SARMa – Review of EU Community Legislation

A preparatory synthesis report
WP4. Activity 4.1 Task 1

European Community Law
relevant to aggregates

European Environmental Law
European Health and Safety Law
European Land Use Planning Law

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Introduction

“Extractive operations display features that require a thorough, and sometimes delicate, balance between economic, environmental and social concerns. On the one hand, the location of the industry is bound to the presence of geological deposits which can be viably exploited; on the other hand extractive operations inevitably impact on the environment and the landscape, the health and safety of workers, and citizens concerned by the emissions from mining operations. Extractive operations also raise the question of the depletion of non-renewable resources. It is, therefore, a question of whether sufficient environmental protection measures have been required from or provided by the industry in the past, and whether the full environmental costs have been internalised in the price of the minerals. While the industry is an important source of wealth creation and employment, its operations require important control measures to ensure a high level of environmental protection and a high level of protection of the health and safety of workers.”¹

The citation from the Communication of the European Commission clearly shows the three aspects that are of major concern when assessing the legal drivers and pressures on the extractive industries, including the aggregates sector. This is the reason why the report deals with its three main issues: environment, land use planning, and health and safety.

¹ COM/2000/265 page 4
European Environmental Law related to aggregates

I. Review of the situation

The term Environmental Law

Environmental Law deals with the environment and especially with its protection. On European community level this concept is not defined in details, but provided by the pieces of legislation and policy documents. Primary legislation only contains objectives of the European environmental policy; the Community Environment Action Program and secondary legislation outline it extensively. The term Environmental Law and the scope of it is limited to “natural environment”. This should not mean that it only covers the unspoiled and untouched nature, because “artificial” nature, marked by us human beings, also requires effective protection. ²

The term primary aggregates (constructional minerals)

“Constructional minerals are usually considered to included aggregates in a range of particle sizes such as sand, gravel and various types of crushed rocks (eg chalk, limestone, sandstone, chalk, slate..), natural rock materials (such as marble and granite) plus a range of clays, gypsum and shale.”³

The extraction of construction minerals, and aggregates particular, represents the largest sub-sector of the non-energy extractive industry within the EU in terms of value and volume. “Potential sources of raw construction minerals are widely distributed across all Member States and are extracted in large quantities (ca 2.8-3 billion tonnes annually) […].

² Cp.: Epiney, Umweltrecht in der europäischen Union (2005) pages 3-9
³ Cp.: EC Guidance on undertaking new non-energy extractive activities in accordance with EU nature legislation, European Commission (2010) page 9
Aggregates have a wide range of uses, including in the construction of buildings, roads and railways. Demand for aggregates is therefore closely related to the level of new house-building, maintenance and repair of existing buildings and the scale of civil engineering projects. It is estimated that there are currently around 22,000 sites being exploited across the EU, many of which are close to built up areas. Transport costs dominate the price of aggregates which means that most markets are local or regional and there is relatively little international trade. This requires an adequate network of pits and quarries in order to reduce transport distances and associated cost and environmental impact.\textsuperscript{4}

\textsuperscript{4} Cp.: EC Guidance on undertaking new non-energy extractive activities in accordance with EU nature legislation, European Commission, 2010, page 10
1. Mineral Policy Issues

Raw materials are essential for the sustainable functioning of all societies - equally for the European Union.\(^5\) The non-energy extractive industry provides a lot of the basic raw materials for Europe’s manufacturing and construction activities.\(^6\) Securing reliable, undistorted and sustainable access to raw materials is becoming a more and more important factor for the EU’s competitiveness’, growth and jobs.\(^7\)

Although raw materials and a sustainable use are of utmost importance there is no explicit provision according to raw materials in primary legislation, as well as it’s excluded from the scope of significant environmental directives. Due to this fact there is a certain scope of interpretation, which led to the increase of related cases at the European Court of Justice.\(^8\)

As the first step of the “new” awareness of its importance, the European Commission adopted the **Raw Materials Initiative** in 2008, ‘which sets out targeted measures to secure and improve access to raw materials both within the EU and globally.’

“Hence three policy areas were identified:

- Access to raw materials on world markets at undistorted conditions
- Sustainable supply of raw materials from European sources
- Increase of resource efficiency and promotion of recycling

As had been laid out in the Commission’s report on the competitiveness of the sector the issues of access to these resources were manifold and varied from sub-sector to sub-sector. Although some, not all EU Member States were and are pursuing specific policies; there had so far been no integrated policy response at EU to secure sufficient access to raw materials at competitive prices. The Commission therefore proposed in its Communication that the EU should agree on an integrated raw materials strategy. The whole Communication has three


\(^6\) Cp.: EC Guidance on undertaking new non-energy extractive activities in accordance with EU nature legislation, European Commission, 2010, page 7

\(^7\) Cp.: [http://www.euromines.org/who_is_euro_raw_materials_initiative.html](http://www.euromines.org/who_is_euro_raw_materials_initiative.html), 07.04.2010, 21:00

\(^8\) Cp.: Hámor, Sustainable mining in the European Union: The legislative aspect, page 1

More will be presented in chapters later, where documents without a binding character will be presented; nevertheless they are relevant and effective in establishing objectives of European Environmental Policy. The Raw Material Initiative is such a document and the first step in the direction of a common sustainable approach on EU level.

2. Primary Legislation

Primary Legislation compasses the European community foundation treaties and other agreements with a similar status, as well as all modifications and amendments. It includes also accession agreements.

These treaties are international agreements and conventions, which are concluded according to public international law instructions, and according to these international regulations, agreements can be modified. Through direct negotiation between member states governments, they can be concluded and have to be ratified by the national parliaments. Another part of primary law is the principles of law, e.g. fundamental rights.

One of the most important things about Primary legislation is that it constitutes the legal basis for the whole Secondary legislation. The legal basis for each regulation or directive is in Primary legislation.

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10 Cp.: Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) page 8
12 Cp.: Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004), page 8
14 Cp.: Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) page 8
2.1 The Treaties

Mining affairs have always been of interest in the whole history of the European Union from the very beginning. The European Coal and Steel Community (ECSC), established by the Treaty establishing the European Coal and Steel Community which entered into force on 23 July 1952, was the original predecessor of the European Union. The importance of this field is evident in the fact that “coal”, an important fossil fuel, appears in its name.

The Treaty of Rome, establishing the European Economic Community (EEC), entered into force on 1 January 1958. This treaty declared already among its objectives “to promote a policy of using natural resources rationally and avoiding their unconsidered exhaustion.” This objective was already a significant element of the concept of sustainability.

The Treaty establishing the European Atomic Energy Community (Euratom) was also signed at the same time and the two treaties are therefore jointly known as the Treaties of Rome. The Euratom Treaty also contained provisions concerning raw material supplies. It says that “supply of ores, source materials and special fissile materials shall be ensured … by means of a common supply policy on the principle of equal access” to sources.

The Treaty of Amsterdam, which entered into force on 1 May 1999, amended and renumbered the EU and EC Treaties. This treaty implemented a coherent Community policy concerning the environment by adopting the concept of sustainable development. It should make a contribution to pursue the objective of “prudent and rational utilisation of natural resources”. Mineral resources are within the scope of this policy by presenting important non-renewable natural resources for the developed industrial societies.

The last treaty was the Treaty of Lisbon which entered into force on 1 December 2009. “In a constantly changing, ever more interconnected world, Europe is grappling with new issues: globalisation, demographic shifts, climate change, the need for sustainable energy sources and new security threats. These are the challenges facing Europe in the 21st century.” This treaty shall pave the way for Europe to respond to these challenges.

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15 Cp.: Hámor, Sustainable mining in the European Union: The legislative aspect, page 3
16 Hámor, Sustainable mining in the European Union: The legislative aspect, page 3
17 Hámor, Sustainable mining in the European Union: The legislative aspect, page 3
18 Hámor, Sustainable mining in the European Union: The legislative aspect, page 3
19 Cp.: Hámor, Sustainable mining in the European Union: The legislative aspect, page 3
20 http://europa.eu/lu Lisbon_treaty/index_en.htm, (22.05.2010)
2.2 Primary Legislation concerning the environment

Since 1987 with the legal validity of the Single European Act, provisions on environmental policy have their place in primary legislation - the principles of European Environmental Policy. Due to the fact that environmental policy is a cross-cutting material according to Article 11 TFEU, environmental legal acts can be enacted in a lot of different parts, i.e. provisions and aspects of environmental protection shall be incorporated into pieces of legislation of other sectors such as industry, agriculture, commerce, etc.. This report deals with the central legal basis (or foundation) for the enactment of secondary legislation. They are: Article 3 (3) TFEU, 114 (1) and 191-193 TFEU (TFEU= Treaty on the Functioning of the European Union). 

Article 3 (3) TFEU nominates “a high level of protection and improvement of the quality of the environment” as a common task. Article 114 (1) TFEU authorizes the community to adopt measures for the approximation of national legislation concerning legal and administrative provision with the aim to establish a functioning internal market.

2.3 Article 191 TFEU

The appropriate legal foundation for enacting secondary law in the sector environment delivers Article 192 TFEU. Each activity of the community has to pursue and realize the objectives which are mentioned in Article 191 TFEU. Particularly of importance is the principle about a high level of protection and the consideration of regional conditions. The result is that every provision can be enacted on one condition, that it intends the protection of environment. Due to the extensive term of environment, no policy can be excluded from the outset - relevant is the realization of the mentioned aims in Article 191 TFEU. According to Art. 193 TFEU the member states can enact more strict provisions.

