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# Industrial Emissions Directive

## Policy Review

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# Industrial Emissions Directive

| Policy Review |
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| **Name/Type of the Legal Act or Policy** |
| Industrial Emissions Directive (IED)<br><br>Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control)<br><br>Subsequent Legal Acts, e.g. (hyperlinks provided)<br><br>- Corrigendum to Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) ( OJ L 334, 17.12.2010 )<br>- Communication from the Commission — European Commission Guidance concerning baseline reports under Art. 22(2) of Directive 2010/75/EU on industrial emissions<br>- Commission Decision of 16 May 2011 establishing a forum for the exchange of information pursuant to Art. 13 of the Directive 2010/75/EU on industrial emissions<br>- 2013/732/EU: Commission Implementing Decision of 9 December 2013 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions, for the production of chlor-alkali (notified under document C(2013) 8589)<br>- 2012/249/EU: Commission Implementing Decision of 7 May 2012 concerning the determination of start-up and shut-down periods for the purposes of Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (notified under document C(2012) 2948)<br>- 2012/134/EU: Commission Implementing Decision of 28 February 2012 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the manufacture of glass (notified under document C(2012) 865) Text with EEA relevance<br>- 2013/163/EU: Commission Implementing Decision of 26 March 2013 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the production of cement, lime and magnesium oxide (notified under document C(2013) 1728)<br>- 2014/768/EU: Commission Implementing Decision of 30 October 2014 establishing the type, format and frequency of information to be made available by the Member States on integrated emission management techniques applied in mineral oil and gas refineries, pursuant to Directive 2010/75/EU of the European Parliament and of the Council (notified under document C(2014) 7517)<br>- 2014/738/EU: Commission Implementing Decision of 9 October 2014 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the |

European Parliament and of the Council on industrial emissions, for the refining of mineral oil and gas (notified under document C(2014) 7155)

- 2014/687/EU: Commission Implementing Decision of 26 September 2014 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the production of pulp, paper and board (notified under document C(2014) 6750)

Commission Implementing Decisions (hyperlinks provided)

- Commission Implementing Decision of 10 February 2012 laying down rules concerning the transitional national plans referred to in Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (notified under document C(2012) 612)
- 2012/119/EU: Commission Implementing Decision of 10 February 2012 laying down rules concerning guidance on the collection of data and on the drawing up of BAT reference documents and on their quality assurance referred to in Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (notified under document C(2012) 613)
- 2012/134/EU: Commission Implementing Decision of 28 February 2012 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the manufacture of glass (notified under document C(2012) 865)
- 2012/135/EU: Commission Implementing Decision of 28 February 2012 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for iron and steel production (notified under document C(2012) 903)
- 2012/249/EU: Commission Implementing Decision of 7 May 2012 concerning the determination of start-up and shut-down periods for the purposes of Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (notified under document C(2012) 2948)
- 2012/795/EU: Commission Implementing Decision of 12 December 2012 establishing the type, format and frequency of information to be made available by the Member States for the purposes of reporting on the implementation of Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (notified under document C(2012) 9181)
- 2013/84/EU: Commission Implementing Decision of 11 February 2013 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the tanning of hides and skins (notified under document C(2013) 618)
- 2013/163/EU: Commission Implementing Decision of 26 March 2013 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the production of cement, lime and magnesium oxide (notified under document C(2013) 1728)

- 2013/732/EU: Commission Implementing Decision of 9 December 2013 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions, for the production of chlor-alkali (notified under document C(2013) 8589)
- 2014/687/EU: Commission Implementing Decision of 26 September 2014 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the production of pulp, paper and board (notified under document C(2014) 6750)
- 2014/738/EU: Commission Implementing Decision of 9 October 2014 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions, for the refining of mineral oil and gas (notified under document C(2014) 7155)
- 2014/768/EU: Commission Implementing Decision of 30 October 2014 establishing the type, format and frequency of information to be made available by the Member States on integrated emission management techniques applied in mineral oil and gas refineries, pursuant to Directive 2010/75/EU of the European Parliament and of the Council (notified under document C(2014) 7517)
- Commission Implementing Decision (EU) 2015/2119 of 20 November 2015 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the production of wood-based panels (notified under document C(2015) 8062)

Also relevant: European Commission Transposition checklist for Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control) (recast)

**Entry into force**

01/2011

**Departments/Units in charge**

DG ENV or DG Environment is responsible for the implementation of the IED at EU-level. The Commission organises and coordinates the exchange of information through the involvement of the European IPPC Bureau (EIPPCB) (within DG Joint Research Centre) and DG Environment.

**Common Implementation strategy (CIS processes)**

The IED Art. 13 Forum: According to Art. 13 of the Directive, in order to draw up, review and, where necessary, update BAT reference documents, the Commission shall organise an exchange of information between Member States, the industries concerned, non-governmental organisations promoting environmental protection and the Commission. Moreover, the Commission shall establish and regularly convene a forum composed of representatives of Member States, the industries concerned and non-governmental organisations promoting environmental protection and shall obtain and make publicly available the opinion of the forum on the proposed content of the BAT reference documents.

The Commission shall take into account this opinion for the adoption of the BAT conclusions. This forum has been created as a formal expert group through Commission decision (2011/C 146/03) on the establishment of the Art. 13 Forum, which was adopted on 16 May 2011. According to this Decision, new members of the forum who are not Member States shall be appointed by the Director General of DG Environment.

Best available techniques Reference documents (BREFs): Ceramic Manufacturing Industry; Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector; Emissions from Storage; Energy Efficiency; Ferrous Metals Processing Industry; Food, Drink and Milk Industries; Industrial Cooling Systems; Intensive Rearing of Poultry and Pigs; Iron and Steel Production; Large Combustion Plants; Large Volume Inorganic; Chemicals – Ammonia, Acids and Fertilisers; Large Volume Inorganic Chemicals – Solids and Others Industry; Large Volume Organic Chemical Industry; Manufacture of Glass; Manufacture of Organic Fine Chemicals; Non-ferrous Metals Industries; Production of Cement, Lime and Magnesium Oxide; Production of Chlor-alkali; Production of Polymers; Production of Pulp, Paper and Board; Production of Speciality Inorganic Chemicals; Refining of Mineral Oil and Gas; Slaughterhouses and Animals By-products Industries; Smitheries and Foundries Industry; Surface Treatment Of Metals and Plastics; Surface Treatment Using Organic Solvents (including Wood and Wood Products Preservation with Chemicals); Tanning of Hides and Skins; Textiles Industry; Waste Incineration; Waste Treatment; Wood-based Panels Production

Reference Documents (REFs): Economics and Cross-media Effects; Monitoring of emissions from IED-installations·

The IED Art. 75 Committee: According to Art. 75 of the IED, the Commission shall be assisted by a committee, which has the competence to deliver opinions on implementing acts concerning the following: guidance under Art. 13(3)(c) and (d) of the IED, BAT conclusions (Art. 13(5)), implementing rules for large combustion plants (Art. 41) and the type, format and frequency of reporting by Member States (Art. 72(2)). The IED Art. 75 Committee operates in accordance with the examination procedure (Art. 5 of Regulation (EU) No 182/2011). The Rules of Procedure of the Committee were adopted on 26 August 2011. The IED Art. 75 Committee has delivered a positive opinion on the following implementing decisions, which subsequently have been adopted by the Commission and published in the Official Journal:

