impacts	Other	Please, specify:
Austria	Yes	Yes	Yes	Yes	No	Energy aspects should be dealt with in a more comprehensive way mainly in sector specific BREFs. A horizontal BREF should only contain generally applicable techniques and general principles.
Denmark	Yes	Yes	Yes	Yes	No	
Finland	Yes	Yes	Yes	No	No	Reporting of energy consumption as kWh/tonne (raw material or products).
France	Yes	Yes	Yes	Yes	No	
Germany	Yes	Yes	Yes	Yes	No	
Ireland						NO ANSWER
Italy						No single answer is possible. It depends on single BREF.
Lithuania	No	Yes	No	No	No	
The Netherlands	Yes	Yes	Yes	Yes	No	
Poland	-	-	-	-	-	See 3.5.1
Portugal	Yes	Yes	No	Yes	Yes	Clarification of which methods to use in order to assess energy efficiency in each specific situation or, alternatively its consideration in the monitoring BREF.
Sweden	Yes	Yes	No	No	Yes	More data on energy production possibilities at the installations

						and on the possibility to use excessive heat e.g. for district heating perhaps after heat-pumps. Industry should take its responsibility to exchange information on energy use per produced unit at the best performing installations in different sectors.
The United Kingdom	Yes	No	Yes	Yes	No	

3.5.6 Are there any particular BREFs that your country would like to see revised early on due to e.g. lack of data and/or conclusions concerning energy efficiency techniques?

Table 48	Yes or no	Please, specify:
Austria	Yes	Primarily BREFs should be revised in those sectors where a high number of installations exists in Austria (e.g. cement and lime manufacturing industry; pulp and paper).
Denmark	Yes	Almost all.
Finland	(Yes)	In general, more data on energy consumption and efficient use of it should be added in BREFs. A new horizontal BREF on energy efficiency could give the basic information for sectoral BREFs.
France	No	Most of the BREFs are still in process or to come. Considering the amount on energy needed to issue a BREF, efforts should be on making the BREFs to be approved better.
Germany	No	
Ireland		NO ANSWER
Italy		See above.
Lithuania	No	
The Netherlands		No clear picture, as there is so little experience
Poland	-	See 3.5.1
Portugal	Yes	All of them, but probably there would be more urgency in the Cement and Lime and Glass BREFs.
Sweden	No	The problem is not more pronounced in any particular BREF.
The United Kingdom	No	

3.5.7 Would a horizontal BREF (common to several industrial sectors) on energy efficiency techniques be useful?

Table 49	Yes or no	Please, specify:
Austria	Yes	A horizontal document can never replace a more comprehensive inclusion of energy efficiency in sector specific documents.
Denmark	Yes	
Finland	Yes	That might clarify the different aspects of energy efficiency and give some examples on national guidance.
France	No	The problems are too technology-specific or process-specific to be treated properly at a horizontal level.
Germany	No	There are some similarities between usable techniques in some cases e.g. chemical/petrochemical/refinery processes but oftentimes the possible measures depend on what other installations are combined in one site and if there are neighbouring facilities to use the off heat. Nevertheless a horizontal BREF could give good guidance on principles and definitions for the authorities.
Ireland		NO ANSWER
Italy	Yes	
Lithuania	Yes	
The Netherlands	Yes	
Poland	Yes	
Portugal	Yes	The sector specific energy issues should be dealt into each sector-based BREF.
Sweden	No	Energy efficiency is in most cases closely linked to the processes used. The experience from horizontal BREFs so far is not very encouraging when it comes to usefulness.
The United Kingdom	No	UK has now produced this sort of guidance already.

3.5.8 Do you use any other international sources than the BREFs to evaluate BAT for energy efficiency?

Table 50	PARCOM	HELCOM	Nordic BAT documents	Other	Please, specify:
Austria	No	No	No	No	As energy efficiency is a rather new permit condition there is not much experience.
Denmark	No	No	No	No	
Finland	No	No	Yes	No	Nordic BAT documents and communication between the countries could be utilised more.
France	Yes	No	No	Yes	ADEME documents or studies, which are based on international synthesis of legislation and technology.
Germany	No	No	No	No	
Ireland					NO ANSWER
Italy	No	No	No	No	Of course Italian documents and all other available documents
Lithuania	No	Yes	Yes	No	
The Netherlands	No	No	No	No	As far as known not.
Poland	-	-	-	-	See 3.5.1
Portugal	No	No	No	No	No other international sources are used presently.
Sweden	No	No	No	No	
The United Kingdom	No	No	No	No	

3.5.9 Do you have any national sector-wise evaluation of BAT including energy efficiency?

Table 51	Yes or no	Please, specify:
Austria	No	There are only sector specific BAT considerations concerning ELVs for air and water. When prescribing ELVs the energy use of certain end of pipe technologies was taken into account but not considered methodologically.
Denmark	No	
Finland		Not particularly, but e.g. “Finnish Expert Report on Best Available Techniques in Large Combustion Plants” contains information on energy efficiency in large combustion plants.
France	No	
Germany	Yes	In singular cases e.g. steel mills binding guideline “Technische Anleitung zur Reinhaltung der Luft (TA Luft – Technical instructions on air quality control)”.
Ireland		NO ANSWER
Italy	Yes	ANPA is developing sector-wise guidelines trying to include also energy efficiency.
Lithuania	No	
The Netherlands	Yes	For branches or installations not participating in the benchmarking or MJA-agreements (see 1.1.7) there are technical information sheets specifically for energy measures.
Poland	No	
Portugal	No	Not presently, however the Portuguese IPPC Consultation Committee will soon start working evaluating the adequacy of the BATs to the Portuguese industry, and thus will also consider energy efficiency. The existing technological centres (sector-based) also develop work in this area, which will be considered by the Committee.
Sweden	No	
The United Kingdom		NO ANSWER

4 VOLUNTARY ENVIRONMENTAL MANAGEMENT SYSTEMS

4.1 ISO 14001

4.1.1 What is the role of ISO 14001 in the permit procedure?

Table 52	Part of the permit procedure	Background material	Other	Please, specify:
Austria	No	Yes	No	
Denmark	No	Yes	No	
Finland	No	Yes	No	
France	No	Yes	No	
Germany	No	No	Yes	Applicants are allowed to use documents as application documents, which have been used in the ISO-process, if they are specific enough. This is very rarely the case because ISO is applied to the company taken as whole in regard to the existing site(s) and not to planned single installations.
Ireland	No	Yes	Yes	Irish permits require that the company have an Environmental Management Programme in place. The ISO 14001 system is accepted by the EPA as an EMP in the permit procedure.
Italy	No	Yes	No	Refers to Decree 489 n° 273.
Lithuania	No	Yes	No	
The Netherlands	No	Yes	No	In general management schemes do not play a dominant role in permit procedures unless a applicant wants a so called “headline-permit”. In that case the permit will take over parts of the scheme (mostly certified).
Poland	No	No	No	No role.
Portugal	No	Yes	Yes	Applicants can deliver a complementary report together with the application form, including relevant information to the evaluation (Section B.8.2 of the application form). A description of any environmental management system can be included here.
Sweden	No	No	No	Might be used as an argument by the applicant in arguing that no specific requirement should be set.
The United Kingdom	No	Yes	No	

4.1.2 Are there legislative possibilities for the use of ISO 14001 in the permit procedure?

Table 53	Yes or no	Please, specify:
Austria	No	There are only legislative possibilities in the supervision procedure. ISO documents must be recognised as documents for the self evaluation of the installation in accordance with the Trade and Industry Act (Sec 82b (5)).
Denmark	No	
Finland	Yes	Environmental Protection Decree 19 §: “Where necessary, the permit decision must also indicate how environmental management systems or measures and reporting based on energy-saving agreements have been taken into account in setting the terms of the permit.”
France	No	
Germany	No	
Ireland	No	
Italy	Yes	See previous point.
Lithuania	No	
The Netherlands		See 4.1.1
Poland	No	
Portugal	Yes	See previous answer.
Sweden	No	There is no language to that effect.
The United Kingdom	No	

4.1.3 Has the certification in ISO 14001 a role in the permit procedure concerning energy efficiency?

Table 54	Yes or no	Please, specify:
Austria	No	Energy efficiency must be reviewed on the concrete project.
Denmark	No	
Finland	No	
France	No	
Germany	No	
Ireland	No	The EPA may use the certification as a useful tool when carrying out its own environmental audits of a company. An example of this might be to look at the findings of an ISO 14001 audit and inspect whether or not non-compliance and observations were closed off.
Italy	Yes	Not clearly specified but it is part of the integrated approach.
Lithuania	Yes	Presence of ISO 14001 facilitates permitting procedure.
The Netherlands		See 4.1.1
Poland	No	
Portugal	No	ISO 14001 certification does not guarantee that the installation use energy efficiently, it merely indicates its commitment and effort in doing so.
Sweden	Yes	See 4.1.1
The United Kingdom	Yes	It may satisfy some of the energy management requirements.

4.1.4 Does ISO 14001 influence supervision of energy efficiency?

Table 55	Yes or no	Please, specify:
Austria	-	We have no experience.
Denmark	No	
Finland	Yes	Only on a voluntary basis. The implementation is supervised by certifiers.
France	No	
Germany	No	
Ireland	Yes	The system requires that staff is properly trained and that issues such as calibration maintenance and document controls are closely managed. Energy efficiency might well be a key performance indicator in their ISO 14001 Environmental Policy Statement. For these reasons ISO 14001 will serve to compliment the permitting of energy efficiency.
Italy	Yes	See previous point.
Lithuania	Yes	Implementation of ISO 14001 simplifies supervision procedures due to complete system of operator's self-control and documentation.
The Netherlands		As far as there is a link with the permit (see 4.1.1).
Poland	No	
Portugal	Yes	As mentioned in the previous answer, the certification does not guarantee performance, however, it facilitates energy management and thus, its supervision.
Sweden		Will perhaps be taken into account to some degree.
The United Kingdom	Yes	Possibly, although it will not be a major influence.

4.1.5 Are there some specific advantages for co-ordination of ISO 14001 and the permit procedure concerning energy efficiency?

Table 56	Yes or no	Please, specify:
Austria	-	We have no experience.
Denmark	Yes	The advantages are on the side of the companies.
Finland	No	The environmental authorities are able to ask the certifiers to pay closer attention to the area of energy efficiency.
France	No	
Germany	No	See 4.1.1.
Ireland	Yes	As above. Co-ordination of the two would provide tight control of the activity as it would have to meet ISO requirements as well as the permit requirements. Both sets of requirements may well be similar, however there will be two different bodies available to assess the companies' objectives, targets and results.
Italy	Yes	Simplification of the procedure.