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21 Cp.: Epiney, Umweltrecht in der europäischen Union (2005) page 17
22 Cp.: Epiney, Umweltrecht in der europäischen Union (2005) page 55
24 Cp.: Epiney, Umweltrecht in der europäischen Union (2005) page 56
25 Cp.: Epiney, Umweltrecht in der europäischen Union (2005) page 18
26 Cp.: Epiney, Umweltrecht in der europäischen Union (2005) page 56
27 Cp.: Epiney, Umweltrecht in der europäischen Union (2005) page 18
2.4 The principles of European Environmental Policy

European Environmental Policy is always based on the principles which are pointed out in Article 191 (2) TFEU. Whereas paragraph (1) illustrates the aspired aims as “ultimate result”, paragraph (2) describes the way and the instruments which are necessary to achieve those aims. 28

These principles are:

- The high level of protection principle,
- The precautionary principle,
- The prevention principle,
- The source principle,
- The polluter pays principle and
- The safeguard clause.

The aim is to translate these principles into explicit obligations for the Member States, so that they are able to interpret Secondary legislation in the light of their meaning. 29

2.4.1 High level of protection Article 191 (2) s.1 TFEU

“The Commission, in its proposals envisaged in paragraph 1 concerning health, safety, environmental protection and consumer protection, will take as a base a high level of protection, taking account in particular of any new development based on scientific facts. Within their respective powers, the European Parliament and the Council will also seek to achieve this objective.” 30

It’s clear that this principle has to be applied also by the Council and the European Parliament.

Article 191 (2) TFEU determines that every environmental policy has to achieve a high level of protection by taking into account the diversity of conditions in the various regions of the Community.

28 Cp.: Epiney, Umweltrecht in der europäischen Union (2005) page 97
30 Article 114 (3) TFEU
The provision contains a legal obligation, breaching which can lead to the annulation of the legal act. But high level does not mean highest level. The result is that also economic and political aspects as much as all other principles have to be taken into account. 31

An example of legislation containing this principle is the so-called IPPC-Directive 96/61/EC.

2.4.2 The precautionary and prevention principle Article 191 (2) s. 2 TFEU

According to Article 191 (2) s. 2 TFEU all European institutions have to respect the principle of precaution and prevention. It should lead to the awareness that it’s better to act before it’s too late when a certain activity arouse strong suspicion to have environmentally harmful consequences. Due to this principle, activities to prevent such damages and harmful consequences are justified, for the aim that potential risky situations can be avoided. Briefly, prevention is much better than cure.

This principle has also been applied in the case law of the European Court of Justice. All institutions have to take useful measures to avoid risk and don’t have to wait until these risks become real.

In the secondary law this principle is e.g. realized in Directive 98/81/EC32.

2.4.3 The source principle Article 191 (2) s. 2 TFEU

This principle deals with the question when and where environmental damages have to be eliminated. Every environmental damage should be rectified at its source. 33 This means that each pollution has to be rectified at the earliest moment after its origin and as near as possible to its source. It has a special closeness to the precautionary principle, because both tend to rectify damages as soon as possible. Whereas the precautionary principle defines under which conditions measures against can be taken, the source principle explains when and where actions have to be taken.

But this does not mean that every source of environmental damages can be forbidden only due to the source principle. In this context also the principle of proportionality has to be considered. As a result the principle restricts the scope of action preferential to measures near the source.\(^{34}\)

This is demonstrated by Directive 2002/96/EC on waste electrical and electronic equipment, for example.\(^{35}\)

### 2.4.4 The polluter pays principle

**Article 191 (2) s. 2 TFEU**

The question here is who has to bear the costs in case of necessary measures. The principle says that the person who has caused the environmental damage should bear the costs for its prevention and elimination. This obligation should also lead to an impulsion that damages should rather be avoided for financial reasons.

But problems concerning this principle remain. Especially the problem with the causality isn’t solvable. Another problem is that the principle doesn’t say anything about the calculation and the distribution. So the legislator has a wide scope of measures.\(^{36}\)

The application of this principle can often be found in Secondary legislation. E.g. in Article 15 of Directive 75/442 on waste or in Article 14 of Directive 75/439 on the disposal of waste oils.\(^{37}\)

### 2.4.5 The horizontal clause

**Article 11 TFEU**

Environmental policy is only effective if it is also considered in other policies. This clause contains the obligation that environmental protection has to be taken into account in the process of determination and implementation of European Community policy.

No action of the Community can be disconnected to environmental reasons.\(^{38}\)

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\(^{34}\) Cp.: *Epiney, Umweltrecht in der europäischen Union* (2005) pages 105-106

\(^{35}\) Cp.: *Jans/Vedder*, European Environmental Law (2008) page 42

\(^{36}\) Cp.: *Epiney, Umweltrecht in der europäischen Union* (2005) pages 106-107


2.4.6 International treaties

International conventions frequently constitute the basis for the Community legislation, (e.g. the Basel Convention for waste shipment), member states and the EU itself can be a signing party. Hereby below a list of such conventions are shown, most of these have relevance to aggregates management.

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<th>Convention</th>
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<td>Basel</td>
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<td>Protection and Use of Transboundary Watercourses and International Lakes</td>
<td>Helsinki</td>
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<td>Cooperation for the Protection and Sustainable Use of the Danube River</td>
<td>Sofia</td>
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<tr>
<td>Transboundary Effects of Industrial Accidents</td>
<td>Helsinki</td>
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<tr>
<td>Law of the Non-navigational Uses of International Watercourses</td>
<td>New York</td>
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<td>Environmental Impact Assessment in a Transboundary Context</td>
<td>Espoo</td>
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<tr>
<td>Access to Information, Public Participation in Decision-making and Access in Environmental Matters</td>
<td>Aarhus</td>
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<tr>
<td>Civil Liability for Damage Resulting from Activities Dangerous to the Environment</td>
<td>Firenze</td>
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<td>European Landscape Convention</td>
<td>Lugano</td>
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<td>Biological Diversity</td>
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<td>Wetlands of International Importance</td>
<td>Ramsar</td>
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<tr>
<td>Long-range Transboundary Air Pollution</td>
<td>Geneva</td>
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<tr>
<td>Prevention of Marine Pollution by Dumping Wastes and Other Matter</td>
<td>London</td>
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<tr>
<td>Protection of the Marine Environment of the Baltic Sea Area</td>
<td>Helsinki</td>
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<tr>
<td>UN Framework Convention on Climate Change</td>
<td>Rio de Janeiro</td>
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<td>Kyoto Protocol</td>
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3. Secondary Legislation

Based on the provisions of the primary legislation the community is allowed to enact secondary legislation in terms of regulations, directives, decisions e.g. as described in Article 288 TFEU, but directives and regulations have a special relevance. The difference between them is that primary legislation contains principles and authorities, whereas secondary legislation concretizes these guidelines. Regulations are directly enforceable and self-executing law in the member states, whilst directives have to be implemented by the member states’ governments that provides a certain degree of freedom for national legislation making. These directives are presented in the following part.

3.1 Mining and general environmental instruments

3.1.1 Directive 2004/35/EC

Directive on Environmental Liability with regard to the prevention and remedying of environmental damage

The directive’s aim is to implement the principle that the polluter should pay, by making him liable for the environmental damages he has caused. As a result it has influence on a range of environmental sectors. The directive has also preventive effects, by having an impulse to avoid possible damages.

In summary, it should prevent and remedy environmental damage.

3.1.1.1 Scope

It is divided and limited in a personal, material and temporal scope.

The personal scope is limited to “operators” of “occupational activities” according to Art. 3 (I). The operator is the person who executes and controls the occupational activity.

The material scope is limited to “environmental damages”. 39 “This is defined in Article 2 (I) as damage to protected species and habitats, water damage and land damage. Damage, in turn

is defined as a measurable change in a natural resource or a measurable impairment of a natural resource service.\textsuperscript{40} To define the damage to protected species and habitats the directive points to the Habitats and Wild Birds Directives, to define damages of water it refers to the Water Framework Directive. For land damages a secondary legislation does not exist, so the directive has to define the expression on its own. It determines land damage as “land contamination that creates a significant risk of human health being adversely affected”. According to the temporal scope the damage causing event has to happen after 30 April 2007.

3.1.1.2 Implementing Environmental Liability
First the Commission wanted to implement a system of exclusive private liability. On the contrary the present directive has established a system of public liability, in the form of a responsible authority, which has to make the environmental work in practice. This authority has to be informed of environmental damages or its threats by the operator according to Article 5 (2) and 6 (1). Then it is able to demand more information or give instructions to the operator how to prevent or minimize the environmental damage. If it’s necessary and the operator does not follow the instructions, the authority has to take the measures itself, but the primary obligation rests with the operator.\textsuperscript{41}

Generally the operator has to bear all costs for the preventive and remedial actions. According to Article 8 this principle is inapplicable if the operator is able to prove that he was not at fault or negligent. Especially an environmental damage caused by an emission or event which is authorised in national laws can preclude this “polluter-pays” principle.

Preventive and remedial measures have not to be compensated in the cases of “approved normal operational procedures”.\textsuperscript{42}
This directive is highly relevant to aggregates extraction activities. Actually, it was amended by the Mining Waste Directive, bringing mining into its scope. The financial guarantee system described in the latter is in harmony with the concept of the Liability Directive.

3.1.2 Directive 1996/61/EC

\textsuperscript{40} Jans/Vedder, European Environmental Law (2008) page 341
\textsuperscript{41} Cp.: Jans/Vedder, European Environmental Law (2008) pages 341-343
\textsuperscript{42} Cp.: Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) pages 33-34
Directive concerning integrated pollution prevention and control (IPPC)
Amended - Directive 2008/1/EC

The IPPC Directive wants to avoid the shifting of pollution between the different environmental media as a result of separated control of emissions into the air, water and soil, by establishing a general framework for “integrated pollution prevention and control”. The aim is to protect the environment as a whole.\(^{43}\)

3.1.2.1 Scope
“In essence, the IPPC Directive is about minimising pollution from various industrial sources throughout the European Union. Operators of industrial installations covered by Annex I of the IPPC Directive are required to obtain an authorisation (environmental permit) from the authorities in the EU countries. About 52,000 installations are covered by the IPPC Directive in the EU.