Commission Implementing Decisions (hyperlinks provided) (see also above in section 1.1)

- Commission Implementing Decision of 10 February 2012 laying down rules concerning the transitional national plans referred to in Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (notified under document C(2012) 612)
- 2012/119/EU: Commission Implementing Decision of 10 February 2012 laying down rules concerning guidance on the collection of data and on the drawing up of BAT reference documents and on their quality assurance referred to in Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (notified under document C(2012) 613)

- 2012/134/EU: Commission Implementing Decision of 28 February 2012 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the manufacture of glass (notified under document C(2012) 865)
- 2012/135/EU: Commission Implementing Decision of 28 February 2012 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for iron and steel production (notified under document C(2012) 903)
- 2012/249/EU: Commission Implementing Decision of 7 May 2012 concerning the determination of start-up and shut-down periods for the purposes of Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (notified under document C(2012) 2948)
- 2012/795/EU: Commission Implementing Decision of 12 December 2012 establishing the type, format and frequency of information to be made available by the Member States for the purposes of reporting on the implementation of Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (notified under document C(2012) 9181)
- 2013/84/EU: Commission Implementing Decision of 11 February 2013 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the tanning of hides and skins (notified under document C(2013) 618)
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- 2014/738/EU: Commission Implementing Decision of 9 October 2014 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions, for the refining of mineral oil and gas (notified under document C(2014) 7155)
- 2014/768/EU: Commission Implementing Decision of 30 October 2014 establishing the type, format and frequency of information to be made available by the Member States on integrated emission management techniques applied in mineral oil and gas refineries,

pursuant to Directive 2010/75/EU of the European Parliament and of the Council (notified under document C(2014) 7517)

- Commission Implementing Decision (EU) 2015/2119 of 20 November 2015 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the production of wood-based panels (notified under document C(2015) 8062)

Industrial Emissions Experts Group (IEEG): The IEEG (Industrial Emissions Experts Group, formerly known under IPPC as IEG - IPPC Expert Group) is an informal expert group to facilitate the exchange of experiences and good practises in the area on interpretation, transposition and implementation of the IED in the Member States and to advise the Commission in the preparation of delegated acts. The IEEG is composed of experts from EU Member States and EU acceding countries. Technical Working Groups (TWGs): for the drawing up or reviewing of a BREF document, a TWG is set up (or reactivated) by the Commission. Each TWG consists of technical experts representing Member States, industries, NGOs promoting environmental protection and the Commission. TWG members are nominated to participate in the information exchange primarily based on their technical, economic, environmental or regulatory expertise (especially in permitting or inspecting industrial installations) as well as on their ability to bring into the information exchange process the BREF end-user perspective. The experts for each TWG are nominated by the representatives in the Forum. To this end, Forum members send the names and contact details of their TWG nominees to the EIPPCB. In order to enhance the efficiency of participation of the industrial sectors concerned in TWGs, their nomination may be coordinated by the European industrial associations. The TWG draws up or reviews a BREF document recording the outcome of the exchange of information for a given sector. The TWG is the main source of information for the drawing up and reviewing of a BREF. A TWG generally consists of between 40 to 100 experts. TWG members are either nominated by their Member State, by a European industrial association (Business Europe) or by the environmental NGO EEB. Nomination is the only way of becoming a member of a TWG.

**Administrative body handling implementation in MS**

The European Member States are responsible for implementing the Directive at national level and for issuing operating permits to the installations concerned. National Implementing Measures (NIM) communicated by the Member States concerning the IED. The IED frequently refers to "competent authority" (e.g. regarding the right to grant temporary derogations from emission levels associated with the best available techniques, in the context of operators' duties to notify the competent authority of planned changes which might affect the environment etc.). The IED does not specify the competent authorities, as these depend on the Member State's structure and system.

In Ireland, the Environmental Protection Agency (EPA) is the competent authority for granting and enforcing Industrial Emissions (IE) licences for specified industrial and agriculture activities listed in the First Schedule to the Environmental Protection Agency Act 1992 as amended.

In Denmark, either the municipality or the Danish Environmental Protection Agency is the approval authority in relation to i-marked installations and activities. However, applications

for environmental permits must always be sent to the municipality in which the installation is situated. Where relevant, the municipality will forward the application to the Danish Environmental Protection Agency.

I-marked installations and activities are covered by the EU's Industrial Emissions Directive.

In the UK, the Environment Agency issues permits under the Industrial Emissions Directive.

In Germany, there are several competent authorities at the Länder level. The Länder have published installation lists covering the respective federal state. Each installation has an assigned competent authority. Saxony's list, for instance, includes the following administrative authorities: Landesdirektion Sachsen – Chemnitz, Landesdirektion Sachsen – Leipzig, Landesdirektion Sachsen – Dresden, Sächsisches Landesamt für Umwelt, Landwirtschaft und Geologie, Landratsamt Bautzen, and several others.

**Main Objective**

The subject matter and objective of the IED is defined in Art. 1: "This Directive lays down rules on integrated prevention and control of pollution arising from industrial activities. It also lays down rules designed to prevent or, where that is not practicable, to reduce emissions into air, water and land and to prevent the generation of waste, in order to achieve a high level of protection of the environment taken as a whole."

**Principles included in the legal text**

Principles of environmental law mentioned in the IED: polluter pays principle, principle of pollution prevention (recital 2). Other recognized principles mentioned: principle of subsidiarity, principle of proportionality (see Art. 5 TEU) (recital 44); principles recognised in particular by the Charter of Fundamental Rights of the European Union. In particular, the IED "seeks to promote the application of Art. 37 of that Charter [environmental protection]" (recital 45). In addition, the IED defines what it calls "general principles governing the basic obligations of the operator (see Art. 11 IED) and states that "Member States shall take the necessary measures to provide that installations are operated in accordance with the following principles: (a) all the appropriate preventive measures are taken against pollution; (b) the best available techniques are applied; (c) no significant pollution is caused; (d) the generation of waste is prevented in accordance with Directive 2008/98/EC; (e) where waste is generated, it is, in order of priority and in accordance with Directive 2008/98/EC, prepared for re-use, recycled, recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment; (f) energy is used efficiently; (g) the necessary measures are taken to prevent accidents and limit their consequences; (h) the necessary measures are taken upon definitive cessation of activities to avoid any risk of pollution and return the site of operation to the satisfactory state defined in accordance with Art. 22."