Lithuania	Yes	There are advantages in preparing application documents and also for conducting of self-control for companies, which have implemented ISO 14001.
The Netherlands	Yes	By taking parts of the scheme over in the permit applicants can avoid extra workload.
Poland	No	
Portugal	Yes	On the company side mainly, since the operators will have less governmental entities to deal with.
Sweden	No	The type of data, which emanates from ISO 14001 might be useful but could be elaborated.
The United Kingdom	Yes	Possibly to make the procedures compatible.

4.1.6 Are there some specific problems for co-ordination of ISO 14001 and the permit procedure?

Table 57	Yes or no	Please, specify:
Austria	-	We have no experience.
Denmark	No	
Finland	Yes	ISO is a voluntary instrument and should stay so.
France	No	
Germany	Yes	See 4.1.1.
Ireland	No	There is no reason why both should not operate “hand in hand”.
Italy	No	See previous point.
Lithuania	No	
The Netherlands	Yes	If a permit simply refers to information from a scheme the legal status is doubtful.
Poland	Yes	ISO 14001 is a voluntary system not regulated by law.
Portugal		We have no experience in this matter yet. See answer 4.1.3 – the certification authorities do not certificate performance which is the ultimate objective of the permit.
Sweden	No	There are no specific problems, but the lack of openness, which the ISO system provides for, could cause problems.
The United Kingdom	Yes	ISO 14001 does not say whether energy targets are realistic in context of IPPC.

4.2 EMAS

4.2.1 What is the role of EMAS in the permit procedure concerning energy efficiency?

Table 58	Part of the permit procedure	Background material	Other	Please, specify:
Austria	No	Yes	No	
Denmark	No	Yes	No	
Finland	No	Yes	No	
France	No	Yes	No	
Germany	No	Yes	Yes	Applicants are allowed to use documents as application documents, which have been used in the EMAS process, if they are specific enough. In most cases the documents have to be adopted to the view on the single installation covered by an application/permit process.
Ireland				Irish permits require that the company have an Environmental Management Programme in place. The EMAS system is accepted by the EPA as an EMP in the permit procedure.
Italy	Yes	No	No	EMAS registered sites will benefit of an 8 years validity of the permit instead of a 5 years permit.
Lithuania	No	Yes	No	
Poland	No	No	No	No EMAS in Poland.
The Netherlands	No	Yes	No	In general management schemes do not play a dominant role in permit procedures unless a applicant wants a so called “headline-permit”. In that case the permit will take over parts of the scheme (mostly certified).
Portugal	No	Yes	Yes	Same answer as in 4.1.1.
Sweden	No	No	No	EMAS has so far not played any role.
The United Kingdom	No	Yes	No	

4.2.2 Are there legislative possibilities for the use of EMAS in the permit procedure?

Table 59	Yes or no	Please, specify:
Austria	Yes	To a certain extent. The Environmental Management Act (Umweltmanagementgesetz UMG), Fed. Law Gaz. I No. 96/2001 which came into force on August 8, 2001, provides certain benefits for EU EMAS organisations (EU Regulation 761/2001). According to Section 21 UMG for registered EMAS organisations a notification procedure is provided for certain changes to an installation instead of different kinds of permitting procedures. One condition is that a binding statement of an environmental verifier exists that inter alia the changes are taking into account state of the art technologies/ BAT. EMAS organisations may obtain a consolidated permit (which means a summary of all existing permits for an installation in one permit, see Section 22 UMG). Sections 23 to 27 of the Environmental Management Act provide simplifications with respect to control and notification obligations. Provisions relating to self-monitoring provide simplifications for companies that have carried out an environmental audit according to EMAS or ISO 14001 (Section 82b para. 5 Trade and Industry Act [Gewerbeordnung 1994, Fed. Law Gaz. No. 194 as amended by Fed. Law Gaz. I No. 111/2002] and Section 134 para. 4 Water Act [Wasserrechts-gesetz 1959, Fed. Law Gaz. 215 as amended by Fed. Law Gaz. I No. 65/2002]).
Denmark	No	
Finland	Yes	See 4.1.2
France	No	
Germany	Yes	The government is authorised to issue a decree on facilitation for documents as application documents.
Ireland	No	Co-ordination of the two would provide tight control of the activity as it would have to meet ISO requirements as well as the permit requirements. Both sets of requirements may well be similar, however there will be two different bodies available to assess the companies' objectives, targets and results.
Italy	Yes	Refers to the law 93 23/3/2001.
Lithuania	No	
The Netherlands		See 4.2.1
Poland	-	See 4.2.1
Portugal	Yes	Please refer to answer to question 4.1.1.
Sweden		Not specifically mentioned but the applicant might find it useful to refer to an EMAS registration.
The United Kingdom	No	

4.2.3 What is the role of the verification of EMAS and the environmental reports in the permit procedure in relation to energy efficiency?

Table 60	
Austria	-
Denmark	The EMAS report could give the required information.
Finland	It varies, the energy issue could play a larger role.
France	There is no involvement of the verification EMAS in the permit procedure.
Germany	Background information for the decision of the authority how detailed and intensive her own investigation and assessment on this issue is necessary.
Ireland	There is not a direct role although the licensee may choose to use the same reports for submission to the EPA in meeting it's objectives and targets requirements. It might also choose to submit these reports to the EPA as part of an Annual Environmental Report.
Italy	Is not mentioned in particular
Lithuania	To facilitate assessment of evaluation of the company.
The Netherlands	See 4.2.1
Poland	See 4.2.1
Portugal	At the moment, none, but in the future the verified environmental declaration might be a good source of background information.
Sweden	See 4.2.2
The United Kingdom	It may help to satisfy some of the energy management requirements.

4.2.4 Does EMAS influence supervision of energy efficiency?

Table 61	Yes or no	Please, specify:
Austria	-	We have no experience.
Denmark	No	
Finland	Yes	The implementation is supervised by verifiers.
France	No	
Germany	Yes	Reducing of authority supervision can be possible. The Artikelgesetz which implements the IPPC directive into German federal law stipulates, that the self-surveillance measures in the context of EMAS can supplement certain supervision measures by the authorities. Yet this stipulation has to be set into action by a government regulation which does not exist at the moment. In general, each authority has to decide in a case by case decision how intense her own supervision can be and has to be in regard of the potential problems and her personal resources.
Ireland	-	The system requires that staff is properly trained and that issues such as calibration maintenance and document controls are closely managed. For these reasons EMAS will serve to compliment the permitting of energy efficiency.
Italy	No	
Lithuania	Yes	See 4.1.1
The Netherlands	-	As far as there is a link with the permit (see 4.2.1).
Poland	-	See 4.2.1
Portugal	Yes	The certification facilitates energy management and thus, its supervision.
Sweden	-	The experience of supervision of energy efficiency is very limited. Thus, we cannot reply to this question at this stage.
The United Kingdom	Yes	Possibly, though not a major influence.

4.2.5 Are there some specific advantages for co-ordination of EMAS and the permit procedure?

Table 62	Yes or no	Please, specify:
Austria	-	We have no experience.
Denmark	Yes	The advantages are on the side of the companies.
Finland	Yes	There could be.
France	No	
Germany	No	See above (4.2.4.)
Ireland	-	Co-ordination of the two would provide tight control of the activity as it would have to meet ISO requirements as well as the permit requirements. Both sets of requirements may well be similar, however there will be two different bodies available to assess the companies' objectives, targets and results.
Italy	Yes	The co-ordination allows a simplification of the licensing procedure.
Lithuania	Yes	See 4.1.5
The Netherlands	Yes	By taking parts of the scheme over in the permit applicants can avoid extra workload.
Poland	-	See 4.2.1
Portugal	Yes	On the company side mainly, since the operators will have less governmental entities to deal with and also on the administration side as the data presented is already verified and the company is already compromised with an environmental management system.
Sweden	No	However, the applicant might find it useful to extract some information from EMAS reports.
The United Kingdom	-	As for ISO 14001.

4.2.6 Are there some specific problems for co-ordination of EMAS and the permit procedure concerning energy efficiency?

Table 63	Yes or no	Please, specify:
Austria	-	We have no experience.
Denmark	No	
Finland	No	
France	No	
Germany	Yes	See above.

Ireland	No	The only issue would be that the licensee is required to publish an Environmental report under EMAS. This is something that may worry some facilities as they may wish to withhold confidential information.
Italy	No	Not in particular.
Lithuania	No	
The Netherlands	Yes	If a permit simply refers to information from a scheme the legal status is doubtful.
Poland	-	See 4.2.1
Portugal	Yes	We have no experience in this matter yet.
Sweden	No	See above.
The United Kingdom	-	As for ISO 14001.

Comments:
The Netherlands: As far as EMAS is used the answers are the same as for ISO 14001.

5 VOLUNTARY ENERGY SAVING AGREEMENTS

5.1 General questions

5.1.1 Is the concept of voluntary energy saving agreements in use in your country?

Table 64	Yes or no	Please, specify:
Austria	No	
Denmark	Yes	Individual companies within specified branches can make voluntary energy saving agreements with the Energy Agency.
Finland	Yes	Voluntary energy saving agreements has been in use since 1998.
France	Yes	Five energy saving agreements were concluded in the mid-90's. They were meant to save on carbon dioxide emissions.
Germany	Yes	Commitment 1995, renewed and extended 1996 (now agreement) to make efforts to reduce CO_2 emissions, half of the industrial branches implement it by reductions of their specific energy consumption.
Ireland	Yes	The Irish Energy Centre operates a voluntary Self-Audit Energy Scheme in which 76 companies in Ireland take part.
Italy	Yes	It is generally used, but there are no national guidelines or rules to define a standard agreement.
Lithuania	No	
The Netherlands	Yes	See 1.1.7
Poland	No	
Portugal	No	There are no voluntary saving agreements in Portugal.
Sweden	No	Such agreements are currently considered, but negotiations have not yet commenced.
The United Kingdom	Yes	"Climate Change Agreements" are in place in several industrial sectors since April 2001. These provide an 80 % discount from energy tax on coal, gas and electricity in return for a negotiated, binding energy reduction target. Emissions trading for greenhouse gases, including CO_2 emissions from energy use, is scheduled to be in place by April 2002.

5.1.2 If you have an agreement do the objectives apply to the

Table 65	Installation	Company	Operator (legal person)	Industrial branch	Other	Please, specify:
Austria	-	-	-	-	-	
Denmark	No	Yes	No	Yes	No	See added material.
Finland	No	Yes	No	No	No	
France	No	Yes	No	Yes	No	At company level, an energy saving agreement was concluded with PECHINEY. At industrial branch level, 4 energy saving agreements in industry were concluded with energy intensive sectors: - steel industry: fédération française de l'acier, - chambre syndicale nationale des fabricants

						de chaux grasses et magnésiennes, - cement industry: syndicat français de l'industrie cimetière, - glass industry: chambre syndicale des verreries mécaniques de France.
Germany	No	No	No	Yes	No	
Ireland	? See below.	No	No	No	No	The objectives of the agreement generally apply to a particular site location.
Italy						It depends on the agreement.
Lithuania	-	-	-	-	-	
The Netherlands	No	Yes	Yes	Yes	No	In most cases companies join an agreement and work out their own plans/objectives. In case of MJA (see 1.1.7) reduction targets are agreed on branch level.
Poland	-	-	-	-	-	
Portugal	-	-	-	-	-	
Sweden						All alternatives – and combinations of them – would be considered (see 5.1.1). However, in order to obtain a legally binding and enforceable agreement it is likely that the operator/company level will have to be included somehow.
The United Kingdom	No	Yes	No	Yes	No	Several types of agreement exist. The main agreement is in most cases between govemment and a representative trade body, which has underlying agreements with individual companies. Individual companies may also have agreements directly with government.