New installations, and existing installations which are subject to "substantial changes", have been required to meet the requirements of the IPPC Directive since 30 October 1999. Other existing installations had to be brought into compliance by 30 October 2007. This was the key deadline for the full implementation of the Directive."\(^{44}\)

3.1.2.2 Resultant topics
“The IPPC Directive is based on several principles, namely (1) an integrated approach, (2) best available techniques, (3) flexibility and (4) public participation.

1. 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 purpose of the Directive is to ensure a high level of protection of the environment taken as a whole.

2. The permit conditions including emission limit values (ELVs) must be based on **Best Available Techniques (BAT)**, as defined in the IPPC Directive. To assist the licensing

\(^{43}\) Cp.: Jans/Vedder, European Environmental Law (2008) page 324
authorities and companies to determine BAT, the Commission organises an exchange of information between experts from the EU Member States, industry and environmental organisations. This work is co-ordinated by the European IPPC Bureau of the Institute for Prospective Technology Studies at EU Joint Research Centre in Seville (Spain). This results in the adoption and publication by the Commission of the BAT Reference Documents (the so-called BREFs). Executive summaries of the BREFs are also translated into the official EU languages.

3. The IPPC Directive contains elements of flexibility by allowing the licensing authorities, in determining permit conditions, to take into account:
   (a) the technical characteristics of the installation,
   (b) its geographical location and
   (c) the local environmental conditions.

4. The Directive 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
   (a) permit applications in order to give opinions,
   (b) permits,
   (c) results of the monitoring of releases and
   (d) the European Pollutant Emission Register (EPER). In EPER, emission data reported by Member States are made accessible in a public register, which is intended to provide environmental information on major industrial activities. EPER will be replaced by the European Pollutant Release and Transfer Register (E-PRTR) from 2007 reporting period onwards.”

3.1.2.3 Best Available Techniques (BAT)

The concept of Best Available Techniques (BAT) was introduced as a key principle in the IPPC Directive 96/61/EC.

“BAT is defined as the “most effective and advance stage in the development of an activity and its methods of operation, which indicate the practical suitability of particular techniques

for providing, in principle, the basis for emission limit values designed to prevent or eliminate or, where that is not practicable, generally to reduce an emission and its impact on the environment as a whole”, where:

- ‘best’ in relation to techniques, means the most effective in achieving a high general level of protection of the environment as a whole
- ‘available techniques’ means those techniques developed on a scale which allows implementation in the relevant class of activity under economically the technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced within the State, as long as they are reasonably accessible to the person carrying out the activity
- ‘techniques’ includes both the technology used and the way in which the installation is designed, built, managed, maintained, operated and decommissioned.”

The overall objective of ensuring a high level of protection for the environment as a whole will often involve making a judgment between different types of environmental impact, and these judgments will often be influenced by local considerations. On the other hand, the obligation to ensure a high level of environmental protection including the minimisation of long-distance or transboundary pollution implies that the most appropriate techniques cannot be set on the basis of purely local considerations.

“The IPPC Directive 96/61/EC requires the determination of BAT to consider in particular the following, giving regard to the likely costs and advantages of measures and to the principles of precaution and prevention:

1. the use of low-waste technology
2. the use of less hazardous substances
3. the furthering of recovery and recycling of substances generated and used in the process and of waste, where appropriate
4. comparable processes, facilities or methods of operation, which have been tried with success on an industrial scale
5. technological advances and changes in scientific knowledge and understanding

46 http://www.epa.ie/whatwedo/advice/bat/, (23.05.2010)
6. the nature, effects and volume of the emissions concerned
7. the commissioning dates for new or existing activities
8. the length of time needed to introduce the best available techniques
9. the consumption and nature of raw materials (including water) used in the process and their energy efficiency
10. the need to prevent or reduce to a minimum the overall impact of the emissions on the environment and the risks to it
11. the need to prevent accidents and to minimize the consequences for the environment
12. the information published by the Commission of the European Communities pursuant to any exchange of information between Member States and the industries concerned on best available techniques, associated monitoring, and developments in them, or by international organizations, and such other matters as may be prescribed.\textsuperscript{47}

One of these BATs concerns the extraction of minerals - BATNEEC Guidance Note - Extraction of Minerals - Nov 1997.

3.1.2.4 BAT reference documents – BREFs

“The IPPC Directive 96/61/EC lays down a framework requiring Member States to issue operating permits for certain installations carrying on industrial activities described in its Annex 1. […] These permits must contain conditions based on best available techniques (BAT) as defined in the Article 2.11 of the Directive, to achieve a high level of protection of the environment as a whole. Article 16.2 of the Directive requires the European Commission to organise an exchange of information between Member States and the industries concerned on best available techniques, associated monitoring and developments in them.

The European IPPC Bureau organises this exchange of information and produces BAT reference documents (BREFs) which Member States are required to take into account when determining best available techniques generally or in specific cases. The Bureau carries on its work through Technical Working Groups (TWGs) comprising nominated experts from EU Member States, EFTA countries, Accession countries, industry and environmental NGOs.

\textsuperscript{47} http://www.epa.ie/whatwedo/advice/bat/, (23.05.2010)
These experts provide information and data and then review the draft documents the Bureau produces.

The objectives of the whole information exchange exercise are:

- to accomplish a comprehensive exchange of information and views and through the publication of reference documents to help to redress any technological imbalances in the European Community;
- to promote the worldwide dissemination of limit values and techniques used in the Community;
- to assist Member States in the efficient implementation of this Directive.”48

One of the BREFs concerns mining activities - BREF for Management of Tailings and Waste-Rock in Mining activities. This document had been elaborated and approved some years in advance of the Mining Waste Directive was published, therefore few inconsistencies occur in the terminology and scope. It is focusing on ore and some industrial minerals extractions but the basics are still applicable for aggregates, at large.

3.1.3 Directive 85/337/EEC

Environmental impact assessment Directive (EIA)
Amended – Directive 97/11/EC

The EIA is a procedural instrument which implements the prevention principle by demanding an assessment of the possible environmental effects of project in advance. For projects the legal framework is the Environmental impact assessment Directive.49

“The EIA procedure ensures that environmental consequences of projects are identified and assessed before authorisation is given. The public can give its opinion and all results are taken into account in the authorisation procedure of the project. The public is informed of the decision afterwards.

48 http://www.epa.ie/whatwedo/advice/bref/, (23.05.2010)
The EIA Directive outlines which project categories shall be made subject to an EIA, which procedure shall be followed and the content of the assessment."\(^{50}\)

In brief, the EIA procedure requires the operator to compile an Environmental Statement (ES) which describes the likely significant effects of the development on the environment and proposed mitigation measures. The ES must be circulated to statutory consultation bodies and made available to the public for comment. All contests with the belonging comments must be taken into account by the competent authority before the permit is granted.\(^{51}\)

The assessment does not even describe a licensing decision, but rather is a tool for its preparation.

3.1.3.1 Basic principle

The basic principle is defined in Article 2 (1). All member states have to make sure, that the environmental effects of special projects are proved, before the whole project is permitted. It has to be checked for immediate and indirect impacts on

- human beings,
- fauna and flora,
- environmental resources (soil, water, air, climate and landscape)
- material assets and cultural heritage
- and also possible interactions have to be taken into account.\(^{52}\)

3.1.3.2 Scope

According to Article 1 the Directive shall apply to the assessment of the environmental effects of those public and private projects which are likely to have significant effects on the environment.

Article 2 (1) determines that member states shall adopt all necessary measures to ensure that before consent is given, the significant effects on the environment are made subject to a requirement for development consent and an assessment with regard to their effects. These

\(^{50}\) [http://ec.europa.eu/environment/eia/eia-legalcontext.htm](http://ec.europa.eu/environment/eia/eia-legalcontext.htm) , (26.03.2010)


\(^{52}\) Cp.: Epiney, Umweltrecht in der europäischen Union (2005) pages 205-211
projects are defined in Article 4. Member states can establish a single procedure to fulfil the requirements of this directive and the IPPC Directive.

The environmental impact assessment shall identify, describe and assess in an appropriate manner the direct and indirect effects of a project on the following factors:
- human beings, fauna and flora;
- soil, water, air, climate and the landscape;
- material assets and the cultural heritage;
- the interaction between the factors mentioned in the first, second and third indents.\(^{53}\)

Article 4 contains the scope of the Directive by explaining that projects listed in Annex I shall be made subject to an assessment whereas for projects listed in Annex II, the member states shall determine through a case-by-case examination or thresholds or criteria whether the project shall be made subject to an assessment.

The following projects; listed in ANNEX I with an obligatory assessment might be applicable for mining activities in a broad interpretation, including, inter alia, secondary processing, product transport, post-mining activities, geothermal energy works, etc.:
- “installations designed solely for the final disposal of radioactive waste
- installations for the production of non-ferrous crude metals from ore by chemical processes
- installations for the extraction of asbestos
- waste disposal installations for landfill of hazardous waste
- waste disposal installations for chemical treatment of non-hazardous waste with a capacity >100 t/day
- groundwater abstraction or artificial groundwater recharge schemes where the annual volume of water abstracted or recharged is ≥ 10 million m\(^3\)
- extraction of petroleum and natural gas for commercial purposes where the amount extracted > 500 t/day in the case of petroleum and 500 000 m\(^3\)/day in case of gas
- dams and other installations designed for the holding back or permanent storage of water, where
  - a new or additional amount of water held back or stored > 10 million m\(^3\)

\(^{53}\) Cp.: Article 3 Directive 97/11/EC
- pipelines for the transport of gas, oil or chemicals with a diameter of > 800 mm and a length of > 40 km
- quarries and open-cast mining where the surface of the site > 25 hectares, or peat extraction, where the surface of site > 150 hectares”

However, for primary aggregates extraction the above last entry is the only applicable category.