**Other objectives/Key concepts/key elements of the legislation**

The IED is based on several pillars, in particular (1) an integrated approach, (2) use of best available techniques, (3) flexibility, (4) inspections and (5) public participation. The integrated approach means that the permits must take into account the whole environmental

performance of the plant, covering e.g. emissions to air, water and land, generation of waste, use of raw materials, energy efficiency, noise, prevention of accidents, and restoration of the site upon closure. The permit conditions including emission limit values must be based on the Best Available Techniques (BAT). In order to define BAT and the BAT-associated environmental performance at EU level, the Commission organises an exchange of information with experts from Member States, industry and environmental organisations. This work is co-ordinated by the European IPPC Bureau of the Institute for Prospective Technology Studies at the EU Joint Research Centre in Seville (Spain). This process results in BAT Reference Documents (BREFs); the BAT conclusions contained are adopted by the Commission as Implementing Decisions. The IED requires that these BAT conclusions are the reference for setting permit conditions. For certain activities, i.e. large combustion plants, waste incineration and co-incineration plants, solvent using activities and titanium dioxide production, the IED also sets EU wide emission limit values for selected pollutants. The IED allows competent authorities some flexibility to set less strict emission limit values. This is possible only in specific cases where an assessment shows that achieving the emission levels associated with BAT described in the BAT conclusions would lead to disproportionately higher costs compared to the environmental benefits due to the geographical location or the local environmental conditions or the technical characteristics of the installation. The competent authority shall always document its justification for granting such derogations. Furthermore, Chapter III of the IED on large combustion plants includes certain flexibility instruments (Transitional National Plan, limited lifetime derogation, etc.). The IED contains mandatory requirements on environmental inspections. Member States shall set up a system of environmental inspections and draw up inspection plans accordingly. The IED requires a site visit to take place at least every 1 to 3 years, using risk-based criteria. The IED ensures that the public has a right to participate in the decision-making process, and to be informed of its consequences, by having access to permit applications, permits and the results of the monitoring of releases.

In addition, through the European Pollutant Release and Transfer Register (E-PRTR) emission data reported by Member States are made accessible in a public register, which is intended to provide environmental information on major industrial activities. Key points: The legislation covers the following industrial activities: energy, metal production and processing, minerals, chemicals, waste management and other sectors such as pulp and paper production, slaughterhouses and the intensive rearing of poultry and pigs; All installations covered by the directive must prevent and reduce pollution by applying the best available techniques* (BATs), efficient energy use, waste prevention and management and measures to prevent accidents and limit their consequences; The installations can only operate if in possession of a permit and have to comply with the conditions set therein; The BAT conclusions adopted by the Commission are the reference for setting the permit conditions. Emission limit values must be set at a level that ensures pollutant emissions do not exceed the levels associated with the use of BATs. However they may, if it is proven that this would lead to disproportionate costs compared to environmental benefits; Competent authorities need to conduct regular inspections of the installations; The public must be given an early opportunity to participate in the permitting process.

**Terminology**

Emission Limit Values (ELV), Best available techniques (BAT), BAT reference documents (BREFs), BAT conclusions

There are general definitions (Art. 3 IED) as well as definitions of specific relevance to subsections of the IED and its Annexes (with additional definitions in Art. 43 and 57 IED as well as in Annex VI). Some definitions in Art. 3 IED are identical to those found in other Directives. For example Art. 3(2) IED defining "pollution" is identical to Art. 2(2) of Directive 2008/1/EC, Art. 3(5) IED defining "emission limit value" is identical to the first part of Art. 2(6) of Directive 2008/1/EC or Art. 3(30) IED defining "biomass" is identical to Art. 2(11) of Directive 2001/80/EC. Details in: European Commission Transposition checklist for Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control).

The IED contains more than 50 definitions, all of which are relevant. A selection of 10-15 definitions can thus just cover certain aspects. However, against the background of the key pillars of the IED (see above) and its specific chapters (addressing i.e. combustion plants (Chapter III), waste incineration and co-incineration plants (Chapter IV), and organic solvents (Chapter V)) the following definitions are of particular importance:

*Substance* (Art. 2(1) IED): 'substance' means any chemical element and its compounds, with the exception of the following substances: (a) radioactive substances as defined in Art. 1 of Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation (b) genetically modified micro-organisms as defined in Art. 2(b) of Directive 2009/41/EC of the European Parliament and the Council of 6 May 2009 on the contained use of genetically modified micro-organisms (c) genetically modified organisms as defined in point 2 of Art. 2 of Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms

*Pollution* (Art. 2(2) IED): 'pollution' means the direct or indirect introduction, as a result of human activity, of substances, vibrations, heat or noise into air, water or land which may be harmful to human health or the quality of the environment, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment;

*Installation* (Art. 2(3) IED): 'installation' means a stationary technical unit within which one or more activities listed in Annex I or in Part 1 of Annex VII are carried out, and any other directly associated activities on the same site which have a technical connection with the activities listed in those Annexes and which could have an effect on emissions and pollution;

*Emission* (Art. 2(4) IED): 'emission' means the direct or indirect release of substances, vibrations, heat or noise from individual or diffuse sources in the installation into air, water or land;

*Emission Limit Value* (Art. 2(5) IED): 'emission limit value' means the mass, expressed in terms of certain specific parameters, concentration and/or level of an emission, which may not be exceeded during one or more periods of time;

*Permit* (Art. 2(7) IED): 'permit' means a written authorisation to operate all or part of an installation or combustion plant, waste incineration plant or waste co-incineration plant;

*Best available techniques* (BAT) (Art. 2(10) IED): 'best available techniques' means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole: (a) 'techniques' includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned; (b) 'available techniques' means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator; (c) 'best' means most effective in achieving a high general level of protection of the environment as a whole;

*BAT reference document* (Art. 2(11) IED): 'BAT reference document' means a document, resulting from the exchange of information organised pursuant to Art. 13, drawn up for defined activities and describing, in particular, applied techniques, present emissions and consumption levels, techniques considered for the determination of best available techniques as well as BAT conclusions and any emerging techniques, giving special consideration to the criteria listed in Annex III;

*BAT conclusions* (Art. 2(12) IED): 'BAT conclusions' means a document containing the parts of a BAT reference document laying down the conclusions on best available techniques, their description, information to assess their applicability, the emission levels associated with the best available techniques, associated monitoring, associated consumption levels and, where appropriate, relevant site remediation measures;

*Operator* (Art. 2(15) IED): 'operator' means any natural or legal person who operates or controls in whole or in part the installation or combustion plant, waste incineration plant or waste co-incineration plant or, where this is provided for in national law, to whom decisive economic power over the technical functioning of the installation or plant has been delegated;

*Combustion plant* (Art. 2(25) IED): 'combustion plant' means any technical apparatus in which fuels are oxidised in order to use the heat thus generated;

*Waste incineration plant* (Art. 2(40) IED): 'waste incineration plant' means any stationary or mobile technical unit and equipment dedicated to the thermal treatment of waste, with or without recovery of the combustion heat generated, through the incineration by oxidation of waste as well as other thermal treatment processes, such as pyrolysis, gasification or plasma process, if the substances resulting from the treatment are subsequently incinerated;

*Waste co-incineration plant* (Art. 2(41) IED): 'waste co-incineration plant' means any stationary or mobile technical unit whose main purpose is the generation of energy or production of material products and which uses waste as a regular or additional fuel or in which waste is thermally treated for the purpose of disposal through the incineration by oxidation of waste as well as other thermal treatment processes, such as pyrolysis, gasification or plasma process, if the substances resulting from the treatment are subsequently incinerated;

*Organic solvent* (Art. 2(46) IED): 'organic solvent' means any volatile organic compound which is used for any of the following: (a) alone or in combination with other agents, and without undergoing a chemical change, to dissolve raw materials, products or waste materials; (b) as a cleaning agent to dissolve contaminants; (c) as a dissolver; (d) as a dispersion medium; (e) as a viscosity adjuster; (f) as a surface tension adjuster; (g) as a plasticiser; (h) as a preservative.