5.1.3 How many industrial installations have joined the voluntary energy saving agreement?

Table 66	Number of IPPC installations	Number of other installations
Austria	-	-
Denmark	114 industrial companies.	
Finland	Approximately 125 installations.	Approximately 125 installations.
France	Estimation: 100–200 (IPPC directive, Annex 1). It is an expert estimation, the database used is probably not complete and has not yet been thoroughly checked for double counting.	Estimation: 550 installations.
Germany	There was only the following information available: The participating industrial federations represent more than 4 000 operators. Each can include one or more installations. It can be estimated that nearly all of the IPPC installations and most of the other industrial installations are included. (In the Land Northrhine-Westphalia there are about 2 900 IPPC installations.)	
Ireland	(IPPC directive, Annex 1) Mostly IPPC installations.	
Italy	No information available at the moment.	No information available at the moment.
Lithuania	-	-
The Netherlands	Unknown	Unknown.
Poland	-	-
Portugal	-	-
Sweden		See above.
The United Kingdom	Not known	12 500 total installations, including IPPC.

5.1.4 Approximately what percentage of total energy consumption by industrial operations in your country is consumed by these installations?

Table 67	Percentage of IPPC installations	Percentage of other installations
Austria	-	-

Denmark	The agreement cover approx. 60 % of the energy used in manufacturing industry.	
Finland	> 80 %	< 20 %
France	An estimation is that those installations represent about 30 % of net consumption of energy.	
Germany	The installations operated by the participants represent at least 70 %, likewise 80 % of the total industrial energy consumption (estimated).	-
Ireland	> 33 %	
Italy	No information available at the moment.	No information available at the moment.
Lithuania	-	-
The Netherlands	99 %	
Poland	-	-
Portugal	-	-
Sweden		See above.
The United Kingdom	NO ANSWER	NO ANSWER

Comments:
The Netherlands: Almost all major installations have joined the benchmarking agreement or the MJA scheme (see 1.1.7)

5.2 Voluntary energy saving agreement

5.2.1 If you have an agreement in use, which are the parties involved?

Table 68	
Austria	-
Denmark	Mostly the Danish Energy Agency and the company. Sometimes the sector organisation enter into an agreement on behalf of the members.
Finland	Ministry of Trade and Industry/The Confederation of Finnish Industry and Employers (TT) ⇔ company.
France	The Ministry of environment and the company or the union of the branch concerned.
Germany	The voluntary agreement between German government and industry is based on the declaration of the BDI (Federation of German Industries), BGW (Federal Association of the German Gas and Water Industry), VDEW (Federation of German Electricity Works), VIK (Association of Energy and Power Industries – without own figures because delivering to producing industries and energy balanced there) and VKU (Association of Municipal Enterprises). BDI itself represents 14 individual member associations for different industrial branches/sectors.
Ireland	Installation, Irish Energy Centre.
Italy	It can include several parties.
Lithuania	-
The Netherlands	Two types: benchmarking and MJA (see 1.1.7).
Poland	-
Portugal	-
Sweden	In the discussions, the government is presumed to be one party whereas the other could be one or more of those mentioned in 5.1.2.
The United Kingdom	See 5.1.2

5.2.2 What are the obligations on the parties involved?

Table 69	
Austria	-
Denmark	See added material.
Finland	The aim of the agreement is to promote energy efficiency so as to reduce its specific consumption. A further aim is to work out and introduce operational models that make energy efficiency an integral part of the companies' operation.
France	The union should reach the target in terms of energy savings and report on energy consumption at union or company level.
Germany	1) To reduce CO_2 emission or specific energy consumption by a declared percentage ranging sector wise from 16–17 % to 66 % on the base of 1990 (13 sectors) or 1987 (4 sectors), aggregating to 20 % by the year 2005,

	2) To organise an independent monitoring, 3) To report data and outstanding examples of reducing measures.
Ireland	1) To be part of the core of major players in energy reduction. 2) To share knowledge of energy reduction campaigns and methods. 3) To contribute to the competitiveness of Irish Industry by reducing energy requirements. 4) To achieve overall energy saving. To reduce emissions to the environment.
Italy	It depends on the agreement.
Lithuania	-
The Netherlands	In case of benchmarking: comparison with world top and if necessary an improvement plan In case of MJA: realise the reduction of specific energy set of the branch.
Poland	-
Portugal	-
Sweden	NO ANSWER
The United Kingdom	See 5.1.1

5.2.3 What are the main contents of the agreement?

Table 70	Determination of energy consumption in new installations	Monitoring of energy consumption in existing installations	Energy analysis	Energy inspection	Plan for making energy saving more effective	Energy saving measures	Regular reporting (at what intervals)	Other	Please, specify:
Austria	-	-	-	-	-	-	-	-	
Denmark	No	No	No	Yes	Yes	Yes	Yes	No	Energy management scheme. See added material.
Finland	No	Yes	Yes	Yes, energy audit	Yes	Yes	Yes	No	
France	No	No	No	No	No	No	Yes (annual)	Yes	Energy saving target is linked to CO_2 emission targets.
Germany	No	No	No	No	No	No	Yes	Yes	See 5.2.2. Reporting is annually.
Ireland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Benchmarking, Publication of Case studies, Sharing Information.
Italy	-	-	-	-	-	-	-	-	See previous point.
Lithuania	-	-	-	-	-	-	-	-	
The Netherlands	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Comparison with world top (benchmarking).
Poland	-	-	-	-	-	-	-	-	
Portugal	-	-	-	-	-	-	-	-	
Sweden									All of the above are considered.
The United Kingdom	Yes	Yes	No	Yes	No	No	Yes	No	Agreements describe the total reduction either in absolute or relative terms. Allowances can be made for changes in product output or mix or unforeseen regulatory and planning constraints. Reporting is required at bi-annual milestones. Auditing of a proportion of participants is carried out.

5.2.4 Who is responsible for making energy audits?

Table 71	The operator	The authority	A public organisation	A private organisation (e.g. consult-ants)	Other	Please, specify:
Austria	-	-	-	-	-	
Denmark	No	Yes	No	Yes	No	See added material.
Finland	Yes	No	No	No	Yes	The analysis is done by consultancies cer-tified by Motiva in co-operation with the company.
France	No	No	No	Yes	No	The representative of the branch conduct a detailed monitoring. No energy audit, an independent moni-toring is conducted by the environment authority at branch level.
Germany	Yes	No	No	No	No	
Ireland	Yes	No	No	No	No	
Italy	-	-	-	-	-	See previous point.
Lithuania	-	-	-	-	-	
The Nether-lands	Yes	No	Yes, (NO-VEM or benchmarking authority)	No	No	
Poland	-	-	-	-	-	-
Portugal	-	-	-	-	-	-
Sweden						NO ANSWER
The United Kingdom	No	Yes	No	Yes	No	

5.2.5 How is the fulfilment of the aims of the agreement verified and reported?

Table 72	Specific energy consump-tion	Index for energy efficiency	Fulfilled measures in saving energy	Other	Please, specify:
Austria	-	-	-	-	
Denmark	No	No	Yes	No	See added material.
Finland	No	No	Yes	No	
France	Yes	No	No	No	
Germany	Yes	No	Yes	Yes	Specific CO_2 emission reduction rate, examples of out-standing measures. Investigations by RWI – Rheinisch-Westfälisches Institut für Wirtschaftsforschung Essen, Germany.
Ireland	No	Yes	No	No	For example an Index is developed for the installation. The resulting figure is used to compare energy con-sumption from year to year. The following is an index used by a company participating in the scheme. Energy Utilised/Units Produced.
Italy	-	-	-	-	It depends on the agreement.
Lithuania	-	-	-	-	
The Nether-lands	Yes (in case of MJA)	Yes (bench-marking)	Yes (both)	No	
Poland	-	-	-	-	
Portugal	-	-	-	-	

Sweden					NO ANSWER
The United Kingdom	No	No	No	Yes	Absolute or relative reductions achieved in measured energy use.

5.2.6 To which body do the installations report?

Table 73	Environmental authority	Other state organisation	Private organisation	Please, specify:
Austria	-	-	-	
Denmark	No	Yes	No	The Energy Agency
Finland	No	Yes	No	Motiva
France	Yes	No	No	The branch or professional union collects information from the companies and reports to the ministry.
Germany	No	No	Yes	RWI - Rheinisch-Westfälisches Institut für Wirtschaftsforschung Essen, Germany
Ireland	No	Yes	No	Irish Energy Centre.
Italy				See previous point
Lithuania	-	-	-	
The Netherlands	No	No	Yes	In case of MJA most branches report through the branch organisation. In case of benchmarking through the benchmarking authority.
Poland	-	-	-	
Portugal	-	-	-	
Sweden				NO ANSWER
The United Kingdom	No	Yes	No	At present, government is the reporting authority.

5.2.7 What are the incentives for fulfilling the energy saving agreement?

Table 74	Avoidance of legal sanctions	Lower taxation	Other	None	Please, specify:
Austria	-	-	-	-	
Denmark	No	Yes	Yes	No	Grants for energy saving measures. See added material.
Finland	No	No	Yes	No	Financial aid for the energy analysis (50 % from the MTI) and up to 10 % for the energy saving investments. If the ESA has not been fulfilled, legal sanctions can be considered.
France	No	No	Yes	No	The energy saving agreements and their results are made available to the public.
Germany	Yes	Yes	No	No	Government relinquishes to forward a bill on fixing of measures for energy efficiency and cover energy consumption with higher taxation as far as the industry taken as a whole meets the voluntary agreement.
Ireland	No	No	No	Yes	The agreement is with the Irish Energy Centre & the Minister for Public Enterprise. None compliance with the agreement is viewed as bad publicity for the activity. Therefore the agreement is taken seriously in most cases. Installations also see the positive benefit of saving money in the long run.
Italy					See previous point.
Lithuania	-	-	-	-	
The Netherlands	No	No	Yes	No	Avoidance of enforced permit conditions by individual authorities.
Poland	-	-	-	-	
Portugal	-	-	-	-	
Sweden	Yes	Yes	No	No	Under the current concept, option two seems to be the most likely and viable incentive.