For ANNEX II listed projects member states decide on their own which projects shall be made subject to an assessment:

* are those projects which are not included in the list above
- “quarries, open-cast mining and peat extraction*
- underground mining
- extraction of minerals by marine or fluvial dredging
- deep drillings (geothermal drilling, drilling for the storage of nuclear waste material, drilling for supplies with the exception of drillings for investigating the stability of the soil)
- surface industrial installations for the extraction of coal, petroleum, natural gas, ores, bituminous shale
- underground storage of combustible gases
- installations for processing and storage of radioactive waste*
- dams and other installations designed to hold water or store it on a long-term basis*
- oil and gas pipeline installations*
- groundwater abstraction and artificial groundwater recharge schemes*
- installations for the disposal of waste*
- waste-water treatment plants*”

3.1.3.3 Procedure
Provisions of the procedure are defined in Article 5. First, the body responsible for a project has to present special obligatory data, which are mentioned in Article 5 (3).

According to this Article 5 (3) the information to be provided by the developer shall include at least:

54 Hámor, Sustainable mining in the European Union: The legislative aspect, page 5
55 Hámor, Sustainable mining in the European Union: The legislative aspect, page 6
a description of the project comprising information on the site, design and size of the project,
a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects,
the data required to identify and assess the main effects which the project is likely to have on the environment,
an outline of the main alternatives studied by the developer and an indication of the main reasons for his choice, taking into account the environmental effects,
a non-technical summary of the information mentioned in the previous indents.

There can be also data which are prescribed by the member state legislation.

The member states have to make sure, that the affected environmental protection agencies have the opportunity to comment on the project and its permission and they have to ensure the participation of the public according to Article 6. Article 6 (1) determines that: ‘Member States shall take the measures necessary to ensure that the authorities likely to be concerned by the project by reason of their specific environmental responsibilities are given an opportunity to express their opinion on the information supplied by the developer and on the request for development consent’.

According to Article 6 (2) all member states have to ensure that any request for development consent and the information above have to be made available to the public within a reasonable time. The public has to have the opportunity to express an opinion before the development consent is granted.

When a decision has been taken about the development consent, the competent authority has to inform the public about the content of the decision and any conditions attached thereto, the main reasons and considerations on which the decision is based, a description, where necessary, of the main measures to avoid, reduce and, if possible, offset the major adverse effects.\footnote{Cp.: Article 9 97/11/EC}

According to Article 7 the member state has to inform other member states, which are possibly also effected.
Data of the responsible person and the results of the participation of the public have to be taken into account in the licensing procedure according to Article 8. Nevertheless, specific considerations are not regulated and member states have the option for a wide scope of measures. The denial of the permission is possible due to the consideration of the assessment of environmental effects.57

3.1.4 Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) and Comm. Regulation 1205/2008/EC on its implementation

The INSPIRE Directive sets the frame for the public access for data of environmental concern on the basis of the Aarhus Convention. Among the spatial data themes listed many are relevant to primary aggregate resources management.

„ANNEX II SPATIAL DATA THEMES
4. Geology (Geology characterised according to composition and structure. Includes bedrock, aquifers and geomorphology.)

ANNEX III
3. Soil (Soils and subsoil characterised according to depth, texture, structure and content of particles and organic material, stoniness, erosion, where appropriate mean slope and anticipated water storage capacity.)
4. Land use (Territory characterised according to its current and future planned functional dimension or socio-economic purpose (e.g. residential, industrial, commercial, agricultural, forestry, recreational)).
7. Environmental monitoring facilities (Location and operation of environmental monitoring facilities includes observation and measurement of emissions, of the state of environmental media and of other ecosystem parameters (biodiversity, ecological conditions of vegetation, etc.) ....
21. Mineral resources (Mineral resources including metal ores, industrial minerals, etc., where relevant including depth/height information on the extent of the resource.)”

57 Cp.: Epiney, Umweltrecht in der europäischen Union (2005) pages 205-211
3.2 Mining and Waste

“Waste from extractive operations (i.e. waste from extraction and processing of mineral resources) is one of the largest waste streams in the EU. It involves materials that must be removed to gain access to the mineral resource, such as topsoil, overburden and waste rock, as well as tailings remaining after minerals have been largely extracted from the ore.” \(^{58}\)

“A comprehensive framework for the safe management of waste from extractive industries at EU level is now in place comprising:

- Directive 2006/21/EC on the management of waste from the extractive industries (the mining waste directive).
- a Best Available Techniques reference document for the management of tailings and waste-rock in mining activities; and
- an amendment of the Seveso II Directive to include in its scope mineral processing of ores and, in particular, tailings ponds or dams used in connection with such mineral processing.” \(^{59}\).

3.2.1 Directive 2006/21/EC
Mining Waste Directive

This Directive establish measures, procedures and guidelines to prevent or reduce as far as possible any adverse influences on the environment (especially water, air, soil, fauna and flora and landscape) and any resultant risk to human health due to the management of waste from the extractive industries. \(^{60}\)

3.2.1.1 Scope
The Mining Waste Directive covers the management of waste resulting from the prospecting, extraction, treatment and storage of mineral resources and the working of quarries. In the following it will be called ‘extractive waste’. \(^{61}\)

\(^{58}\) http://ec.europa.eu/environment/waste/mining/index.htm, (10.03. 2010)
\(^{59}\) http://ec.europa.eu/environment/waste/mining/index.htm, (25.03.2010)
\(^{60}\) Cp.: Article 1 Directive 2006/21/EC
\(^{61}\) Cp.: Article 2 2006/21/EC
“This particular waste must be managed in specialised facilities in accordance with specific rules. In accordance with Directive 2004/35/EC, operators of such facilities are subject to liability in respect of environmental damage caused by their operations.”

“The following shall be excluded from the scope of this Directive:
(a) waste which is generated by the prospecting, extraction and treatment of mineral resources and the working of quarries, but which does not directly result from those operations;
(b) waste resulting from the offshore prospecting, extraction and treatment of mineral resources;
(c) injection of water and re-injection of pumped groundwater as defined in the first and second indents of Article 11(3)(j) of Directive 2000/60/EC, to the extent authorised by that Article.”

All important definitions are described in Article 3 Directive 2006/21/EC.

All member states have to take the necessary measures to ensure that extractive waste is managed without risk for human health and without using processes or methods which could harm the environment, and in particular without risk to water, air, soil and fauna and flora among others. They also have to control that the operator takes all measures which are necessary to prevent or reduce any adverse effects on environment and human health due to extractive waste.

“This includes the management of any waste facility, also after its closure, and the prevention of major accidents involving that facility and the limiting of their consequences for the environment and human health.”

3.2.1.2 Waste management plan

The Directive determines that all member states have to ensure that the operator draws up a waste management plan for ‘the minimisation, treatment, recovery and disposal of extractive waste, taking account of the principle of sustainable development’.

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63 Article 2 (2) 2006/21/EC
64 Cp.: Article 4 (1), (2) 2006/21/EC
65 Article 4 (2) 2006/21/EC
66 Cp.: Article 5 2006/21/EC
The objectives of the waste management plan shall be:
(a) to prevent or reduce waste production and its harmfulness, in particular by considering e.g. waste management in the design phase and in the choice of the method used for mineral extraction and treatment;
(b) to encourage the recovery of extractive waste by means of recycling, reusing or reclaiming; \(^{67}\)
(c) to ensure short and long-term safe disposal of the extractive waste, in particular by considering, during the design phase, management during the operation and after-closure of a waste facility; \(^{68}\)

The waste management plan shall contain at least the following elements:
(a) where applicable, the proposed classification for the waste facility in accordance with the criteria laid down in Annex III:
(b) waste characterisation in accordance with Annex II and a statement of the estimated total quantities of extractive waste to be produced during the operational phase;
(c) a description of the operation which produces such waste and of any subsequent treatment to which it is subject;
(d) a description of how the environment and human health may be adversely affected by the deposit of such waste;
(e) the proposed control and monitoring procedures pursuant to Articles 10, when applicable, and 11 (2) (c);
(f) the proposed plan for closure, including rehabilitation, after-closure procedures and monitoring as provided for in Article 12;
(g) measures for the prevention of water status deterioration in accordance with Directive 2000/60/EC and for the prevention or minimisation of air and soil pollution pursuant to Article 13;
(h) a survey of the condition of the land to be affected by the waste facility.

Due to the waste management plan the competent authority shall be enabled to evaluate the operator's ability to meet the objectives of the waste management plan and his obligations

\(^{67}\) Cp.: Article 5 (2) lit. a, b, 2006/21/EC
\(^{68}\) Cp.: Article 5 (2) lit. e 2006/21/EC
under this Directive. The plan shall explain, in particular, how the option and method chosen will fulfil the objectives of the waste management plan. 69

According to Article 5 (6) 2006/21/EC, the competent authority shall approve the waste management plan on the basis of national procedures and shall monitor its implementation.

3.2.1.3 Application and permit
Every waste facility has to have a permit and is only allowed to operate with a permit granted by the competent authority. 70

“The application for a permit shall contain at least the following details:
(a) the identity of the operator;
(b) the proposed location of the waste facility, including any possible alternative locations;
(c) the waste management plan pursuant to Article 5;
(d) adequate arrangements by way of a financial guarantee or equivalent, as required under Article 14;
(e) the information provided by the operator in accordance with Article 5 of Directive 85/337/EEC (1) if an environmental impact assessment is required under that Directive.”71

“The competent authority shall only grant a permit if it is satisfied that:
(a) the operator complies with the relevant requirements under this Directive;
(b) the management of waste does not conflict directly or otherwise interfere with the implementation of the relevant waste management plan or plans referred to in Article 7 of Directive 75/442/EEC.”72

3.2.1.4 Public participation
The public shall be informed about the application for a permit, details of the competent authorities responsible for taking the decision, those from which relevant information can be obtained and to which comments or questions can be submitted, and details of the time schedule for transmitting comments or questions, among others.
The public shall have the opportunity to express comments and opinions to the competent authority before a decision is taken.