Information about the definitions and their overlaps with other legal acts can be found in the European Commission Transposition checklist for Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control) (recast)

**Derogations**

The IED contains several provisions on possible derogations. Derogations are part of the key pillar "flexibility" (see above):

Recital 17: In order to enable operators to test emerging techniques which could provide for a higher general level of environmental protection, or at least the same level of environmental protection and higher cost savings than existing best available techniques, the competent authority should be able to grant temporary derogations from emission levels associated with the best available techniques.

Recital 32: In the case of a sudden interruption in the supply of low-sulphur fuel or gas resulting from a serious shortage, the competent authority should be able to grant temporary derogations to allow emissions of the combustion plants concerned to exceed the emission limit values set out in this Directive.

Recital 33: The operator concerned should not operate a combustion plant for more than 24 hours after malfunctioning or breakdown of abatement equipment and unabated operation should not exceed 120 hours in a 12-month period in order to limit the negative effects of pollution on the environment. However, where there is an overriding need for energy supplies or it is necessary to avoid an overall increase of emissions resulting from the operation of another combustion plant, competent authorities should be able to grant a derogation from those time limits.

Recital 40: The Commission should be empowered to adopt delegated acts in accordance with Art. 290 TFEU in respect of the setting of the date from which continuous measurements of emissions into the air of heavy metals and dioxins and furans are to be carried out, and the adaptation of certain parts of Annexes V, VI and VII to scientific and technical progress. In the case of waste incineration plants and waste co-incineration plants, this may include, inter alia, the establishment of criteria to allow derogations from continuous monitoring of total dust emissions. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level.

The derogation possibilities enshrined in Art. 15 IED (Emission limit values, equivalent parameters and technical measures) are of particular relevance.

Art. 15 IED: "By way of derogation from paragraph 3, and without prejudice to Art. 18, the competent authority may, in specific cases, set less strict emission limit values. Such a derogation may apply only where an assessment shows that the achievement of emission levels associated with the best available techniques as described in BAT conclusions would

lead to disproportionately higher costs compared to the environmental benefits due to: (a) the geographical location or the local environmental conditions of the installation concerned; or (b) the technical characteristics of the installation concerned. The competent authority shall document in an annex to the permit conditions the reasons for the application of the first subparagraph including the result of the assessment and the justification for the conditions imposed. The emission limit values set in accordance with the first subparagraph shall, however, not exceed the emission limit values set out in the Annexes to this Directive, where applicable. The competent authority shall in any case ensure that no significant pollution is caused and that a high level of protection of the environment as a whole is achieved. The competent authority may grant temporary derogations from the requirements of paragraphs 2 and 3 of this Article and from Art. 11(a) and (b) for the testing and use of emerging techniques for a total period of time not exceeding 9 months, provided that after the period specified, either the technique is stopped or the activity achieves at least the emission levels associated with the best available techniques."

In case of derogations under Art. 15(4) IED, however, the competent authority shall make available to the public the specific reasons for that derogation (see Art. 24 (2)(f) IED Access to information and public participation in the permit procedure). Further rules on derogations can be found in Art. 30 Emission limit values, Art. 33 Limited life time derogation, Art. 37 Malfunction or breakdown of the abatement equipment, Art. 59 Control of emissions.

**Types of management measures**

See comment in section 11 (2nd question)

Environmental requirements: Any industrial installation which carries out the activities listed in Annex I to the Directive must meet certain basic obligations: preventive measures are taken against pollution; the best available techniques (BAT) are applied; no significant pollution is caused; waste is reduced, recycled or disposed of in the manner which creates least pollution; energy efficiency is maximised; accidents are prevented and their impact limited; sites are remediated when the activities come to an end.

Special provisions shall apply to combustion plants, waste incineration and co-incineration plants, installations using organic solvents and installations producing titanium dioxide.

Application of best available techniques: Industrial installations must use the best available techniques (BAT) to achieve a high general level of protection of the environment as a whole, which are developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions. The European Commission must adopt BAT conclusions containing the emission levels associated with the BAT. These conclusions shall serve as a reference for the drawing up of permit conditions.

Permit conditions: The permit must provide for the necessary measures to ensure compliance with the operator's basic obligations and environmental quality standards. These measures shall comprise at least: emission limit values for polluting substances; rules guaranteeing protection of soil, water and air; waste monitoring and management measures; requirements concerning emission measurement methodology, frequency and evaluation procedure; an obligation to inform the competent authority of the results of monitoring, at least annually;

requirements concerning the maintenance and surveillance of soil and groundwater; measures relating to exceptional circumstances (leaks, malfunctions, momentary or definitive stoppages, etc.); provisions on the minimisation of long-distance or transboundary pollution; conditions for assessing compliance with the emission limit values.

Environmental inspections: Member States shall set up a system of environmental inspections of the installations concerned. All installations shall be covered by an environmental inspection plan. The plan shall be regularly reviewed and updated. Based on the inspection plans, the competent authority shall regularly draw up programmes for routine environmental inspections, including the frequency of site visits for different types of installations. The period between two site visits shall be based on a systematic appraisal of the environmental risks of the installations concerned. It shall not exceed one year for installations posing the highest risks and three years for installations posing the lowest risks.[1]

**Spatial coverage**

Geographic coverage: Art. 84 IED (Addressees): This Directive is addressed to the Member States.

Industries covered: Activities Listed in Annex I (Art. 10 – 27 IED; Annex I specifies/covers certain energy industries, production and processing of metals, mineral industry, chemical industry, waste management, other activities); Combustion Plants (specified in Art. 28 – 41 IED); Waste Incineration Plants and Waste Co-Incineration Plants (specified in Art. 42 – 55 IED); Installations and Activities Using Organic Solvents (specified in Art. 56 – 65 IED); Installations Producing Titanium Dioxide (specified in Art. 66 – 70 IED)

**Reporting units – what are the specific transposition requirements**

See comment in section 11 (2nd question)

Reporting requirements addressed to operators: Reporting requirements (Baseline Report) addressed to operators under Art. 22 IED (see also Recital 24). Operators shall prepare and submit to the competent authority a baseline report before starting operation of an installation or before a permit for an installation is updated for the first time after 7 January 2013. In order to ensure that the operation of an installation does not deteriorate the quality of soil and groundwater, it is necessary to establish, through a baseline report, the state of soil and groundwater contamination. The baseline report should be a practical tool that permits, as far as possible, a quantified comparison between the state of the site described in that report and the state of the site upon definitive cessation of activities, in order to ascertain whether a significant increase in pollution of soil or groundwater has taken place. The baseline report should, therefore, contain information making use of existing data on soil and groundwater measurements and historical data related to past uses of the site. Reporting requirements addressed to operators under Art. 62 (Reporting on compliance). The operator shall supply the competent authority, on request, with data enabling the competent authority to verify compliance with either of the following: emission limit values

[1] IED (formerly IPPC), http://www.zopa.org/pg.php?id_menu=10.

in waste gases, fugitive emission limit values and total emission limit values; the requirements of the reduction scheme under Part 5 of Annex VII; or the derogations granted in accordance with Art. 59(2) and (3).