The United Kingdom	No	Yes	No	No	80 % discount on tax on coal, gas and electricity use.

Comments:
Germany: There is a supplementary voluntary agreement between German government and the industrial associations which represent energy suppliers: CO_2-emission reduction $10x10^6$ t/a by 2005 and $20–23x10^6$ t/a by 2010; planning and operation of new installations for co-generation of power and heat; improvement of existing installations for co-generation of power and heat; funding of electric power generated by these installations and other installations operation on the base of renewable energies; reporting and monitoring.
Poland: There are no voluntary energy saving agreements in Poland.

5.3 Voluntary energy saving agreements and permit procedure

5.3.1 What is the role of voluntary energy saving agreements in the permit procedure?

Table 75	Part of the permit procedure	Background material	Other	Please, specify:
Austria	-	-	-	
Denmark	No	No	No	None
Finland	No	Yes	No	Reporting is the same.
France	No	Yes	No	
Germany	No	Yes	No	
Ireland	No	Yes	No	In the AER – Annual Environmental Report
Italy	No	Yes	No	It could be included in the permit procedure case by case.
Lithuania	-	-	-	We have no such agreements.
The Netherlands	Yes	No	No	Saving/reduction measures developed as part of the agreement are incorporated in the permit
Poland	-	-	-	
Portugal	No	Yes	Yes	None, at the moment, but as mentioned in 4.1.1, applicants can deliver a complementary report together with application form, including relevant information to the evaluation, in which this information on agreements can be included.
Sweden	No	Yes	No	It does not seem likely, that voluntary agreements would play a role in the permit procedure (see further 5.3.4).
The United Kingdom	Yes	No	No	

5.3.2 Is there any reference in your legislation to use voluntary energy saving agreements in the permit procedure?

Table 76	Yes or no	Please, specify:
Austria	-	
Denmark	No	
Finland	Yes	Environmental Protection Decree 19 §: "Where necessary, the permit decision must also indicate how environmental management systems or measures and reporting based on energy-saving agreements have been taken into account in setting the terms of the permit."
France	No	
Germany	No	
Ireland	No	
Italy	No	
Lithuania	-	
The Netherlands	No	
Poland	No	
Portugal	No	
Sweden	No	
The United Kingdom		Not yet drafted.

5.3.3 Is there any guidance on using voluntary agreements in permit procedure?

Table 77	Yes or no	Please, specify:
Austria	-	
Denmark	No	
Finland	No	
France	No	
Germany	No	
Ireland	No	
Italy	No	There are no guidance.
Lithuania	-	
The Netherlands	Yes	Ministerial decision: "Energie in de Milieuvergunning", dealing with the relation of agreement participation and permits.
Poland	No	
Portugal	No	
Sweden	No	
The United Kingdom		At present, non-statutory guidance is provided in regulator's energy efficiency guidance. Statutory guidance is expected from government.

5.3.4 Can the environmental permit authority affect the detailed aims of the voluntary saving agreement?

Table 78	Yes or no	Please, specify:
Austria	-	
Denmark	No	
Finland	No	
France	No	The voluntary energy saving agreement is at branch level. An independent monitoring is conducted at branch level through emission inventories.
Germany	No	
Ireland		The Irish EPA can influence the content of the Environmental Management Programme, which may in turn influence the agreement as there is a legal requirement between the installation and the EPA.
Italy	No	See previous point.
Lithuania	-	
The Netherlands	No	As long as companies are in line with the agreement authorities are not supposed to impose other measures than those developed as part of the agreement.
Poland	No	
Portugal		Depending how (and with whom) the agreements were made. Regarding IPPC legislation, the permit can be more demanding than the agreement.
Sweden	Yes	The permit authority is not barred from imposing stricter requirements than those set out in a potential agreement. However, any interference would depend on the subject matter of the agreement in question.
The United Kingdom	Yes	If environmental regulations (i.e. IPPC) require action resulting in increased energy consumption, voluntary agreements may be revised upon application to the government.

5.3.5 Are there some specific advantages for co-ordination of voluntary energy saving agreements and the permit procedure?

Table 79	Yes or no	Please, specify:
Austria	-	
Denmark	-	
Finland		Could be. Asking in general the same data for monitoring, the companies can avoid the duplication of work when reporting to environmental authority and to Motiva (VAs).
France	Yes	It would allow for monitoring at the installation level.
Germany	No	The scales are too different for the voluntary agreement refers to the industrial branches and the permit to the single installation.

Ireland	Yes	It is important that the goals of the voluntary agreements are adopted in the permit procedure. The Irish EPA use the following condition in new permits (Question 1.1.3): 4.1. The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2.2 above. The Irish EPA and Irish Energy Centre have already begun to liaise closely on Energy issues. The experience gained by the Irish Energy Centre in co-ordinating the Voluntary Agreement scheme will prove very helpful to the EPA. There have been some very interesting schemes developed for the control of Energy in the Voluntary agreements and it is likely that many of these methodologies will be used in the permit procedure (i.e. evaluation of Energy reports submitted to the EPA).
Italy	No	See previous point.
Lithuania	-	
The Netherlands	No	
Poland	-	
Portugal	Yes	To the operator, since it would have to deal with few different governmental authorities and to the authorities because they could use information available under the agreement as background for the IPPC permit.
Sweden		A co-ordination could make the permit procedure less time-consuming, but legally, it seems difficult to arrange such co-ordination.
The United Kingdom		NO ANSWER

5.3.6 Are there problems in using voluntary energy saving agreements in the permit procedure?

Table 80	Yes or no	Please, specify:
Austria	-	
Denmark	Yes	They may be difficult or impossible to enforce.
Finland	No	In principle no, however, only if the Ministries agree
France		The objectives of the branch are not necessarily realistic at the installation level: some can do better, some cannot meet the objectives without major changes in industrial process.
Germany	Yes	See the answers above. The advantage is just the knowledge, that there will be energy saving even if the permit authorities put not so much concern on this issue.
Ireland		Voluntary Energy Saving Agreements are not used in the procedure at the moment.
Italy	No	Generally not.
Lithuania	-	
The Netherlands	Yes	Some authorities complain about a lack of information about the choices made as part of the agreements. They are confronted with the outcome (measures, agreed by the controlling national body of NOVEM), but have no information on the way they have been selected and the alternatives considered.
Poland	-	
Portugal		We have no experience in this area at the moment, but if the permit authority imposes stricter demands than the ones in the agreement, the operator might loose the incentive to enter in these same agreements.
Sweden	Yes	Legally binding and enforceable agreements are desirable for all parties involved. However, there must be incentives for stakeholders to conclude agreements and these incentives will be severely damaged if the permit authority can affect issues which are regulated in the agreement, i.e. impose stricter requirements. Thus, it would be desirable that the subject-matter of any voluntary agreement be of such a character that it would not become subject to the permit procedure. Notwithstanding this, any "immunity" from requirements set by permit authorities (at present or in the future) would require a strong compliance system for the agreements.
The United Kingdom		NO ANSWER

Comments:
Poland: There are no voluntary energy saving agreements in Poland

6 REPORTING AND SUPERVISION

6.1 Reporting of IPPC installations

6.1.1 Is there a monitoring and reporting system of energy use and efficiency obligatory for the operator in your country?

Table 81	Yes or no	Please, specify:
Austria	No	
Denmark	Yes	All industry - not only IPPC installations - have to report their yearly amount of energy consumption.
Finland	Yes	Energy use and not efficiency, is reported to the environmental authorities. This should be co-ordinated with the reports given to Motiva (see 5.2.5).
France	Yes	The monitoring system is about energy use. Energy efficiency is not monitored.
Germany	No	
Ireland	Yes	On new installations applying for a permit. (Question 1.1.3)
Italy	Yes	It is foreseen an obligatory system within IPPC enforcement the integrated permit will define reporting conditions for operators.
Lithuania	Yes	Reporting and monitoring system for energy use only.
The Netherlands	Yes	In case of participation in an agreement, according to the rules of the agreement. In case of no participation it depends on the conditions of the permit. In the Netherlands larger companies have report to the permitting authority on all their environmental issues they are dealing with (environmental annual report, a report based on a standard lay-out). Energy data must be part of this report. Energy data (energy use, energy efficiency quotient) obtained from the agreement can also be used for this annual report.
Poland		See 6.1.5 comment.
Portugal	Yes	Only for energy intensive consumers (DL 58/82 of 26th February and Decree (Portaria) 359/82 of 7th April.
Sweden	Yes	Each year an environment report has to be sent in to the relevant environment authority. This report must include use of resources (report on compliance with Chapter 2 section 5 of the Environmental Code).
The United Kingdom	Yes	Annual reporting of energy consumption and resulting environmental impact.

6.1.2 To whom and how often are the reports given?

Table 82	Energy authority	Environment authority	Other	Please, specify:
Austria	-	-	-	
Denmark	Yes	No	Yes	Other i.e. Statistics Denmark. Yearly.
Finland	Annually (only if there is an agreement)	Annually	No	
France	Yes	No	No	
Germany	-	-	-	
Ireland	Yes	Yes	No	Reports frequencies to the EPA are determined on a case by case basis.
Italy	No	Yes	No	Within IPPC enforcement.
Lithuania	Yes	Yes	No	Once a year.
The Netherlands				For agreements see 1.1.7. Permits depend on conditions.
Poland				See 6.1.5 comment.
Portugal	Yes	No	No	Energy intensive consumers must do a Energy Consumption and Management Plan for 5 years and report to General Directorate of Energy.
Sweden	No	Yes	No	See 6.1.1
The United Kingdom	No	Yes	No	

6.1.3 How often is the monitoring carried out?

Table 83	Monthly	Annually	In another way	Please, specify:
Austria	-	-	-	
Denmark				NO ANSWER
Finland	No	No	Yes	Varies. Motiva does annually a national summary report on the basis of the companies' annual reports.
France	No	Yes	No	
Germany	-	-	-	
Ireland	No	No	Yes	Determined on a case by case basis.
Italy	No	No	Yes	See above.
Lithuania	No	No	Yes	
The Netherlands	No	Yes	No	Depends, mostly annually.
Poland	-	-	-	See 6.1.5 comment.
Portugal	No	Yes	No	The Plan must define annual decreases in energy consumption.
Sweden				Self monitoring is most likely to give the annual situation.
The United Kingdom	No	Yes	No	