69 Cp.: Article 5 (3) 2006/21/EC
70 Cp.: Article 7 (1) 2006/21/EC
71 Article 7 (2) 2006/21/EC
72 Article 7 (3) 2006/21/EC
When a decision has been taken the competent authority shall inform the public and shall make the following information available to the public concerned:
(a) the content of the decision, including a copy of the permit;
(b) the reasons and considerations on which the decision is based.  

According to Article 9 the competent authorities shall classify waste facilities in accordance with the criteria set out in Annex III.

3.2.1.5 Construction and management of waste facilities
All member states have to take appropriate measures to ensure that the management of a waste facility is in the hands of a competent person and that technical development and training of staff are provided.

The competent authority shall satisfy itself that, in the case of constructing a new waste facility or modifying an existing one, the operator ensures that:
(a) the waste facility is suitably located, taking into account in particular Community or national obligations relating to protected areas, and geological, hydrological, hydrogeological, seismic and geotechnical factors,
(b) the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater in the short and long-term perspectives as well as to minimise as far as possible damage to landscape;
(c) there are suitable plans and arrangements for regular monitoring and inspection of the waste facility by competent people and for taking action in the event of results indicating instability or water or soil contamination;
(d) suitable arrangements are made for the rehabilitation of the land and the closure of the waste facility;
(e) suitable arrangements are made for the after-closure phase of the waste facility.

73 Cp.: Article 8 2006/21/EC
74 Cp.: Article 11 2006/21/EC
3.2.1.6 Inspections, records and reports

On the one hand the competent authority has to check the waste facilities at regular periods according to Article 17, also when they already closed. On the other hand the operators have to draw up date-records of all waste management operations and to make sure that they are available for inspections.

According to Article 18 all member states have the obligation to send the European Commission a report about the implementation of the Mining Waste Directive every three years. These reports have to be published within nine months. ⁷⁵

In 2009 further “daughter” decisions were published by the Commission on the waste characterization, the facility categorization, financial guarantee, etc.. Concerning the specific assessment of the Mining Waste Directive with regard to aggregates it is important to note that it provides direct waivers for the aggregates industry, e.g. for operators generating inert waste. Member states may also give additional waivers on their own for these operators.

3.2.2 Directive 91/689/EEC

Directive on hazardous waste
Amended – Directive 2001/118/EC

This directive contains provisions on hazardous waste, which constitutes a framework for the waste management. The annex comprise a list of hazardous waste, classified into different groups regarding properties and characteristics.

Member states have to ensure that this waste is registered and identified. All hazardous waste facilities need a permit. The competent authority publishes the management plan for hazardous waste, which will be estimated by the Commission. ⁷⁶

3.2.3 Directive 99/31/EC

Directive on the landfill of waste

“The objective of the Directive is to prevent or reduce as far as possible negative effects on the environment from the landfilling of waste, by introducing stringent technical requirements for waste and landfills.

The Directive is intended to prevent or reduce the adverse effects of the landfill of waste on the environment, in particular on surface water, groundwater, soil, air and human health. It defines the different categories of waste (municipal waste, hazardous waste, non-hazardous waste and inert waste) and applies to all landfills, defined as waste disposal sites for the deposit of waste onto or into land.”

3.2.4.1 Scope
According to Article 3 all member states shall apply this Directive to any landfill as defined in Article 2 (g). Landfill means a waste disposal site for the deposit of waste onto or into land.

Article 4 of this directive divides landfills into three different classes:

- landfills for hazardous waste;
- landfills for non-hazardous waste;
- landfills for inert waste.

It does not apply ‘to the spreading on the soil of sludges, the use in landfills of inert waste for redevelopment or restoration work; the deposit of unpolluted soil or of non-hazardous inert waste resulting from prospecting and extraction, treatment and storage of mineral resources as well as from the operation of quarries; the deposit of non-hazardous dredging sludges alongside small waterways from which they have been dredged and of non-hazardous sludges in surface water, including the bed and its subsoil’.

This means that the directive only applies for the management of hazardous mining waste, which is atypical for the aggregates sector.

3.2.4.2 Procedure
Article 6 states that member states shall take measures to avoid any risks, due to this:

- ‘waste must be treated before being landfilled;

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77 http://ec.europa.eu/environment/waste/landfill_index.htm, (31.03.2010)
79 Cp.: Hámor, Sustainable mining in the European Union: The legislative aspect, page 7
hazardous waste within the meaning of the Directive must be assigned to a hazardous waste landfill;
landfills for non-hazardous waste must be used for municipal waste and for non-hazardous waste;
landfill sites for inert waste must be used only for inert waste;
criteria for the acceptance of waste at each landfill class must be adopted by the Commission in accordance with the general principles of Annex II.’

The information which is necessary for the application of the permit is determined in Article 7, whereas the conditions of the permit are described in Article 8:

Member states shall take measures in order that:

(a) the competent authority does not issue a landfill permit unless it is satisfied that:

- the landfill project complies with all the relevant requirements of this Directive, including the Annexes;
- the management of the landfill site will be in the hands of a natural person who is technically competent to manage the site; professional and technical development and training of landfill operators and staff are provided;
- the landfill shall be operated in such a manner that the necessary measures are taken to prevent accidents and limit their consequences;
- adequate provisions, by way of a financial security or any other equivalent. This security or its equivalent shall be kept as long as required by maintenance and after-care operation of the site.

(b) the landfill project is in line with the relevant waste management plan or plans referred to in Article 7 of Directive 75/442/EEC;

(c) prior to the commencement of disposal operations, the competent authority shall inspect the site in order to ensure that it complies with the relevant conditions of the permit. This will not reduce in any way the responsibility of the operator under the conditions of the permit.80

Member states have to ensure that existing landfills do not continue to operate unless they comply with the provisions of the directive as soon as possible and they have to report to the Commission every three years about the implementation of the Directive.81

80 Cp.: Article 8 Directive 99/31/EC
3.3 Mining and Water

3.3.1 Directive 2000/60/EC

Water Framework Directive (WFD)

The aim of this directive is, according to Article 1, the establishment of a holistic regulation framework for the protection of water as a whole. Briefly, water resources should be preserved as well as its quality should be improved. It contains a qualitative and quantitative approach. This means that the implementation of the directive should prevent more pollution and improve the qualitative status of waters, as well as protect the existing resources in this sector from a quantitative point of view. So the aim is a long-term sustainable water protection.82

Due to the WFD a lot of the fragmented water protection instruments have been repealed or will be repealed till December 2013, e.g.

- Directive 78/659/EEC on freshwaters for fish
- Directive 79/923/EEC on shellfish waters
- Directive 80/68/EEC on groundwater
- Directive 76/464/EEC about pollution caused by dangerous substances.83

The provision compasses the protection of “inland, surface waters, transitional waters, coastal waters and groundwater”84.

It contains a few guidelines and measures which the member states have to take:

- The WFD itself determines guidelines for the quality and preservation of water,
- All member states have to take the necessary measures for the realisation of these guidelines (especially a precise survey of the current situation of water).

82 Cp.: Epiney, Umweltrecht in der europäischen Union (2005) pages 279-280
84 Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) page 68
3.3.1.1 Guidelines

All member states have to implement the river basin approach, which means that “water protection measures attach to ‘the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta’ (Article 2 (13))”\(^8^5\).

First, all member states have to define river basins (as described above) and attach them to river basin district – explained in Article 2 (15). A river basin is compulsory determined through the geographic circumstances, other than river basin districts. They have to be determined by the member states. Germany e.g. has already defined their river basin districts: Donau, Maas, Rhein, Ems, Weser, Elbe, Oder, Eider, Schlei/Trave and Warnow/Peene.

The next step is an extensive analysis and monitoring of water. The basis of a wise and prudent management of water and protection is obviously the knowledge about their status and use.\(^8^6\)

According to Article 5 (1) the member states have to make sure that an analysis of the characteristics of the river basin district, a review of the environmental impact of human activity and an economic analysis of water use has been created.

Article 5

“1. Each Member State shall ensure that for each river basin district or for the portion of an international river basin district falling within its territory:

- an analysis of its characteristics,

- a review of the impact of human activity on the status of surface waters and on groundwater, and

- an economic analysis of water use

is undertaken according to the technical specifications set out in Annexes II and III and that it is completed at the latest four years after the date of entry into force of this Directive.

2. The analyses and reviews mentioned under paragraph 1 shall be reviewed, and if necessary updated at the latest 13 years after the date of entry into force of this Directive and every six years thereafter.”\(^8^7\)

\(^8^5\) Jans/Vedder, European Environmental Law (2008) page 348
\(^8^6\) Cp.: Epiney, Umweltrecht in der europäischen Union (2005) pages 280-282
**Article 6** commits the member states to establish a **register of protected areas**, which are mentioned in Annex IV.

“Article 6

Register of protected areas

1. Member States shall ensure the establishment of a register or registers of all areas lying within each river basin district which have been designated as requiring special protection under specific Community legislation for the protection of their surface water and groundwater or for the conservation of habitats and species directly depending on water. They shall ensure that the register is completed at the latest **four** years after the date of entry into force of this Directive.

2. The register or registers shall include all bodies of water identified under Article 7(1) and all protected areas covered by Annex IV.

3. For each river basin district, the register or registers of protected areas shall be kept under review and up to date.”

**Article 7** determines the obligation of the member states to define all bodies of water in a river basin district which are utilised for **human use**.