Reporting requirements addressed to the competent authorities: Reporting requirements addressed to the competent authorities under Art. 23(6) IED (Environmental inspections). Following a site visit, the competent authority shall prepare a report describing the relevant findings regarding compliance of the installation with the permit conditions and conclusions on whether any further action is necessary. The report shall be notified to the operator concerned within 2 months of the site visit taking place. The report shall be made publicly available by the competent authority in accordance with Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information within 4 months of the site visit taking place.

Reporting requirements addressed to the Member States: Reporting requirements addressed to the Member States under Art. 34 (Small isolated systems): Where there are, on the territory of a Member State combustion plants covered by this Chapter that are part of a small isolated system, that Member State shall report to the Commission before 7 January 2013 a list of those combustion plants, the total annual energy consumption of the small isolated system and the amount of energy obtained through interconnection with other systems. Reporting requirements addressed to the Member States under Art. 51 (Authorisation to change operating conditions) : Member States shall communicate to the Commission all operating conditions authorised under paragraphs 1, 2 and 3 and the results of verifications made as part of the information provided in accordance with the reporting requirements under Art. 72. Reporting requirements addressed to the Member States under Art. 59 (Control of emissions): Member States shall report to the Commission in accordance with Art. 72(1) on the progress in achieving the equivalent emission reduction referred to in Art. 59(1)(b) IED. Member States shall report to the Commission on the derogations referred to in Art. 59(2) and (3) IED in accordance with Art. 72(2). Reporting requirements addressed to the Member States under Art. 72 (Reporting by Member States) : Member States shall ensure that information is made available to the Commission on the implementation of this Directive, on representative data on emissions and other forms of pollution, on emission limit values, on the application of best available techniques in accordance with Art. 14 and 15, in particular on the granting of exemptions in accordance with Art. 15(4), and on progress made concerning the development and application of emerging techniques in accordance with Art. 27. Member States shall make the information available in an electronic format.

Reporting requirements addressed to the European Commission: Reporting requirements addressed to the European Commission under Art. 73 (Review). By 7 January 2016, and every 3 years thereafter, the Commission shall submit to the European Parliament and to the Council a report reviewing the implementation of the IED [...]. The Commission shall, by 31 December 2012, review the need to control certain emissions and report the results to the European Parliament and to the Council accompanied by a legislative proposal where appropriate. The Commission shall report to the European Parliament and the Council, by 31 December 2011, on the establishment in Annex I of: differentiated capacity thresholds for the rearing of different poultry species, including the specific case of quail; capacity

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| thresholds for the simultaneous rearing of different types of animals within the same installation. |
| **Management unit** |
| See comment in section 11 (2nd question)<br><br>The IED covers industrial activities with a major pollution potential, defined in Annex I to the Directive (energy industries, production and processing of metals, mineral industry, chemical industry, waste management, rearing of animals, etc.). The Directive contains special provisions for the following installations: combustion plants (≥ 50 MW); waste incineration or co-incineration plants; certain installations and activities using organic solvents; installations producing titanium dioxide. This Directive does not apply to research activities, development activities or the testing of new products and processes. |
| **Key planning steps** |
| Environmental inspection plans (Art. 23 IED): Member States shall set up a system of environmental inspections of the installations concerned. All installations shall be covered by an environmental inspection plan. The plan shall be regularly reviewed and updated. Based on the inspection plans, the competent authority shall regularly draw up programmes for routine environmental inspections, including the frequency of site visits for different types of installations. The period between two site visits shall be based on a systematic appraisal of the environmental risks of the installations concerned. It shall not exceed one year for installations posing the highest risks and three years for installations posing the lowest risks. Art. 3(22) IED: "'environmental inspection' means all actions, including site visits, monitoring of emissions and checks of internal reports and follow-up documents, verification of self-monitoring, checking of the techniques used and adequacy of the environment management of the installation, undertaken by or on behalf of the competent authority to check and promote compliance of installations with their permit conditions and, where necessary, to monitor their environmental impact;"<br><br>Transitional National Plans (Art. 32 IED): During the period from 1 January 2016 to 30 June 2020, Member States may draw up and implement a transitional national plan covering combustion plants which were granted the first permit before 27 November 2002 or the operators of which had submitted a complete application for a permit before that date, provided that the plant was put into operation no later than 27 November 2003. For each of the combustion plants covered by the plan, the plan shall cover emissions of one or more of the following pollutants: nitrogen oxides, sulphur dioxide and dust. For gas turbines, only nitrogen oxides emissions shall be covered by the plan. |
| **Timelines** |
| 07/01/2011 Entry into force<br><br>07/07/2011 Implementing rules concerning the determination of start-up and shut-down periods (Art. 3(26) and Annex V, Part 4, point 1) and Transitional National Plan |

31/12/2011 Review on animal rearing activities; Review on combustion plants below 50 MW, intensive rearing of cattle and spreading of manure (Art. 73)

07/01/2013 End of transposition deadline (implementation date for articles mentioned in Art. 80(1) unless mentioned otherwise in Art. 82); New emission limit values for new combustion plants which co-incinerate waste

31/12/2013 Report on the need to establish Union-wide emission limit values and/or to amend the ELVs of Annex V for certain LCPs.

07/01/2014 Repeal of Directives 78/176/EEC, 82/883/EEC, 92/112/EEC, 1999/13/EC, 2000/76/EC, 2008/1/EC; Implementation date for articles mentioned in Art. 80(1) for installations already falling under the scope of Directive 2008/1/EC.

01/06/2015 Implementation of Art. 58 and 59(5) (use of organic solvents)

07/07/2015 Implementation date for Annex I activities not covered by Directive 2008/1/EC

01/01/2016 Implementation date for combustion plants falling under Art. 30(2) (new emission limit values); New emission limit values for existing combustion plants which co-incinerate waste; Repeal of Directive 2001/80/EC

07/01/2016 First report reviewing the implementation of the Directive

(every 3 years thereafter)

30/6/2020 Transitional National Plan provisions for large combustion plants end

31/12/2023 Limited lifetime derogation provisions for large combustion plants end

**Integration/coordination issues with other related pieces of legislation**

Coordination/Interaction (selection):

- Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, recital 37 and Art. 2(3): reference to coordination of assessments – "where the obligation to carry out assessments related to environmental issues arises simultaneously from this Directive and from other Union legislation, such as [...] Directive 2010/75/EU [IED], Member States should be able to provide for coordinated and/or joint procedures fulfilling the requirements of the relevant Union legislation."
- Seveso Directive (2012/18/EU); coordination of inspections: "Where possible, inspections should be coordinated with those under other Union legislation, including Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control), where appropriate" (see recital 26).
- Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC; Several references to interaction, including, for example, reporting coordination: "When reporting under Directive 2010/75/EU, and without prejudice to Art. 9(2) of that Directive, Member States shall consider including

information on energy efficiency levels of installations undertaking the combustion of fuels with total rated thermal input of 50 MW or more in the light of the relevant best available techniques developed in accordance with Directive 2010/75/EU and Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control" (Art. 15(9)).