6.1.4 What parameters are monitored?

Table 84	Fuel consumption	Energy production (electricity or heat, expressed as kWh, Joules or calories)	Energy consumption (electricity or heat, expressed as kWh, Joules or calories)	Energy index (what kind of index?)	Specific energy use (expressed as kWh, Joule or calories per tonne of product)	Other	Please, specify all parameters used:
Austria	-	-	-	-	-	-	
Denmark	Yes	Yes	Yes	No	No	No	
Finland	Yes	Yes	Yes	1) Varies according to sector and company.	1) Varies according to sector and company.	No	
France	Yes	Yes	Yes	No	No	No	Fuel consumption is detailed by fuel. Energy use is detailed by energy source (electricity, vapour…) and by energy use (heating, production processes, electricity production, primary material, else)
Germany	-	-	-	-	-	-	
Ireland	Yes	Yes	Yes	Yes	Yes	Yes	The parameter used depends on the nature and type of the industry and therefore each company is examined individually. (See 1.1.3)
Italy							As in the previous point. See above.
Lithuania	Yes	Yes	Yes	No	No	No	
The Netherlands	Yes	Yes	Yes	Yes	Yes	No	Depends on agreement or permit.
Poland	-	-	-	-	-	-	See 6.1.5 comment.
Portugal	Yes	Yes	Yes	No	No	No	All units in TOE.
Sweden							Not specified.
The United Kingdom	Yes	Yes	Yes	No	No	No	

6.1.5 What information can the supervisory/permit authority get about development of energy efficiency?

Table 85	
Austria	-
Denmark	Sector analyses.
Finland	Some information is included in the companies' environmental reports. Any available information can be included in the permit application.
France	The environment authority and energy authority share local representatives. Hence, information is shared. But no institutional information sharing is organised.
Germany	The authority will ask the operators for developments of energy efficiency in their installations when supervising. Planned changes in the installations which could influence the environment (positively or negatively). Changes in energy efficiency or other issues have to be noticed to the authority.
Ireland	The Irish Energy Centre, under the Department of Public Enterprise has many publications available to the permit authority and the public on Energy Efficiency. Please see the end of this questionnaire for further information on the Irish Energy Centre and it's activities.
Italy	NO ANSWER
Lithuania	Related to permit conditions.
The Netherlands	Benchmarking: outcome of the comparison and improvement plan. MJA: measures from approved saving/reduction plans.
Poland	See comment.
Portugal	No experience in this field yet, but the IPPC authority can ask for this information to the energy authority (e.g. monitoring reports) or to the operator.
Sweden	See comment.
The United Kingdom	If an operator has a voluntary agreement, very little, as the detail is not made public. If the operator is fully regulated by the Agency then information on improvements is required.

Comments:
Austria: We have data about the total energy consumption, total energy conversion, the process situation (production of process gases etc.) and CO_2 production.

Poland: It's impossible to answer the question yet because the system of reporting is still under preparation. The Environmental Protection Law stipulates general legal basis for reporting of IPPC installations. Operators of installations are obliged to report on the levels of emissions to the competent authority. The Minister of Environment shall determine by way of a regulation specimen registers to be prepared by entities using the environment and to be employed, which will include information and data on the scope of using the environment (including, among others, data on emission values) and the way of presenting such information.
Sweden: See 6.1.1. It could e.g. be total energy use, total fossil fuel use, total electricity use, total heat production, total electricity production, total heat to district heating systems, total biofuel sold.

6.2 Supervision

6.2.1 Is there an inspection or audit system arranged by the authorities?

Table 86	
Austria	Not specifically for efficient energy use.
Denmark	Yes. An Energy Management System has been developed to be used by companies entering into an agreement with the Energy Agency (see added material).
Finland	No.
France	Yes. There is an inspection arranged by the environmental authorities under the above-quoted ministry decisions so-called "general binding rules". Environmental authorities usually demand pollutants emissions and fuel consumption detailed by fuel type every year. These elements can be cross-checked with fuel purchases, fuel stocks,…
Germany	After each issuing of a permit for a new installation or a change of an existing installation the supervising authority checks the installation. The further inspections are carried out by decision of each authority regarding the individual cases, mostly in connection with planned changes of installations, troubles with emissions, complaints of neighbours etc., sometimes combined with time-frames for inspections.
Ireland	The Irish EPA audits all its licensees at regular intervals.
Italy	See point 1.1.1

Lithuania	See 6.1.5
The Netherlands	Depend on the agreement or permit.
Poland	Chief Inspectorate for Environmental Protection is the inspection authority.
Portugal	No
Sweden	Not specifically for energy issues.
The United Kingdom	A risk-based audit system is employed by regulators.

6.2.2 How has the supervision of energy efficiency in voluntary environmental management schemes (EMAS and ISO 14001) been arranged?

Table 87	
Austria	-
Denmark	NO ANSWER
Finland	It is up to the certifier and the company, in accordance with the EMAS and ISO 14001 standards.
France	There is an audit arranged when the operator register in an environmental management scheme and an environmental submission (EMAS). At regular intervals, an environmental audit is carried out (EMS). The auditor examine the valuation, made by the operator, of energy efficiency. This is done as well for all the elements of the activities that can have an environmental impact.
Germany	EMAS: Every 3 years there is a renewed eco-audit by an expert.
Ireland	The company must submit an Annual Environmental Report which must include information as to the performance of the company in meeting it's objectives and targets set in the environmental management scheme.
Italy	It is arranged by the Certification Bodies.
Lithuania	Through audits and correction actions.
The Netherlands	In accordance with ISO or EMAS by the company. Only in case that the schemes are liked to the permit, the permit supervisor will periodically check data and measures.
Poland	It hasn't been arranged.
Portugal	It is separated and up to the certifier to do so.
Sweden	None exist.
The United Kingdom	Independent verifiers.

6.2.3 How has the supervision of energy efficiency in energy saving agreements been arranged?

Table 88	
Austria	-
Denmark	Cf. 6.1.1
Finland	The monitoring is based on the companies' annual reports. A steering committee, which has members from MoE, MTI, TT, Motiva and the companies, is following the implementation.
France	The supervision was conducted through statistics on energy at branch level, emissions inventories at national level.
Germany	See 5.2.2, 5.2.5 and 5.2.6
Ireland	The Irish Voluntary scheme is a self-audit scheme, the onus is on the company itself to take the initiative in achieving the goals of the agreement. The Irish EPA may also place requirements on the company to meet their objectives and targets under the Environmental Management Programme. New permits also have Condition 4 included (See 1.1.3).
Italy	It depends from the agreement.
Lithuania	-
The Netherlands	By the national bureau of energy saving (NOVEM).
Poland	No energy saving agreements.
Portugal	Not applicable.
Sweden	None exist.
The United Kingdom	Government-appointed verifiers.

6.2.4 How has the supervision of energy efficiency in CO_2-trading scheme been arranged (of 9.1)?

Table 89	
Austria	-
Denmark	NO ANSWER
Finland	At present, no experience.
France	The reflexion is on-going (see 9. CO_2-trading scheme).
Germany	./.
Ireland	Not applicable.
Italy	See 9.1.1
Lithuania	-
The Netherlands	Not applicable.
Poland	No CO_2 trading scheme.
Portugal	No CO_2 trading scheme in place yet.
Sweden	None exist.
The United Kingdom	Government-appointed verifiers.

6.2.5 What are the consequences if the saving measures are not fulfilled?

Table 90	6.2.5.1 In permit procedure?	6.2.5.2 In voluntary environmental schemes (EMS)?	6.2.5.3 In energy saving agreements?	6.2.5.4 In trading scheme?
Austria	-	-	-	-
Denmark	-	-	Grants are withdrawn and tax reductions must be reimbursed to the Govemment.	-
Finland	At present, no experience.	In accordance with ISO 14000 and EMAS rules.	The company can be suspended from the agreement.	At present, no experience.
France	The conditions of the permit can be reconsidered. The environment inspector can demand the respect of the environmental permit. The inspector can impose administrative penalties.	The operator establishes objectives and targets concerning energy saving if he considers that the environmental impact associated is significant for its activity. If the saving measures proposed in his environmental program are not fulfilled, a non-conformity could be issued by the organism in charge of environmental audit.	None, except for public non-compliance.	Reflexion on-going.
Germany	Measures have to be fulfilled. If not, the Company has to pay a fine if she is responsible and culpable and/or the authority can shut down the installation.	The company is given a time to fulfil. If not the label “eco-audited“ will be deprived	See 5.2.7	Not applicable
Ireland	The installation may receive non-compliance notification, which may lead to prosecution.	Not applicable	None, it is up to the company to participate willingly in the scheme. However, the lack of interest from a facility may be regarded as very poor publicity for an organisation.	Not applicable

Italy	?	Withdrawn of the EMS	Depends from the agreement	See above
Lithuania	Order of inspector to fulfil the requirements of permit.	See 6.2.2.	No	-
The Netherlands	Enforcement	Nothing, unless they are incorporated in the permit	If MJA-companies fail to comply with their own plans NOVEM informs the permit authority who them will adapt the permit (in case the measures we not incorporated yet) or enforce (if measures where already incorporated in the permit)	Not applicable
Poland	-	-	-	-
Portugal	There are no specific consequences for energy saving measures. The consequences for not fulfilment the measures that are part of the permit (thus including energy saving ones) include monetary penalties, suspension of subsidies/loans given by the state, apprehension of equipment, suspension of any other permits and eventually shutdown of the installation DL 194/2000 21st August).	In accordance to ISO 14001 and EMAS rules.	-	Not applicable.
Sweden	If saving measures or other energy issues are deemed insufficient, no permit will be given. This is the case also if the description of energy issues and saving measures in the environmental impact assessment is insufficient. In practice, the applicant is ordered to supplement his application and EIA. Only if the applicant is unable to do so to the satisfaction of the permit authority, the authority will deny him the permit.			
The United Kingdom	Enforcement according to statutory powers.	None for IPPC.	Non-certification, full rate of energy tax applied and full site-specific regulation under IPPC due to breach of permit condition to hold a certificate.	Penalties under development, but may consist of reduction in allowable releases, non-payment of financial incentive and full site specific regulation under IPPC due to breach of permit condition to meet trading requirements.

General answer:
Sweden: Non-compliance with permit conditions is prosecuted and the supervisory authority may order the operator to take measures to comply.

7 ACCESS TO INFORMATION AND PUBLIC PARTICIPATION

7.1 General questions about access to information

7.1.1 Are there any problems concerning access to information and energy efficiency e.g. confidential data (Article 15 of the IPPC directive)?

Table 91	Yes or no	Please, specify:
Austria	-	
Denmark	No	
Finland	Yes	In some sectors, the data regarding energy efficiency may disclose confidential information about techniques used and profitability. For the permitting authority this should not be a problem, as they have the right to ask for confidential data; however, in routine reporting, it still may be a problem in some sectors or for some companies.
France	Yes	Some data about energy consumption are considered as confidential.
Germany	Yes	Discussions with companies about information for BREFs show, that exact energy figures for installations are oftentimes declared as confidential. That means the public has no right to get the data unless the authority is able to prove, that the data are not known only to a few authorised personnel of the company and for causes of damage (legal definition of confidentiality).
Ireland	No	Very rarely. Sometimes installations may wish to keep product information confidential. Applications for permits in Ireland are available to the public at a number of locations, depending on the location of the activity.
Italy	Yes	It is foreseen there will be some problems by industries for the aspects related with industrial propritary information (secret).
Lithuania	No	
The Netherlands	Yes	In case of voluntary agreements authorities often do not have sufficient information to follow the process of analysing the energy situation and selection of measures.
Poland	-	
Portugal	No	
Sweden	No	Under Swedish law, all documents in the hands of authorities and the like are public unless otherwise decided in accordance with specific criteria laid down by law.
The United Kingdom	Yes	Some operators claim commercial confidentiality for information which may disclose their production figures (e.g. if required to provide specific energy consumption AND energy consumption).