“Article 7

Waters used for the abstraction of drinking water

1. Member States shall identify, within each river basin district:

- all bodies of water used for the abstraction of water intended for human consumption providing more than 10 m³ a day as an average or serving more than 50 persons, and
- those bodies of water intended for such future use.

Member States shall monitor, in accordance with Annex V, those bodies of water which according to Annex V, provide more than 100 m³ a day as an average.”

According to **Article 8** the member states have to establish special **programs** to secure the **monitoring** of the water status.

“Article 8

Monitoring of surface water status, groundwater status and protected areas

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87 Article 5 (1), (2) Directive 2000/60/EC
88 Article 6 (1), (2), (3) 2000/60/EC
89 Article 7 (1) 2000/60/EC
1. Member States shall ensure the establishment of programmes for the monitoring of water status in order to establish a coherent and comprehensive overview of water status within each river basin district:
- for surface waters such programmes shall cover:
  (i) the volume and level or rate of flow to the extent relevant for ecological and chemical status and ecological potential, and
  (ii) the ecological and chemical status and ecological potential;
- for groundwaters such programmes shall cover monitoring of the chemical and quantitative status,
- for protected areas the above programmes shall be supplemented by those specifications contained in Community legislation under which the individual protected areas have been established.
2. These programmes shall be operational at the latest six years after the date of entry into force of this Directive unless otherwise specified in the legislation concerned. Such monitoring shall be in accordance with the requirements of Annex V."90

3.3.1.2 Realisation of the “environmental objectives”
The center of the WFD is the obligation to realise the environmental objectives which are mentioned in Article 4. It differs between goals for surface waters, ground waters and protected areas. For protected areas there is only a general obligation to reach those aims during 15 years. In the case of the other two, there are different obligations and aims.

An example for surface waters:
“Member States shall protect, enhance and restore all bodies of surface water, subject to the application of subparagraph (iii) for artificial and heavily modified bodies of water, with the aim of achieving good surface water status at the latest 15 years after the date of entry into force of this Directive, in accordance with the provisions laid down in Annex V, subject to the application of extensions determined in accordance with paragraph 4 and to the application of paragraphs 5, 6 and 7 without prejudice to paragraph 8”91

90 Article 8 (1), (2) 2000/60/EC
91 Article 4 (1) lit a (ii) 2000/60/EC
Examples for groundwater:

“Member States shall implement the measures necessary to prevent or limit the input of pollutants into groundwater and to prevent the deterioration of the status of all bodies of groundwater, subject to the application of paragraphs 6 and 7 and without prejudice to paragraph 8 of this Article and subject to the application of Article 11(3)(j);”

“Member States shall protect, enhance and restore all bodies of groundwater, ensure a balance between abstraction and recharge of groundwater, with the aim of achieving good groundwater status at the latest 15 years after the date of entry into force of this Directive, in accordance with the provisions laid down in Annex V, subject to the application of extensions determined in accordance with paragraph 4 and to the application of paragraphs 5, 6 and 7 without prejudice to paragraph 8 of this Article and subject to the application of Article 11(3)(j);”

3.3.1.3 Programs of measures

According to Article 11 the member states have to establish programs of measures for each river basin district or for the part of an international one within its territory. With these programs of measures it should be possible to realise the environmental objectives which are mentioned in Article 4. Results of analysis which are required in Article 5 have to be taken into account.

Each programme of measures shall include the "basic" measures defined in Article 11 (3) and, where necessary, "supplementary" measures.

"Basic measures" are the minimum requirements to be complied with and shall consist of: e.g.

“(a) those measures required to implement Community legislation for the protection of water, including measures required under the legislation specified in Article 10 and in part A of Annex VI;

(c) measures to promote an efficient and sustainable water use in order to avoid compromising the achievement of the objectives specified in Article 4;

92 Article 4 (1) lit b (i) 2000/60/EC
93 Article 4 (1) lit b (ii) 2000/60/EC
(d) measures to meet the requirements of Article 7, including measures to safeguard water quality in order to reduce the level of purification treatment required for the production of drinking water;

(e) controls over the abstraction of fresh surface water and groundwater, and impoundment of fresh surface water, including a register or registers of water abstractions and a requirement of prior authorisation for abstraction and impoundment. These controls shall be periodically reviewed and, where necessary, updated.94

“"Supplementary" measures are those measures designed and implemented in addition to the basic measures, with the aim of achieving the objectives established pursuant to Article 4. Part B of Annex VI contains a non-exclusive list of such measures. Member States may also adopt further supplementary measures [...].”95

3.3.1.4 River basin management plans

Article 13 determines the obligation for the production of a river basin management plan for each river basin district which lies entirely within their territory.

“In the case of an international river basin district falling entirely within the Community, Member States shall ensure coordination with the aim of producing a single international river basin management plan. Where such an international river basin management plan is not produced, Member States shall produce river basin management plans covering at least those parts of the international river basin district falling within their territory to achieve the objectives of this Directive.”96

“The river basin management plan shall include the information detailed in Annex VII.”97

A river basin management plan shall cover the following elements:

1. a general description of the characteristics of the river basin district required in Article 5 and Annex II. This shall include:

1.1. for surface waters:

- mapping of the location and boundaries of water bodies,
- mapping of the ecoregions and surface water body types within the river basin,
- identification of reference conditions for the surface water body types;

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94 Article 11 (3) lit a, c, d, e, 2000/60/EC
95 Article 11 (4) 2000/60/EC
96 Article 13 (2) 2000/60/EC
97 Article 13 (4) 2000/60/EC
1.2. for groundwaters:
- mapping of the location and boundaries of groundwater bodies;
2. a summary of significant pressures and impact of human activity on the status of surface water and groundwater, including:
- estimation of point source pollution,
- estimation of diffuse source pollution, including a summary of land use,
- estimation of pressures on the quantitative status of water including abstractions,
- analysis of other impacts of human activity on the status of water;
3. identification and mapping of protected areas as required by Article 6 and Annex IV; [...]”

“River basin management plans shall be published at the latest nine years after the date of entry into force of this Directive.”

“River basin management plans shall be reviewed and updated at the latest 15 years after the date of entry into force of this Directive and every six years thereafter.”

Directives concerning water bodies which will be repealed in 2013 won’t be described in the following.
The relevance of the EU water policy, the WFD and its daughter directives with regard to aggregates industry is multiple. Primary aggregates extraction is often carried out below the groundwater table. Although direct pollution risk is relatively low (i.e. mainly from the machinery), the evaporization of the remaining open water-table, lake may lead to local groundwater depressions, a conflict with agriculture, and the open water is more vulnerable to other polluting immissions. On the contrary, if the post-mining remediation is carried out wisely, these lakes can host new flora and fauna ecosystems, potential Natura 2000 sites in the future. Many of these lakes are prepared for recreational purposes as well, boating, fishing, bathing.
The other issue is primary aggregates dredging in rivers and coastal marine waters. It is possible according to the water legislation but the river basin, or sub-basin management plans should contain references on these activities.

98 ANNEX VII 2000/60/EC
99 Article 13 (6) 2000/60/EC
100 Article 13 (7) 2000/60/EC
3.3.2 Directive 2008/56/EC


The *Marine Strategy Framework Directive* (2008/56/EC)\(^{101}\), adopted in June 2008 seeks to achieve good environmental status of the EU's marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend. The Marine Strategy Directive establishes European Marine Regions on the basis of geographical and environmental criteria. Each Member State - cooperating with other Member States and non-EU countries within a marine region - is required to develop strategies for its marine waters. The regulatory methodology solutions are very similar to the WFD tools. This Directive establishes a framework within which Member States shall take the necessary measures to achieve or maintain good environmental status in the marine environment by the year 2020 at the latest. Marine waters means:

(a) waters, the seabed and subsoil on the seaward side of the baseline from which the extent of territorial waters is measured extending to the outmost reach of the area where a Member State has and/or exercises jurisdictional rights, in accordance with the Unclos ......

(b) coastal waters as defined by Directive 2000/60/EC, their seabed and their subsoil, in so far as particular aspects of the environmental status of the marine environment are not already addressed through that Directive or other Community legislation.

Good environmental status means the environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive within their intrinsic conditions, and the use of the marine environment is at a level that is sustainable, thus safeguarding the potential for uses and activities by current and future generations, i.e.:

(a) the structure, functions and processes of the constituent marine ecosystems, together with the associated physiographic, geographic, geological and climatic factors, allow those ecosystems to function fully and to maintain their resilience to human-induced environmental change. Marine species and habitats are protected, human-induced decline of biodiversity is prevented and diverse biological components function in balance;

(b) hydro-morphological, physical and chemical properties of the ecosystems, including those properties which result from human activities in the area concerned, support the ecosystems as described above. Anthropogenic inputs of substances and energy, including noise, into the marine environment do not cause pollution effects;

Each Member State shall, in respect of each marine region or subregion concerned, develop a marine strategy for its marine waters in accordance with the plan of action set out in the directive. In preparation for the assessment of the environmental status and pressures and likely impacts of a marine region aggregate dredging is an obvious activity for concern, see Table below.