- Directive 2013/39/EU of the European Parliament and of the Council of 12 August 2013 amending Directives 2000/60/EC and 2008/105/EC as regards priority substances in the field of water policy; strengthening coherence: " The progressive reduction of pollution from priority substances and the cessation or phasing-out of discharges, emissions and losses of priority hazardous substances, as required by Directive 2000/60/EC, may often be achieved most cost-effectively through Union substance-specific measures at source, for example pursuant to [...] Directive 2010/75/EU [IED]. Coherence between those legal acts, Directive 2000/60/EC and other relevant legislation should therefore be strengthened to ensure that source-control mechanisms are applied as appropriate." (see recital 12)
- EMAS Regulation (1221/2009/EC); Interaction: in the context of environmental inspections, IED notes that "The systematic appraisal of the environmental risks shall be based on at least the following criteria: […] the participation of the operator in the Union eco-management and audit scheme (EMAS), pursuant to Regulation (EC) No 1221/2009" (see Art. 23 IED, Environmental Inspections).

References in the IED to Regulations and other legal texts (selection):

- Reference to Urban Waste Water Treatment Directive (91/271/EEC) Annex VI (Technical provisions relating to waste incineration plants and waste co-incineration plants, Part 5 of the IED (Emission limit values for discharges of waste water from the cleaning of waste gases) lists emission limit values for "Total suspended solids as defined in Annex I of Directive 91/271/EEC")
- Reference to Water Framework Directive (2000/60/EC); references regarding the mentioning of priority substances and the reduction of pollution from such substances, see, e.g. Annex II of the IED (List of Polluting Substances), No. 13 refers to "Substances listed in Annex X to Directive 2000/60/EC"
- Reference to National Emission Ceilings Directive (2001/81/EC); IED works towards meeting the requirements of the NEC Directive: "Large combustion plants contribute greatly to emissions of polluting substances into the air resulting in a significant impact on human health and the environment. In order to reduce that impact and to work towards meeting the requirements of Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants and the objectives set out in the Thematic Strategy on Air Pollution, it is necessary to set more stringent emission limit values at Union level for certain categories of combustion plants and pollutants." (see recital 29 of the IED)
- Reference to Landfill Directive (1999/31/EC); ANNEX I (Categories of activities referred to in Art. 10), para. 5.4. "Landfills, as defined in Art. 2(g) of Council Directive 1999/31/EC

of 26 April 1999 on the landfill of waste, receiving more than 10 tonnes of waste per day or with a total capacity exceeding 25 000 tonnes, excluding landfills of inert waste"

- Reference to Environmental Liability Directive (2004/35/EC); references in the IED to the ELD in the context of environmental damage, see Art. 7 IED (Incidents and accidents) and Art. 22 IED (Site closure)
- Further references in the IED to other Directives include references to Directive 2003/87/EC, Directive 2009/41/EC, Directive 2001/18/EC, Directive 90/539/EEC or Directive 2008/98/EC

Regulations and other legal acts with references to the IED (selection):

- Commission Regulation (EU) No 813/2013 of 2 August 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for space heaters and combination heaters
- Commission Delegated Regulation (EU) No 811/2013 of 18 February 2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar device
- Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty
- Commission Regulation (EU) 2015/1189 of 28 April 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for solid fuel boilers, Article 1(1) Regulation (EU) 2015/1189

**Coordination issues with the EU Biodiversity Strategy**

See comment in section 11 (2nd question)

The IED does not refer to biodiversity or the Biodiversity Strategy. Obviously, however, (industrial) emissions have an impact on ecosystems, habitats etc. Direct/indirect links can be identified in particular with regard to targets 2 (Maintain and restore ecosystems and their services) and 3 (Increase the contribution of agriculture and forestry to maintaining and enhancing biodiversity) of the EU Biodiversity Strategy, but also to target 6 (Help avert global biodiversity loss). Further research would be needed to examine the links to the (other) targets (1. Fully implement the Birds and Habitats Directives, 4. Ensure the sustainable use of fisheries resources and 5. Help combat Invasive Alien Species) in detail.

Impacts of industrial emissions, e.g.: "Polluting substances are released through sewage, run-off and from industrial emissions. Some forms of pollution stimulate growth in selected organisms, but this changes the natural balance of ecosystems. Wastes like salts, heavy metals and acids inhibit growth and decrease natural diversity. Pesticides applied to target species can also kill or harm other species" (AEP, 2015). "Acid rain results in the destruction of forests and other plant life. It acts by washing vital nutrients out of the soil thus weakening the trees and limiting their growth. Even slight damage to a mature tree can be enough to

kill it, because it reduces its resistance to extremes of weather, and also to fungi and pests. Damaged trees are usually too weak to ever recover" (IFA, 2015). "Wildlife is also suffering from the effects of acidification. Acid rain reacts with the soil releasing aluminium and other metals. These are washed into rivers and lakes where they increase to levels that are toxic to fish and other freshwater life. A lake may reach an acid level of pH 5 or less if the local soil has inadequate buffering capacity (its ability to neutralise acid rain). At pH 5 fish life and frogs begin to disappear. By pH 4.5 almost all aquatic life has disappeared" (IFA, 2015). Effects of air pollution on forests and agriculture, see e.g. Robert C. Szaro, Andrzej Bytnerowicz, Július Oszlányi (2002): Effects of air pollution on Forest Health and Biodiversity in Forests of the Carpathian Mountains. Impact on biodiversity through industrial emissions which cause water pollution that leads to species loss. Source: CBD (2010): Business and the 2010 Biodiversity Challenge: Exploring Private Sector Engagement in the Convention on Biological Diversity.

**Relevance to ecosystems/habitats?**

The IED does not mention the terms biodiversity, habitats, ecosystems or ecosystem services. It mentions air, water and soil (e.g. Recital 3: "integrated approach to prevention and control of emissions into air, water and soil") as well as soil and groundwater (e.g. Recitals 12 and 23-25). It does not address, e.g. forests or rivers. It also mentions water bodies, seas and oceans, prohibiting the disposal of certain waste "into any water body, sea or ocean" (Art. 67 IED).