7.1.2 Does the Aarhus convention (UN/ECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, ECE/CEP/43) necessitate any changes in your legislation concerning the publicity of energy efficiency issues?

Table 92	Yes or no	Please, specify:
Austria	Yes	Changes will be necessary, but not specifically relating to energy efficiency issues (NGOs have to be included in the definition of the public concerned).
Denmark	No	
Finland	No	
France	No	The legislative framework pre-existed.
Germany	Yes	Changes to existing environmental laws (see 1.1.1) e.g. BImschG ,Art. 27(3): translated: "The data of the emission report have to be made known to third parties on request"; BImschG Art. 31: translated: "The public has access to the data on the monitoring of emissions which are in hand of the authority.".
Ireland		NO ANSWER
Italy		No for IPPC activities. For different activities minor changes could be possible.
Lithuania	No	
The Netherlands		No traceable need.
Poland	No	Polish legislation is already in compliance with Aarhus Convention. The procedure of ratifying the Convention is in the final stage.
Portugal	No	

Sweden	No	As mentioned under 7.1.1 all documents held by authorities are available for the public. There is legislation under which documents may be declared confidential, but it will not be affected by the Convention. Possibly, time limits for authorities to produce the requested documents may have to be introduced in the Freedom of Press Act.
The United Kingdom		NO ANSWER

Comments:
Poland: It's impossible to discuss the problems when we haven't implemented IPPC yet.

7.2 Access to information in the permit procedure and supervision

7.2.1 How is it ensured that data relating to energy efficiency are made public during the permit procedure according to your legislation?

Table 93	
Austria	We have a general binding rule (for IPPC-installations: e.g. Section 77a (5) of the Trade and Industry Act, Section 121 (5) of the Mining Code).
Denmark	There is a public hearing where all parts of the application and the permit are announced.
Finland	The mandate of the permitting bodies ensures it.
France	Generally, all documents related to the permit procedure are made public except for those that can violate industrial secret.
Germany	The planning application and the documents as a whole on new installations and substantial changes of existing installations is available to the public for a period of one month after publishing a notice.
Ireland	All application details are available on the public file and may be inspected in EPA Headquarters at any time during normal operation. The public may also make a submission to the EPA regarding any issue at an installation or any issue in the application for a permit. Submissions may of course include concerns regarding energy usage and efficiency at an installation.
Italy	Dissemination through the press of information regarding the place where documents Are available for the public.
Lithuania	Permits are available to public.
The Netherlands	Publication of the permit application is compulsory by law.
Poland	There are no specific rules for making energy efficiency data available to public in the permit procedure. In the Environmental Protection Law there is obligation for making applications for integrated permits and integrated permits available to the public.
Portugal	The application form and all the documents are made public during 15 to 30 days at Regional Directorates of Environment (DRAOT), depending if the unit had had a previous Environmental Impact Assessment or not. Preceding that a notice is posted at municipalities where the unit is sit (or is going to sit), on a newspaper and at the DRAOT installations.
Sweden	All relevant data are public as soon as the permit authority receives them and any oral proceedings are accessible to the public. There are limited possibilities to declare documents confidential.
The United Kingdom	Information placed on public registers.

7.2.2 Are there any limitations (confidentiality clauses) in your legislation on making these data public?

Table 94	Yes or no	Please, specify:
Austria	Yes	Business secrets have to be respected, e.g. Sec. 77a (5) Trade and Industry Act. (see also Environmental Information Act, Fed. Law Gaz. No. 495/1993 as amended by Fed. Law Gaz. I No. 108/2001, Sec. 4; for "environmental data").
Denmark	Yes	We have confidentiality clauses similar to the clause in the Aarhus Convention.
Finland	Yes	Act on the Openness of Government Activities (621/1999).
France	Yes	There are limitations that prevent from making energetic data public. The ACT No. 78-753 of 17 July 1978 (loi n°78-753 du 17 juillet 1978 portant diverses mesures d'amélioration des relations entre l'administration et le public et diverses dispositions d'ordre administrative, social et fiscal, modifiée par la loi n°79-587 du 11 juillet 1979 et par la loi n°2000-321 du 12 avril 2000 available at www.cada.fr) points that industrial confidentiality must be preserved.

		This is consistent with the Council Directive 90/313/EEC of 7 June 1990 on the freedom of access to information on the environment (available at http://europa.eu.int/eur-lex/en/lif/dat/1990/en_390L0313.html). As for interpretation of "commercial and industrial confidentiality", energy authority won't publish any result on energy consumption if the number of operators is below 3 or one operator represents 70 % (I do not possess the legal basis of such a rule).
Germany	Yes	The part of the application documents which the applicant declares confidential have to be brought in separately for information of the authority and are not available to the public. The authority has to check on the base of German general administration law if the documents are correctly declared as confidential. A generalised description of the confidential data is available to the public.
Ireland	No	
Italy	Yes	Industrial secret (licences) legislation, public safety, national defence, crime prevention and private or third part confidentiality.
Lithuania	Yes	There are some provisions on confidentiality set in Lithuanian legislation, but these limitations do not cover data on environmental issues.
The Netherlands	Yes	The law offers the possibility to handle certain information confidential if the authority agrees to do so.
Poland		See 7.2.1
Portugal	Yes	Only when commercial or industrial confidential processes or products are involved.
Sweden	No	There is no specific reference to energy data. However, under the Secrecy Act (SFS 1980:100) it is possible to declare data which pertain to e.g. business activities, research or inventions of individuals confidential under certain circumstances.
The United Kingdom	Yes	Operators may apply to withhold information from public register on grounds of commercial sensitivity and other reasons.

7.2.3 Is data in the application and monitoring data concerning energy efficiency

Table 95	Always made public	Never made public	Can be declared as confidential	Can be declared only partly as confidential	Please, specify:
Austria	-	-	x	-	See 7.2.2 /Exception: The applicant can make them public voluntarily.
Denmark	-	-	x	-	We have confidentiality clauses similar to the clause in the Aarhus Convention.
Finland	-	-	-	x	The application is publicly available. However, the authority can also in addition, request some confidential data, which is not made available to the public (e.g. concerning chemicals or energy).
France	x	-	-	-	The data on energy consumption and production are made public every year in national energy statistics at NCE 93 level. Nevertheless, if companies are not numerous, some data cannot be public according to the law on duties, coordination and confidentiality in statistics. The law applies automatically on publicity, but industries have to declare.
Germany	-	-	x	x	That depends on the data. See 7.2.2.
Ireland	x	-	-	-	
Italy	x	-	-	-	Yes. Data should be always made public with the exceptions of 7.2.2.
Lithuania	x	-	-	-	
The Netherlands	-	-	x	-	If the applicant has good reasons (mostly protection of company secrets).
Poland					See 7.2.1

Portugal	x	-	-	-	Data in the application is always made public during the period of public consultation (all that permit application is made public). Monitoring data is made public by DRAOT.
Sweden					See above.
The United Kingdom	-	-	x	-	Some parts may be confidential.

7.2.4 What kind of data can be declared as confidential?

Table 96	All energy data	Energy production	Energy consumption (used fuel, heat or electricity)	Energy index	Specific energy use	Other	Please, specify:
Austria	Yes	No	No	No	No	No	
Denmark	-	-	-	-	-	-	We have confidentiality clauses similar to the clause in the Aarhus Convention.
Finland	No	No	No	No	Yes	No	
France	Yes	No	No	No	No	No	Any data can become confidential provided the number of company is lower than 3 or the company represents more than 70 % of the figure.
Germany	No	Yes	No	Yes	Yes	Yes	Only data that refer to the general definitions on confidentiality in German administration law.
Ireland	-	-	-	-	-	-	It is difficult to answer this question as the issues are often site specific.
Italy	-	-	-	-	-	-	See point 7.2.2.
Lithuania	No	No	No	No	Yes	No	
The Netherlands	Yes	No	No	No	No	No	In practise specific data are more likely to be declared confidential the general data.
Poland	-	-	-	-	-	-	See 7.2.1.
Portugal							Only the one referred in 7.2.2.
Sweden							If the requirements of Swedish confidentiality legislation are met, data can be declared confidential by the authority, which possesses the data (see further 7.2.1 above).
The United Kingdom	(Yes)	(Yes)	(Yes)	(Yes)	(Yes)	(Yes)	Whichever is specified by the operator as commercially confidential.

7.2.5 Are there any difficulties on making energy efficiency data available to the public in the permit procedure and supervision?

Table 97	Yes or no	If yes please, specify:
Austria	-	
Denmark	No	We have confidentiality clauses similar to the clause in the Aarhus Convention. We have only rare examples of companies claiming that their data or part of them are confidential.
Finland	Yes	See above.
France	Yes, theoretically	The article 2-4° of the decree (décret n°77-1133 du 21 septembre 1977) that states which documents must be transmitted by the future operator has a restriction on availability for the public of information that compromises fabrication secrets: "(…) *Le cas, échéant, le demandeur pourra adresser en exemplaire unique et sous pli séparé, les informations dont la diffusion lui apparaît de nature à entraîner la divulgation des secrets de fabrication*".
Germany	Yes	There could be discussions between the authority and the applicant whether a data is to be taken as confidential or not. It could be difficult for the authority to show that e.g. data are already known to the public or that publishing data could do no harm to the company e.g. if competitors get to know.

Ireland	No	
Italy		See point 7.1.1.
Lithuania	No	
The Netherlands	Yes	Applicants can demand that sensitive data are not made public.
Poland	-	See 7.2.1
Portugal		Only if data is considered confidential.
Sweden	No	
The United Kingdom		NO ANSWER

7.3 Openness in voluntary measures

7.3.1 Are the data concerning energy efficiency in EMAS made public?

Table 98	Totally	In part	Never	Please, specify:
Austria	-	x	-	The installations make public an annual environmental report including the energy situation of the installation.
Denmark	-	x	-	If they are part of the yearly EMAS environmental statement.
Finland	-	x	-	The environmental statements are not very detailed and most of them show trends in total figures such as kWh/a or fuel consumption.
France	-	x	-	The operator is free to consider some data confidential.
Germany	-	x	-	Aggregated data are published e.g. total energy consumption of a site or specific energy consumption per ton of all (e.g. 3) products of an installation.
Ireland	-	x	-	A summary of the installation's performance is generally available to the public. The EPA in the permitting process may ask for further back-up material, all of which would generally be available to the public.
Italy	x	-	-	It is regulated by the EMAS itself.
Lithuania	x	-	-	
The Netherlands	-	x	-	If incorporated in the annual report for the public.
Poland				See 7.3.2
Portugal	-	x	-	The installation final Environmental Statement refers its total energy efficiency.
Sweden	x	-	-	See Art. 5.2 (c) of the EMAS regulation.
The United Kingdom				Not known.