<table>
<thead>
<tr>
<th>Physical loss</th>
<th>Smothering (e.g. by man-made structures, disposal of dredge spoil), sealing (e.g. by permanent constructions).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical damage</td>
<td>Changes in salinity (e.g. by outfalls, increased run-off, dredging/disposal of dredge spoil), abrasion (e.g. impact on the seabed of commercial fishing, boating, anchoring), selective extraction (e.g. exploitation and exploitation of living and non-living resources on seabed and subsoil).</td>
</tr>
<tr>
<td>Other physical disturbance</td>
<td>Underwater noise (e.g. from shipping, underwater acoustic equipment), marine litter.</td>
</tr>
<tr>
<td>Interference with hydrological processes</td>
<td>Significant changes in thermal regime (e.g. by outfalls from power stations), significant changes in salinity regime (e.g. by constructions impeding water movements, water abstraction).</td>
</tr>
<tr>
<td>Contamination by hazardous substances</td>
<td>Introduction of synthetic compounds (e.g. priority substances under Directive 2000/60/EC which are relevant for the marine environment such as pesticides, antifoulants, pharmaceuticals, resulting, for example, from losses from diffuse sources, pollution by ships, atmospheric deposition and biologically active substances), introduction of non-synthetic substances and compounds (e.g. heavy metals, hydrocarbons, resulting, for example, from pollution by ships and oil, gas and mineral exploration and exploitation, atmospheric deposition, riverine inputs), introduction of radio-nuclides.</td>
</tr>
<tr>
<td>Systematic and/or intentional release of substances</td>
<td>Introduction of other substances, whether solid, liquid or gas, in marine waters, resulting from their systematic and/or intentional release into the marine environment, as permitted in accordance with other Community legislation and/or international conventions.</td>
</tr>
<tr>
<td>Nutrient and organic matter enrichment</td>
<td>Impacts of fertilizers and other nitrogen — and phosphorus-rich substances (e.g. from point and diffuse sources, including agriculture, aquaculture, atmospheric deposition), inputs of organic matter (e.g. sewers, mariculture, riverine inputs).</td>
</tr>
<tr>
<td>Biological disturbance</td>
<td>Introduction of microfical pathogens, introduction of non-indigenous species and translocations, selective extraction of species, including incidental non-target catches (e.g. by commercial and recreational fishing).</td>
</tr>
</tbody>
</table>
3.4 Mining and animals & botanical habitat

3.4.1 Directive 92/43/EEC

Directive on the conservation of natural habitats and of wild flora and fauna

The main objective of this Directive is the preservation and recovery of the bio–diversity of natural habitats and wild fauna and flora in the European territory of the Member States. This should be achieved by establishing a coherent European network of special areas of conservation under the title Natura 2000. Such areas serve the protection of sites of Community importance.

3.4.1.1 Natura 2000 areas

Article 3 states that a coherent European ecological network of special areas of conservation shall be set up. This network shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range.

Article 4 (1) states that: on the basis of the criteria set out in Annex III and relevant scientific information, each member state shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to its territory the sites host. The list shall be transmitted to the Commission, within three years of the notification of this Directive, together with information on each site. That information shall include a map of the site, its name, location, extent and the data resulting from application of the criteria specified in Annex III provided in a format established by the Commission.

According to Article 4 (2) the Commission shall establish on the basis of the criteria set out in Annex III, in agreement with each Member State, a draft list of sites of Community importance drawn from the Member States' lists identifying those which lost one or more priority natural habitat types or priority species.

102 Cp.: http://www.umweltbundesamt.at/umweltschutz/naturschutz/natrecht/eu_richtlinien/Fhh_richtlinie/ (31.03.2010)
The list of sites selected as sites of Community importance, identifying those which host one or more priority natural habitat types or priority species, shall be adopted by the Commission in accordance with the procedure laid down in Article 21.

Once a site of Community importance has been adopted the Member State concerned shall designate that site as a special area of conservation as soon as possible and within six years at most according to Article 4 (4) establishing priorities in the light of the importance of the sites for the maintenance or restoration, at a favourable conservation status.

“For special areas of conservation, Member States shall establish the necessary conservation measures involving appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites.”

So all member states have to take appropriate steps to avoid in these areas the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated.

Article 6 (3) states, that every plan or project which may have a significant effect thereon shall be subject to appropriate **assessment of its implications** for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

If, in spite of a negative assessment, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, the member state shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

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103 Article 6 (1) Directive 92/43/EEC
104 Cp.: Article 6 (4) Directive 92/43/EEC
According to Article 12 all member states have to take the requisite measures to establish a system of strict protection for the animal species listed in Annex IV, and according to Article 13 to protect the plant species listed in Annex IV.

The Habitats Directive provisions apply both to sites designated in terrestrial and marine areas but the Natura 2000 network is still not completely established in the marine environment. Extractive activities in marine areas, especially aggregates’ extraction, are becoming more and more important. Plans and project dealing with extractive activities in the marine environment may also be the subject of an appropriate assessment in accordance with Article 6 (3) of the Habitats Directive if they were likely to have significant effects on Natura 2000 sites. Marine spatial planning is considered a key instrument to optimise the use of marine space to benefit economic development and the marine environment. Adopting a zoned approach may provide the option of introducing marine aggregate extraction to an existing multi-use environment in a strategic manner.

Only seven marine habitat types (Annex I) and 22 marine species (Annex II) of Community interest are listed in the Habitats Directive (92/43/EEC). Two Annex I habitats in the marine environment ‘sandbanks slightly covered by seawater all the time’ (EC-Code 1110) and ‘reefs’ (EC-Code 1170) have shown in the past to overlap spatially with areas of interest for marine sand and gravel extraction. Therefore, in particular these two habitats have the potential for a conflict between economic and ecological interest. But it should be remembered that the selection of Natura 2000 sites has to follow scientific criteria (see Case C-371/98). Marine mammals have also the potential to be affected by underwater extraction, in terms for instance of habitat loss, disturbance, distancing, breeding failures.

As regards marine bird species, important breeding colonies of seabirds and coastal, wintering or resting areas for waterbirds on migration are already Special Protection Areas (SPAs) or will be designated as such in the near future. Benthic and pelagic habitats, in areas near and distant from the coast, are used by some Annex I and migratory birds, for a variety of purposes, including feeding, resting, and moulting. A list of species that occur in European marine waters for which SPAs need to be considered is presented in the Guidelines for the establishment of the Natura 2000 network in the marine environment (EC 2007d).

The Marine Working Group set by the Habitats Committee has developed specific guidelines for the establishment of the Natura 2000 network and the application of the Habitats and
Birds Directives in the marine environment\textsuperscript{105}, particularly in offshore waters where these Directives apply (EC 2007d, see also ECJ ruling on case C-6/04, Commission v. United Kingdom, para. 114 et seq).

Marine habitat types definitions have been prepared by the European Commission as an update of the “Interpretation Manual of habitats of the European Union” as well as Lists of existing marine habitat types and species for different Member States.

Marine Natura 2000 sites that are proposed by the Member States but for which the designation are not completely achieved have also the potential to be affected by the activities of the marine aggregates industry (Bellew and Drables 2004). In these cases, “the protective measures prescribed in Article 6(2), (3) and (4) of the Habitats Directive are required only as regards sites which are on the list of sites selected as sites of Community importance adopted by the Commission. Consequently, those measures do not apply to the sites included in the national lists transmitted to the Commission but not yet adopted by the Commission (case C-117/03”).

However, “Member States must, as regards the sites identified with a view to their inclusion on the Community list, take appropriate protective measures in order to maintain the ecological characteristics of those sites” (see case C-244/05 para. 44, 46).

3.4.2 Directive 79/409/EEC

Wild birds directive
Amended – Directive 2009/147/EC

This Directive 2009/147/EC on the conservation of wild birds is the oldest piece of European nature legislation and one of the most important by creating a comprehensive scheme of protection for all wild bird species naturally occurring in the Union. The adoption in 1979 was a response of the increasing concern about the declines in Europe's wild bird populations resulting from pollution and the loss of living space. Due to the fact that wild birds are a shared heritage of the member states and that international co-operation for their protection is necessary.

\textsuperscript{105} EC 2007d. \url{http://ec.europa.eu/environment/nature/natura2000/marine/index_en.htm}
3.4.2.1 Scope
According to Article 1 (2) the directive shall apply to birds, their eggs, nests and habitats. The loss and degradation are the most serious problems to the wild bird’s conservation. As a result of this awareness the directive places great emphasis on the protection of habitats for endangered as well as migratory species (listed in Annex I), especially through the establishment of a coherent network of Special Protection Areas (SPAs). It comprises all the most suitable territories for these species. Since 1994 the NATURA 2000 ecological network comprises all SPAs.106

3.4.2.2 Protecting measures
“The Birds Directive bans activities that directly threaten birds, such as the deliberate killing or capture of birds, the destruction of their nests and taking of their eggs, and associated activities such as trading in live or dead birds, with a few exceptions (listed in Annex III - III/1 allows taking in all Member States; III/2 allows taking in Member States in agreement with European Commission). The Directive recognises hunting as a legitimate activity and provides a comprehensive system for the management of hunting (limited to species listed in Annex II - II/1 allows hunting in all Member States; II/2 allows hunting in listed Member States ) to ensure that this practice is sustainable. This includes a requirement to ensure that birds are not hunted during the periods of their greatest vulnerability, such as the return migration to the nesting areas, reproduction and the raising of chicks. It requires Member States to outlaw all forms of non-selective and large scale killing of birds, (especially the methods listed in Annex IV). It promotes research to underpin the protection, management and use of all species of birds covered by the Directive (Annex V).”107

3.5 Mining and air & noise

3.5.1 Directive 1999/30/EC
Directive relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matters and lead in ambient air

Amended - Directive 2008/50/EC

The Council established limit values and, as appropriate, alert thresholds for a number of specific pollutants. Therefore directive 1999/30/EC ‘contains limit values for concentrations of sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead and alert thresholds for concentrations of sulphur dioxide and nitrogen dioxide in ambient air’. The aim is to avoid, prevent and reduce negative effects on the environment and human health.

Member States have to take the necessary measures to ensure that concentrations of sulphur dioxide in ambient air do not exceed the limit values of ‘500 µg/m³ measured over three consecutive hours at locations representative of air quality over at least 100 km² or an entire zone or agglomeration’.

Till 2003 all member states had to record data on concentrations of sulphur dioxide averaged over ten minutes from certain measuring stations. Zones where the limit values are exceeded have to be affiliated into a list, which has to be sent to the Commission. Within such zones member states have the obligation to implement action plans.