"Industrial emissions of sulphur and nitrogen oxides (SO2, NO2), mainly a result of fossil fuel combustion, are the principal source of acid rain. [...] Acid rain has been shown to decrease species diversity in lakes and streams [...]. Source: Brian Groombridge, Martin Jenkins (2002): World Atlas of Biodiversity: Earth's Living Resources in the 21st Century, p. 185.

Species and habitats are under a wide range of threats, from pollutants (point and diffuse) discharged to water, oil spills at sea, emissions to air causing acidification and eutrophication, pesticides in agriculture, etc. Therefore, much of the environmental acquis is relevant to biodiversity protection. [This includes the] Industrial Emissions Directive 2010/75/EU. Source: Farmer, A.M. (2012) (Editor). Manual of European Environmental Policy. 1043pp. Routledge, London.

Ecosystems are mentioned once in the IED: Art. 64 (Exchange of information on substitution of organic solvents): The Commission shall organise an exchange of information with the Member States, the industry concerned and non-governmental organisations promoting environmental protection on the use of organic solvents and their potential substitutes and techniques which have the least potential effects on air, water, soil, ecosystems and human health.

The exchange of information shall be organised on all of the following: fitness for use; potential effects on human health and occupational exposure in particular; potential effects on the environment; the economic consequences, in particular the costs and benefits of the options available.

**Drivers**

Industry (no generic definition provided)

The IED provides threshold values that generally refer to production capacities or outputs.

Annex II lists polluting substances and categorises them into substances polluting:

- Air (e.g. Sulphur dioxide and other sulphur compounds or Oxides of nitrogen and other nitrogen compounds
- Water (e.g. Organohalogen compounds and substances which may form such compounds in the aquatic environment, Organophosphorus compounds or Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances)

As far as emission limits are concerned, Annex V (Technical provisions relating to combustion plants), for example, sets out: Part 1: Emission limit values (ELV) ($mg/Nm^3$) for combustion plants referred to in Art. 30(2); e.g. for $SO_2$ for combustion plants using solid or liquid fuels with the exception of gas turbines and gas engines, for $SO_2$ for combustion plants using gaseous fuels with the exception of gas turbines and gas engines, for $NO_x$ for combustion plants using solid or liquid fuels with the exception of gas turbines and gas engines. Part 2: Emission limit values ($mg/Nm^3$) for combustion plants referred to in Art. 30(3); e.g. for $SO_2$ for combustion plants using solid or liquid fuels with the exception of gas turbines and gas engines, for $SO_2$ for combustion plants using gaseous fuels with the exception of gas turbines and gas engines, for NOx and CO for gas fired combustion plants. ELV shall be calculated at a temperature of 273,15 K, a pressure of 101,3 kPa and after correction for the water vapour content of the waste gases and at a standardised O2 content of 6% for solid fuels, 3% for combustion plants, other than gas turbines and gas engines using liquid and gaseous fuels and 15% for gas turbines and gas engines. Annex VI sets out technical provisions relating to waste incineration plants and waste co-incineration plants, for example. Air emission limit values for waste incineration plants in Part 3. Annex VII sets out technical provisions relating to installations and activities using organic solvents, for example. Thresholds and emission limit values in Part 2. Annex VIII sets out technical provisions relating to installations producing titanium dioxide, for example. Emission limit values for emissions into water in Part 1 or emission limit values into air in Part 2.

**Pressures**

The IED addresses pollution arising from industrial activities and aims to reduce emissions into air, water and land and prevent the generation of waste. It covers industrial activities with a major pollution potential, defined in Annex I to the Directive (energy industries, production and processing of metals, mineral industry, chemical industry, waste management, rearing of animals, etc.).

Furthermore it covers the following installations (see above 5.3): combustion plants (≥ 50 MW); waste incineration or co-incineration plants; certain installations and activities using organic solvents; installations producing titanium dioxide.

Some definitions specify these subject matters:

*Combustion plant* (Art. 2(25) IED): 'combustion plant' means any technical apparatus in which fuels are oxidised in order to use the heat thus generated;

*Waste incineration plant* (Art. 2(40) IED): 'waste incineration plant' means any stationary or mobile technical unit and equipment dedicated to the thermal treatment of waste, with or without recovery of the combustion heat generated, through the incineration by oxidation of waste as well as other thermal treatment processes, such as pyrolysis, gasification or plasma process, if the substances resulting from the treatment are subsequently incinerated;

*Waste co-incineration plant* (Art. 2(41) IED): 'waste co-incineration plant' means any stationary or mobile technical unit whose main purpose is the generation of energy or production of material products and which uses waste as a regular or additional fuel or in which waste is thermally treated for the purpose of disposal through the incineration by oxidation of waste as well as other thermal treatment processes, such as pyrolysis, gasification or plasma process, if the substances resulting from the treatment are subsequently incinerated;

*Organic solvent* (Art. 2(46) IED): 'organic solvent' means any volatile organic compound which is used for any of the following: (a) alone or in combination with other agents, and without undergoing a chemical change, to dissolve raw materials, products or waste materials; (b) as a cleaning agent to dissolve contaminants; (c) as a dissolver; (d) as a dispersion medium; (e) as a viscosity adjuster; (f) as a surface tension adjuster; (g) as a plasticiser; (h) as a preservative.

**Assessment of Environmental State**

The IED addresses the quality of soil and groundwater: "It is necessary to ensure that the operation of an installation does not lead to a deterioration of the quality of soil and groundwater. Permit conditions should, therefore, include appropriate measures to prevent emissions to soil and groundwater and regular surveillance of those measures to avoid leaks, spills, incidents or accidents occurring during the use of equipment and during storage. In order to detect possible soil and groundwater pollution at an early stage and, therefore, to take appropriate corrective measures before the pollution spreads, the monitoring of soil and groundwater for relevant hazardous substances is also necessary. When determining the frequency of monitoring, the type of prevention measures and the extent and occurrence of their surveillance may be considered.

In order to ensure that the operation of an installation does not deteriorate the quality of soil and groundwater, it is necessary to establish, through a baseline report, the state of soil and groundwater contamination. The baseline report should be a practical tool that permits, as far as possible, a quantified comparison between the state of the site described in that report and the state of the site upon definitive cessation of activities, in order to ascertain whether a significant increase in pollution of soil or groundwater has taken place. The baseline report should, therefore, contain information making use of existing data on soil and groundwater measurements and historical data related to past uses of the site.

In accordance with the polluter pays principle, when assessing the level of significance of the pollution of soil and groundwater caused by the operator which would trigger the obligation to return the site to the state described in the baseline report, Member States should take into account the permit conditions that have applied over the lifetime of the activity concerned, the pollution prevention measures adopted for the installation, and the

relative increase in pollution compared to the contamination load identified in the baseline report. Liability regarding pollution not caused by the operator is a matter for relevant national law and, where applicable, other relevant Union law."[2]

Pursuant to Art. 22 (Chapter II IED), baseline reports must be provided for certain activities mentioned in Annex I: "Where the activity involves the use, production or release of relevant hazardous substances and having regard to the possibility of soil and groundwater contamination at the site of the installation, the operator shall prepare and submit to the competent authority a baseline report before starting operation of an installation or before a permit for an installation is updated for the first time after 7 January 2013.