7.3.2 Are the data concerning energy efficiency in ISO 14001 made public?

Table 99	Totally	In part	Never	Please, specify:
Austria	-	-	-	
Denmark	-	-	x	It is not a requirement in ISO 14001.
Finland	-	x	-	Voluntarily made environmental reports are similar to that of the EMAS reports (this assumption may be a possible topic for research).
France	-	x	-	The operator has to record his decision to make public or not some information about significant environmental aspects. The data concerning energy efficiency can be part of those elements.
Germany	-	-	-	Usually not, sometimes it could be mentioned in articles for newspapers or journals
Ireland	-	x	-	Same as above.
Italy				Generally yes, but not regulated.
Lithuania	x	-	-	
The Netherlands	-	x	-	If incorporated in the annual report for the public.
Poland				Depending on the system. If energy efficiency is defined as one of the fundamental issue, the data on it can be made public.
Portugal	-	x	-	If the company decides to make it public.
Sweden				That is up to the individual company.
The United Kingdom				Not known.

7.3.3 Are the data concerning energy efficiency in energy saving agreements at branch or company level made public?

Table 100	Totally	In part	Never	Please, specify:
Austria				We have no experience, but in our legislation there is no statutory bar to do this.
Denmark	-	x	-	All data are anonymised and/or aggregated according to the rules laid on Statistics Denmark.
Finland	-	x	-	Not at branch or company level, only data published in the public annual report by Motiva.
France	x	-	-	The data are available on the web site of the ministry of environment at branch level.
Germany	-	x	-	At branch level. Data mainly include figures for CO_2-reduction.
Ireland	-	x	-	
Italy	x	-	-	It depends from the agreement. There are not experiences on restrictions at the moment
Lithuania				
The Netherlands	-	x	-	If incorporated in the annual report for the public.
Poland				There are no energy saving agreements.
Portugal				Not applicable.
Sweden				None exist, but if they did, they would be made public.
The United Kingdom	-	-	x	

7.3.4 Are the data concerning energy efficiency for individual installations in energy saving agreements made public?

Table 101	Totally	In part	Never	Please, specify:
Austria	-	x	-	It needs the general agreement of the applicants.
Denmark	-	-	x	Sometimes individual data are made public in agreement with the company.
Finland	-	-	x	
France	-	-	-	The energy saving agreements were not concluded at installation level.
Germany	-	x	-	Sometimes, outstanding measure are mentioned as examples.
Ireland	-	x	-	
Italy	x	-	-	See previous point.
Lithuania	-	-	-	
The Netherlands	-	x	-	If incorporated in the annual report for the public.
Poland	-	-	-	There are no energy saving agreements.
Portugal	-	-	x	Not applicable.
Sweden	-	-	-	None exist, but if they did, they would be made public.
The United Kingdom	-	-	x	

7.3.5 Are there any problems concerning openness in voluntary measures?

Table 102	Yes or no	Please, specify:
Austria	-	We have no experience.
Denmark	Yes	Considerations on confidentiality issues.
Finland	(Yes)	Not known, might be.
France	Yes	There can be problems of confidentiality.
Germany	No	
Ireland	Yes	Companies may be less forthcoming in voluntary measures as they may not get asked to supply as detailed information as they may need to supply in the permitting process.
Italy	No	See above.
Lithuania	-	
The Netherlands	-	Not different from other approaches.
Poland	-	There are no energy saving agreements.

Portugal	-	
Sweden	-	None exist, but if they did, they would be made public.
The United Kingdom		NO ANSWER

8 ENERGY TAXES

8.1 General questions

8.1.1 Do you have energy taxes?

Table 103	Yes or no	Please, specify:
Austria	Yes	Gasoline unleaded 408 €/1000 l, gasoil 283 €/1000 l, light fuel oil for households 69 €/1000 l, heavy fuel oil 36 €/t, natural gas 44 €/1000 m^3, electricity 15 €/MWh.
Denmark	Yes	
Finland	Yes	Finland has indirect energy taxes.
France	Yes	France has taxes on energy. They are not specifically meant for environmental purposes even if they contribute to improve energy efficiency.
Germany	Yes	Electric power suppliers have to pay 20 DM/MWh. For producing or agricultural branches it is 4 DM for the amount exceeding 50 MWh. There is a total exemption for power generated in windmills or by sun or biological processes with less than 5 MW per installation. For power intensive installations is the energy tax refunded for the amount exceeding 50 MWh if the tax exceeds 120 % of the reduction of the employers contribution to the German national pension fund (the contributions are lowered in connection with the increase in energy taxes). For producing or agricultural companies tax for fuel is refunded if the tax exceeds 1 000 DM per year and 120 % of the reduction of the employers contribution to the German national pension fund.
Ireland	No	
Italy	Yes	
Lithuania	Yes	
The Netherlands	Yes	Regular Energy Tax (REB) and General Fuel Tax (BSB) and Exics on motor fuel
Poland	No	
Portugal	Yes	VAT on electricity and natural gas and tax on fuel – these taxes were not created with environmental purposes.
Sweden	Yes	Please see below.
The United Kingdom	Yes	

8.1.2 What is taxed?

Table 104	CO_2	Oil	Petrol	Fuel	Electricity	Other	Please, specify:
Austria	No	Yes	Yes	Yes	Yes	Yes	
Denmark	Yes	Yes	Yes	Yes	Yes	No	CO2 and all fuels except renewable.
Finland	Yes	Yes	Yes	Yes	Yes	No	CO2 for heat consumption. Electricity for the consumers is taxed.
France	No	Yes	Yes	Yes	Yes	Yes	Gas
Germany	No	No	Yes	Yes	Yes	Yes	Gas, coal.
Ireland	-	-	-	-	-	-	There is a tax, when buying oil, petrol, fuel or electricity but it is not an "energy tax".
Italy	Yes	Yes	No	Yes	Yes	No	
Lithuania	No	Yes	Yes	Yes	Yes	No	
The Netherlands	Yes	Yes	Yes	Yes	Yes	Yes, natural gas	REB and BSB are on the basis of 50 % CO2 and 50 % energy content.
Poland	-	-	-	-	-	-	
Portugal	No	Yes	Yes	Yes	Yes	Yes	Gas
Sweden	Yes	No	Yes	No	QUESTION MISSING	No	"Oil" and "Fuel" is quite unclear, diesel oil is energy taxed. In addition, there is VAT on all types of goods and services.

The United Kingdom	No	No	Yes	Yes	Yes	Yes	Coal

8.1.3 Are the energy taxes applicable to every installation (IPPC installations and other)?

Table 105	Yes or no	Please, specify:
Austria	Yes	
Denmark	Yes	
Finland	Yes	
France	Yes	Taxes are connected to the nature and the amount on energy. Hence, they apply independently of the nature of installation, IPPC or not.
Germany	Yes	But tax for fuel used in installations for co-generation of power and heat is refunded if usable energy rate by year is at least 70 %.
Ireland		Not applicable
Italy	No	
Lithuania	Yes	
The Netherlands	Yes	They are applicable to every installation, but with a maximum per plant of 1 million m3 gas and 10 million kWh per annum.
Poland	-	
Portugal	Yes	
Sweden		QUESTION MISSING
The United Kingdom	No	Exemptions are power generation, primary fuel to refineries, chlor alkali and aluminium smelting.

8.2 Connections to other systems

8.2.1 Are there connections between energy taxes and/or voluntary agreements and/or energy audits in your country?

Table 106	Yes or no	Please, specify:
Austria	No	
Denmark	Yes	Connections between energy taxes and voluntary agreements – see above section 5.
Finland	No	
France	No	At the moment, there is no connection between these. But there is an ongoing reflexion about connection voluntary agreements and energy audits.
Germany	No	
Ireland		Not applicable.
Italy	No	
Lithuania		Not identified.
The Netherlands	No	The exception is an agreement with the glasshouse (horticulture) about a mitigated rate for REB.
Poland	No	
Portugal	No	
Sweden	No	None exists, but a linkage is discussed for possible future voluntary agreements.
The United Kingdom	Yes	80 % discount on tax may be obtained of entering into a voluntary agreement.

8.2.2 Are there direct connections between energy taxes and permit procedure?

Table 107	Yes or no	Please, specify:
Austria	No	
Denmark	No	
Finland	No	
France	No	As written above, energy taxes are independent of the nature of installation.
Germany	No	
Ireland		Not applicable.
Italy	No	
Lithuania	No	
The Netherlands	No	
Poland	-	

Portugal	No	
Sweden	No	
The United Kingdom	No	

8.2.3 Are there any problems in connections between energy taxes, voluntary agreements and permit procedure?

Table 108	Yes or no	Please, specify:
Austria		We have no experience.
Denmark	No	
Finland		NO ANSWER
France	Yes	There might be constitutional problems in breaking taxes equality of industries.
Germany	Yes	These are very different instruments. The reference is not the single installation as is in IPPC. The energy tax (and perhaps the voluntary agreement too) probably will be the engine in the process to achieve energy efficiency. The permit procedure will be a corrective on limited measures in the installations.
Ireland		Not applicable.
Italy	No	
Lithuania		No experience.
The Netherlands		Not applicable.
Poland	-	
Portugal		No experience so far. There might be some problems since the taxes are not created for environmental purposes.
Sweden		None exists, but problems between voluntary agreements and permit procedures could arise. For example, striking a balance between measures required by the IPPC directive, which aim to secure the best possible result for the environment as a whole and the more limited scope of the voluntary agreements. Another example is the (potential) lack of participation of the public in concluding such agreements. A third potential problem is the competence of the permit authority in relation to the agreement, to which extent should the permit authority be bound by the agreement or should it be able to impose stricter requirements.
The United Kingdom	No	

8.2.4 Are there some advantages in connections between energy taxes, voluntary agreements and permit procedure?

Table 109	Yes or no	Please, specify:
Austria		We have no experience.
Denmark		The Danish system has not considered such advantages. Maybe because the scheme for making agreements on energy saving is limited in time and will expire in a few years.
Finland		Could be.
France	Yes	As written above, energy taxes are often used to promote voluntary agreements. There are advantages in connecting voluntary agreements and permit procedure, for example to provide monitoring of energy efficiency.
Germany	No	
Ireland		Not applicable.
Italy	No	
Lithuania		No experience.
The Netherlands		Not applicable.
Poland	-	
Portugal	Yes	Probably taxes can be an incentive to promote agreements that will help to comply with the permits.
Sweden	Yes	The connection between energy taxes and voluntary agreements is beneficial since taxes provide one important incentive to conclude agreements. Apart from this example, it seems as if the three should be kept as separate as possible on the level of implementation and enforcement. However, we cannot advice exhaustively on this point since experience is limited and background material sparse.
The United Kingdom		NO ANSWER

9 TRADING SCHEME

9.1 CO_2 trading scheme

9.1.1 Are you using a CO_2 trading scheme in your country?

Table 110	Yes or no	Please, specify:
Austria	No	
Denmark	Yes	For power plants. Legal duration 2000-2003, presumed prolongation.
Finland	No	
France	No	A reflexion about CO2 trading scheme is ongoing in France at the moment, fully linked with the European directive.
Germany	No	
Ireland	No	
Italy	No	
Lithuania	No	
The Netherlands	No	
Poland	No	
Portugal	No	
Sweden	No	
The United Kingdom	No	

9.1.2 Do you have plans for using a CO_2 trading scheme in the short run?

Table 111	Yes or no	Please, specify:
Austria	No	Greenhouse gas emission allowance trading within the European Community from 2005.
Denmark	-	
Finland	No	The development of an EU trading scheme is followed up.
France	No	If is not feasible in the short run (see below).
Germany		The proposal of the EU commission from May 2001 is just now in discussion.
Ireland	No	
Italy	No	
Lithuania		Not identified.
The Netherlands	Yes	The possibilities for the development of a national scheme is presently being studied.
Poland	No	
Portugal	No	Not prior to the development of an EU trading scheme.
Sweden	No	A committee has investigated the issue (spring 2000). It is recommended that Sweden take no unilateral action, but wait for an EU trading scheme.
The United Kingdom	Yes	From April 2002.

9.1.3 If you have tradable emission quotas in use or are planning to use them, how is it taken into account in the permitting procedure? Are there e.g. minimum requirements that all IPPC installations have to fulfil?

Table 112	
Austria	-
Denmark	No connection to the permitting procedure. The plants involved are mentioned by name in the Act on tradable CO2 emission quotas.
Finland	There are no national plans.
France	-
Germany	Discussions on future emission trading show that it would be not be allowed to miss the BAT, so there will be minimum requirements on energy efficiency measures in each installation.
Ireland	-
Italy	There are not provisions.
Lithuania	We have no.
The Netherlands	No tradable emission quotas yet in use (see 9.1.1). The study for using them, has not made clear yet what the answer to your questions will be .

Poland	-
Portugal	No tradable emission quotas in use or planned for at the moment.
Sweden	-
The United Kingdom	Same applies as for voluntary agreements.

9.1.4 The European Union is preparing itself for an EU wide CO_2 trading scheme covering some of the most energy intensive IPPC sectors. Does this affect current plans regarding permitting in your country?

Table 113	
Austria	Not in general, adaptations could be necessary.
Denmark	Yes, it does effect Danish plans, Denmark is interested in a EU CO2 system, however the sectors proposed are different and may cause complications, moreover the new Danish law on tradable CO2 quotas will have to be modified.
Finland	Yes, it could affect.
France	-
Germany	Not now, the legal basis of such a trading scheme would still have to be created by law.
Ireland	NO ANSWER
Italy	None
Lithuania	Yes, after accession.
The Netherlands	Most probable, but surmountable.
Poland	-
Portugal	No
Sweden	This could mean that the question of CO2 emissions would have to be separated from the integrated permit procedure, which would mean that the law on integrated permitting would have to be altered. However, this is not a unique Swedish problem since any country applying the IPPC directive will face the same question.
The United Kingdom	Yes

9.1.5 Is it legally possible to introduce a CO_2 trading scheme in your country?

Table 114	
Austria	The legal basis will be introduced after adoption of the EC Directive.
Denmark	Yes
Finland	Yes
France	A detailed analysis was conducted on the feasibility. It is not possible under the present legislation as it would demand to modify the environment code.
Germany	Not now. It needs legislation.
Ireland	NO ANSWER
Italy	Yes, there are no restrictions.
Lithuania	While EU wide CO2 trading scheme is not prepared, it is complicated to answer to this question.
The Netherlands	This is in study. No clear answer yet.
Poland	No
Portugal	Yes, if there is an EU directive to do so.
Sweden	There has been some debate as to whether revoking an existing permit would amount to expropriation. The issue is not finally settled, but we are inclined to believe that it will be legally possible to introduce a CO2 trading scheme. (For other issues see 9.1.4).
The United Kingdom	Yes

10 FINAL QUESTIONS

In your opinion, what are the main problems with efficient energy use in the environmental permit procedure?

Table 115	
Austria	Energy efficiency is one issue in the permitting procedure. On the contrary to the fixing of ELVs for air or water pollutants energy efficiency can not easily be connected with a “protected interest” (Schutzgut). E.g. there are immission limit values for air quality which must not be ex-

	ceeded. A comparable standard does not exist for the effects of insufficient energy efficiency. In practice it will be hardly feasible to refuse a permit because of poor energy efficiency.
Denmark	In most cases it is not possible to set up enforceable conditions for energy efficiency in a permit for an individual company.
Finland	At the present time, there are no intentions to include efficiency as kWh/tonnes produced in the permit conditions. The knowledge in this field is still insufficient among authorities.
France	Confidentiality of data on energy and energy efficiency if industrial secret, insufficient reference on energy efficiency, insufficient workforce to perform the task.
Germany	The main problem is the complexity of the energy use and the energy flow in the sites, that are mostly composed of a lot of different installations. That means, that it could be difficult to find out measures to meet by all installations of the same kind. An other problem is, that applicants argue, that they have done enough for energy efficiency in the last few years because of the high price level, the taxation, EMAS and other requirements in Germany. So they would try to avoid any obligations exceeding a general declaration in the application documents.
Ireland	It is difficult to comment yet as installations are just beginning to grasp this concept. It is important that energy usage in a permitted installation be benchmarked so as to have a means by which continual improvement can be measured.
Italy	NO ANSWER
Lithuania	To prioritise the efficient energy use options in company level.
The Netherlands	The economic aspects plays a much more dominant role, than in other environmental fields and they are often difficult to judge by the authorities.
Poland	Difficulties with assessing of energy efficiency, with defining what is or what isn't energy efficient, lack of references, lack of inspection methods.
Portugal	The difficulty to combine energy efficiency issues with other environmental considerations (trade-offs) and the difficulty in establishing a good benchmark to be used as an energy efficiency target, since all the installations have differences (age, lay-out, process, etc.). Finally, there is room further co-operation between environment authorities and energy authorities, that traditionally work separately. However, we have not much experience in this yet and thus, there might be some more problems that are not perceived a the moment.
Sweden	Energy issues are very complex. Highly experienced people would be required for assessment and evaluation. Industry is likely to have such people, whereas authorities, including the permitting bodies, may not always be able to produce or recruit such competence.
The United Kingdom	Linking regulatory requirements with non-regulatory schemes.

How would you rate these problems?

Table 116	Very serious	Serious	Not so serious	Please, specify:
Austria	-	x	-	
Denmark	x	-	-	
Finland	-	x	-	
France	-	x	-	Together with carbon dioxide, a number of pollutants (SOx, NOx, PM,…) are emitted. Therefore, every effort made on CO2 emissions is a potential gain for those other pollutants.
Germany	-	x	-	This is an issue in the permitting procedure which is formerly dealt with "spotwise" in single cases, not in this breadth and depth which it needs now.
Ireland	-	-	x	
Italy				NO ANSWER
Lithuania	-	x	-	
The Netherlands	-	x	-	
Poland	-	x	-	See above.
Portugal	-	x	-	
Sweden	-	x	-	The permit procedure might be unbalanced.
The United Kingdom	-	-	x	The main issue is to avoid double regulation.

In your opinion, what suggestions are there for further development of efficient energy use in the environmental permit procedure?

Table 117	
Austria	Developing a common horizontal BREF with principles on the efficient use of energy. Sector

	specific BREFs should focus more on energy efficiency and provide techniques and associated energy data. A main issue should be how an existing plant could be more energy efficient. A guidance how authorities should deal with the requirement of energy efficiency in the permit and when inspecting installations would be appreciated.
Denmark	More discussions and knowledge on the issue e.g in the BREFs in order to develop enforceable conditions for energy efficiency in an individual permit.
Finland	A variety of policy instruments and their combinations should be investigated. Co-operation with Motiva could be intensified (e. g. with regard to reporting and education). The information in BREFs should be developed.
France	Reporting format, reference about energy efficiency available.
Germany	Because of that complexity it would be necessary to fix principles, a bundle of measures on energy efficiency and examples of existing measures that should be taken into account when permitting. That would be a goal for the development of the BREF. The permitting authority has probably to force the applicant to deliver sufficient documents. This would be much easier if there would be some guidelines.
Ireland	It is important that all installations have their energy requirements benchmarked so that a schedule of objectives and targets for energy reduction can be set up. An enforcement programme should be set up to determine whether or not the installation is meeting its targets.
Italy	NO ANSWER
Lithuania	To develop criteria on selection of the best options on efficient energy use in different branches of industry.
The Netherlands	CO2-tradingschemes and financial incentives will be more helpful than the present BAT/permit approach.
Poland	NO ANSWER
Portugal	Improve the BREFs, develop benchmarking and formally start co-operation with energy authorities.
Sweden	Discussion within IMPEL between permit writers on different options to regulate the issues in permits.
The United Kingdom	More information, in a consistent format, provided in BREF documents.

Further comments on this questionnaire:

Table 118

Austria	The future importance of considerations relating to energy efficiency will depend on the further developments in connection with the EC directive on greenhouse gas emission allowance trading within the European Community. It seems as if energy efficiency will soon be no more a permit condition for the majority of IPPC installations.
Denmark	-
Finland	There were too many questions, partly overlapping, partly including self-evident answers. This questionnaire may allow for the opportunity to check inconsistencies with the answers. As well, there were too little technical questions, which could have been beneficial in the better understanding in the concepts of efficiency. Thus it could have supported the BAT work currently done in Seville.
France	Answering this questionnaire was quite difficult: • the questionnaire whilst very complete and interesting appeared a bit long, • the details asked in the questionnaire required to collect information from various people (here: 10), • the English language made self-administration of the questionnaire difficult, • a glossary would be necessary for certain terms used.
Germany	NO ANSWER
Ireland	NO ANSWER
Italy	NO ANSWER
Lithuania	NO ANSWER
The Netherlands	NO ANSWER
Poland	It is too early to answer most of the questions of that questionnaire - while the system of IPPC is not implemented in Poland yet and we still don't have any practice in that field (many questions are related to practical not legal problems). It would be more reasonable to answer the questionnaire at least one year after the regulations concerning IPPC is in force and it should be fulfilled rather by permitting authorities.
Portugal	NO ANSWER
Sweden	NO ANSWER
The United Kingdom	NO ANSWER