The baseline report shall contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities provided for under paragraph 3. The baseline report shall contain at least the following information: information on the present use and, where available, on past uses of the site; where available, existing information on soil and groundwater measurements that reflect the state at the time the report is drawn up or, alternatively, new soil and groundwater measurements having regard to the possibility of soil and groundwater contamination by those hazardous substances to be used, produced or released by the installation concerned

Where information produced pursuant to other national or Union law fulfils the requirements of this paragraph that information may be included in, or attached to, the submitted baseline report. The Commission shall establish guidance on the content of the baseline report."

**Assessment of Status**

See comment in section 11 (2nd question)

**Data**

In order to simplify reporting and reduce unnecessary administrative burden, the Commission should identify methods to streamline the way in which data are made available pursuant to the IED with the other requirements of Union law, and in particular Regulation (EC) No 166/2006 of the European Parliament and of the Council of 18 January 2006 concerning the establishment of a European Pollutant Release and Transfer Register. (Recital 38 IED). European Pollutant Release and Transfer Register (E-PRTR). Emission data reported by Member States are made accessible in a public register, which is intended to provide environmental information on major industrial activities. "In E-PRTR, emission data reported by member states are made accessible in a public register, which is intended to provide environmental information on major industrial activities. E-PRTR has replaced the previous European Union-wide pollutant inventory, the so-called European Pollutant Emission Register (EPER). The competent authority can make information available via the internet, under Art. 24 (2) and 24 (3). In order to do so, referring to Art. 14 (1d), the operator has to supply to the competent authority (at least annually) (a) emission monitoring results and other required data and (b) a summary of the results of emission monitoring (Art. 15 (3b))."

[2] IED, recitals 23 – 25.

E-PRTR: The register contains data reported by some 28 000 industrial facilities covering 65 economic activities within the following 9 industrial sectors: energy, production and processing of metals, mineral industry, chemical industry, waste and waste water management, paper and wood production and processing, intensive livestock production and aquaculture, animal and vegetable products from the food and beverage sector, and other activities.

Data is provided in the register for 91 pollutants falling under the following 7 groups: greenhouse gases, other gases, heavy metals, pesticides, chlorinated organic substances, other organic substances, inorganic substances.

A facility has to report data under E-PRTR if it fulfils the following criteria: the facility falls under at least one of the 65 E-PRTR economic activities. The activities are also reported using a statistical classification of economic activities (NACE rev 2); the facility has a capacity exceeding at least one of the E-PRTR capacity thresholds; the facility releases pollutants or transfers waste off-site which exceed specific thresholds set out in Art. 5 of the E-PRTR Regulation. These thresholds for releases of pollutants are specified for each media – air, water and land – in Annex II of the E-PRTR Regulation.

The data to be reported annually by each facility for which the applicable thresholds are exceeded are the following: Releases to air, water and land of any of the 91 E-PRTR pollutants; Off-site transfers of any of the 91 E-PRTR pollutants in waste water destined for waste-water treatment outside the facility; Off-site transfers of waste (reported as tonnes per year) for recovery or disposal. For transboundary movements of hazardous waste outside the reporting country, details of the recipients have to be provided. The reported releases include any introduction of any of the listed pollutants into the environment as a result of any human activity, whether deliberate, accidental, routine or non-routine, at the site of the facility. E-PRTR also contains information on releases from diffuse sources into water which will be upgraded and extended gradually.

**Funding**

LIFE Regulation Annex III: (e) Thematic priorities for Air quality and emissions, including urban environment: [...] support activities for the enhanced implementation of Directive 2010/75/EU of the European Parliament and of the Council (Industrial Emissions Directive) with a special emphasis on improving BAT definition and implementation process, ensuring easy public access to information and enhancing the contribution of the IED to innovation. The Industrial Emissions Directive (IED) is a key instrument for pollution prevention and control from large point sources. Experience with implementation of the IED (and its predecessor IPPC) has allowed for identifying additional needs in terms of public information and the introduction of emerging techniques. Priority will be therefore given to the following projects: Industrial Emissions Directive — Annex III, Section A, points (e)(iii)

Projects developing and testing pollution prevention and abatement techniques referred to in IED as emerging techniques. See LIFE multiannual work programme for 2014-2017, p. 16.

**Other issues to be aware of relevant for AQUACROSS?**

BAT Reference documents. Report from the Commission to the European Parliament and the Council, Report from the Commission on the reviews undertaken under Art. 30(9) and Art. 73 of Directive 2010/75/EU on industrial emissions addressing emissions from intensive livestock rearing and combustion plants, 17.5.2013, COM(2013) 286 final.

## About AQUACROSS

Knowledge, Assessment, and Management for AQUAtic Biodiversity and Ecosystem Services aCROSS EU policies (AQUACROSS) aims to support EU efforts to protect aquatic biodiversity and ensure the provision of aquatic ecosystem services. Funded by Europe's Horizon 2020 research programme, AQUACROSS seeks to advance knowledge and application of ecosystem-based management (EBM) for aquatic ecosystems to support the timely achievement of the EU 2020 Biodiversity Strategy targets.

Aquatic ecosystems are rich in biodiversity and home to a diverse array of species and habitats, providing numerous economic and societal benefits to Europe. Many of these valuable ecosystems are at risk of being irreversibly damaged by human activities and pressures, including pollution, contamination, invasive species, overfishing and climate change. These pressures threaten the sustainability of these ecosystems, their provision of ecosystem services and ultimately human well-being.

AQUACROSS responds to pressing societal and economic needs, tackling policy challenges from an integrated perspective and adding value to the use of available knowledge. Through advancing science and knowledge; connecting science, policy and business; and supporting the achievement of EU and international biodiversity targets, AQUACROSS aims to improve ecosystem-based management of aquatic ecosystems across Europe.

The project consortium is made up of sixteen partners from across Europe and led by Ecologic Institute in Berlin, Germany.

## AQUACROSS PARTNERS

Ecologic Institute (ECOLOGIC) | Germany

Leibniz Institute of Freshwater Ecology and Inland Fisheries (FVB-IGB) | Germany

Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO) | France

Wageningen Marine Research (WMR) | Netherlands

University of Natural Resources & Life Sciences, Institute of Hydrobiology and Aquatic Ecosystem Management Austria

Fundación IMDEA Agua (IMDEA) | Spain

Universidade de Aveiro (UAVR) | Portugal

ACTeon – Innovation, Policy, Environment (ACTeon) | France

University of Liverpool (ULIV) | United Kingdom

University College Cork, National University of Ireland (UCC) | Ireland

Royal Belgian Institute of Natural Sciences (RBINS) | Belgium

Stockholm University, Stockholm Resilience Centre (SU-SRC) | Sweden

Danube Delta National Institute for Research & Development (INCDDD) | Romania

Eawag – Swiss Federal Institute of Aquatic Science and Technology (EAWAG) | Switzerland

International Union for Conservation of Nature (IUCN) | Belgium

BC3 Basque Centre for Climate Change (BC3) | Spain

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