The same is essential for nitrogen dioxide, with a threshold of 400 µg/m³ measured over three consecutive hours at locations representative of air quality over at least 100 km² or an entire zone or agglomeration and lead.

To meet with particulate matter (PM10) member states have to ensure the installation of measuring stations to supply data on concentration. Each year all member states have to inform the Commission of the ‘arithmetic mean, the median value, the ninety-eighth percentile and the maximum concentration’. In cases where limit values are exceeded, member states are obliged to inform the Commission and implement action plans only where the limit values laid down are exceeded for reasons other than natural events.

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109 Cp.: Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) page 90
“Member States must ensure that up-to-date information on ambient concentrations of sulphur dioxide, nitrogen dioxide and nitrogen oxides, particulate matter and lead is routinely made available to the public and to appropriate bodies (in particular environmental protection organisations, consumer associations, bodies representing the interests of any sensitive sections of the public, and any other relevant health-care organisations) by means, for example, of radio, the press, information screens or computer-network services.”\textsuperscript{111}

Directive 2008/50/EC repeals and replaces Directive 1999/30/EC from 11 June 2010, without prejudice to the obligations on the Member States relating to time-limits for transposition or application of this directive.

3.5.1.1 Directive 2008/50/EC on ambient air quality and cleaner air for Europe

The main objectives of this directive are according to Article 1:

- defining and establishing objectives for ambient air quality designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole;
- assessing the ambient air quality in Member States on the basis of common methods and criteria;
- ensuring that such information on ambient air quality is made available to the public;
- maintaining air quality where it is good and improving it in other cases;

All relevant definitions can be found in Article 2.

According to Article 3 all member states have to designate the competent authorities and bodies responsible for the assessment of ambient air quality; the approval of measurement systems, ensuring the accuracy of measurements; the analysis of assessment methods; the coordination on their territory if Community-wide quality assurance programmes are being organised by the Commission and the cooperation with the other Member States and the Commission.

Member states shall also establish zones and agglomerations throughout their territory where air quality should be assessed and managed. The assessment of ambient air quality is determined in sections 2.

3.5.1.1.1 Air quality plans according to Article 23

\textsuperscript{111} \url{http://europa.eu/legislation_summaries/environment/air_pollution/l28098_en.htm}, (05.04.2010)
In zones where the levels of pollutants in ambient air exceed any limit value or target value, member states have to ensure that air quality plans are established for those zones and agglomerations in order to achieve the related limit value. This plan should set out appropriate measures, so that the exceedance can be kept as short as possible.

Those air quality plans shall incorporate at least the information listed in Section A of Annex XV and may include measures pursuant to Article 24. Those plans shall be communicated to the Commission without delay.

Article 26 regulates the public information. Member states shall ensure that the public as well as appropriate organisations are informed, adequately and in good time, of ambient air quality in accordance with Annex XVI. The information shall be made available free of charge by means of any easily accessible media including the Internet or any other appropriate means of telecommunication. Member States shall make available to the public annual reports for all pollutants covered by this Directive. Those reports shall summarise the levels exceeding limit values, target values, long-term objectives, information thresholds and alert thresholds, for the relevant averaging periods. All member states shall inform the public of the competent authority or body.

Data quality objectives for ambient air quality assessment are determined in Annex 1. Determination of requirements for assessment of concentrations of sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter, lead, benzene and carbon monoxide in ambient air within a zone or agglomeration are regulated in Annex 2 including upper and lower assessment thresholds.

3.5.2 Directive 2002/49/EC

Directive on the assessment and management of environmental noise

Due to the Commission proposal for a Directive relating to the assessment and management of Environmental noise (as mentioned in COM(2000)468), Directive 2002/49/EC was adopted to provide a common basis for tackling the noise problem across the EU.
Environmental noise is defined in Article 3 lit. a as: unwanted or harmful outdoor sound created by human activities, including noise emitted by means of transport, road traffic, rail traffic, air traffic, and from sites of industrial activity such as those defined in Annex I to Directive 96/61/EC concerning integrated pollution prevention and control.

The Directives principles are similar to those for other environment policy directives:

- “Monitoring the environmental problem; by requiring competent authorities in Member States to draw up "strategic noise maps" for major roads, railways, airports and agglomerations, using harmonised noise indicators $L_{\text{den}}$ (day-evening-night equivalent level) and $L_{\text{night}}$ (night equivalent level). These maps will be used to assess the number of people annoyed and sleep-disturbed respectively throughout Europe
- Informing and consulting the public about noise exposure, its effects, and the measures considered to address noise, in line with the principles of the Aarhus Convention
- Addressing local noise issues by requiring competent authorities to draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good. The directive does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities.
- Developing a long-term EU strategy, which includes objectives to reduce the number of people affected by noise in the longer term, and provides a framework for developing existing Community policy on noise reduction from source. With this respect, the Commission has made a declaration concerning the provisions laid down in article 1.2”

3.5.2.1 Scope
According to Article 2 (1) the Directive shall apply to environmental noise to which humans are exposed in particular in built-up areas, in public parks or other quiet areas in an agglomeration, in quiet areas in open country, near schools, hospitals and other noise-sensitive buildings and areas. But it shall not apply to noise that is caused by the exposed person himself, noise from domestic activities, noise created by neighbours, noise at work places or noise inside means of transport or due to military activities in military areas.

Article 4 states that member states have to designate competent authorities and bodies responsible for implementing this Directive. These authorities are responsible for making and approving noise maps and action plans for agglomerations, major roads, major railways and major airports; and collecting noise maps and action plans. They have to apply the noise indicators $L_{den}$ and $L_{night}$ for the preparation and revision of strategic noise mapping in accordance with Article 7. According to Article 6 the values of $L_{den}$ and $L_{night}$ shall be determined by means of the assessment methods defined in Annex I.

3.5.2.2 Strategic noise mapping (Article 7)
Member states shall ensure that no later than 30 June 2007 strategic noise maps showing the situation in the preceding calendar year have been made and, where relevant, approved by the competent authorities, for all agglomerations with more than 250,000 inhabitants and for all major roads which have more than six million vehicle passages a year, major railways which have more than 60,000 train passages per year and major airports within their territories.

3.5.2.3 Action plans (Article 8)
According to Article 8 member states have to ensure that no later than 18 July 2008 the competent authorities have drawn up action plans designed to manage, within their territories, noise issues and effects, including noise reduction if necessary for:
(a) places near the major roads which have more than six million vehicle passages a year, major railways which have more than 60,000 train passages per year and major airports;
(b) agglomerations with more than 250,000 inhabitants. Such plans shall also aim to protect quiet areas against an increase in noise.

Member states have to ensure that the public is consulted about proposals for action plans, given early and effective opportunities to participate in the preparation and review of the action plans, that the results of that participation are taken into account and that the public is informed on the decisions taken. Reasonable time-frames shall be provided allowing sufficient time for each stage of public participation.
Noteworthy are also the following Directives: Directive 2000/69/EC on limit for benzene and carbon monoxide in ambient air and Directive 2000/14/EC of the approximation of the member states’ law to the noise emission by equipment for use outdoors

3.6 Mining and Secondary Aggregates

Secondary aggregates are making an increasingly important contribution to sustainable construction by reducing demand for primary aggregates.

3.6.1 European Waste Catalogue (EWC)

The EWC classifies waste materials and categorises them according to what they are and how they were generated. The first chapter of the EWC lists twenty three types of ‘waste resulting from exploration, mining, quarrying and physical and chemical treatment of minerals’. Six of them are classified as hazardous.113

“01 WASTE RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 01 wastes from mineral excavation
01 01 01 wastes from mineral metalliferous excavation
01 01 02 wastes from mineral non-metalliferous excavation
01 03 wastes from physical and chemical processing of metalliferous minerals
01 03 04* acid-generating tailings from processing of sulphide ore
01 03 05* other tailings containing dangerous substances
01 03 06 tailings other than those mentioned in 01 03 04 and 01 03 05
01 03 07* other wastes containing dangerous substances from physical and chemical processing of metalliferous minerals
01 03 08 dusty and powdery wastes other than those mentioned in 01 03 07
01 03 09 red mud from alumina production other than the wastes mentioned in 01 03 07
01 03 99 wastes not otherwise specified
01 04 wastes from physical and chemical processing of non-metalliferous minerals

113 Cp.: Hámor, Sustainable mining in the European Union: The legislative aspect, page 7
01 04 07* waste containing dangerous substances from physical and chemical processing of nonmetalliferous minerals
01 04 08 waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09 waste sand and clays
01 04 10 dusty and powdery wastes other than those mentioned in 01 04 07
01 04 11 wastes from potash and rock salt processing other than those mentioned in 01 04 07
01 04 12 tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
01 04 13 waste from stone cutting and sawing other than those mentioned in 01 04 07
01 04 99 waste not otherwise specified

**01 05 drilling muds and other drilling wastes**
01 05 04 freshwater drilling muds and wastes
01 05 05* oil-containing drilling muds and wastes
01 05 06* drilling muds and other drilling wastes containing dangerous substances
01 05 07 barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 08 chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 99 wastes not otherwise specified**114

* These are classified as hazardous.

Most typical secondary aggregates entries are found at chapters below, as non-hazardous wastes:

**10 INORGANIC WASTES FROM THERMAL PROCESSES**

10 01 Wastes from power stations and other combustion plants (except 19)
10 01 01 Bottom ash
10 01 02 Coal fly ash
10 01 03 Peat and (untreated) wood fly ash
10 01 05 Calcium-based reaction waste from flue gas desulphurisation in solid form

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10 01 06 Other solid waste from gas treatment
10 01 07 Calcium-based reaction waste from flue gas desulphurisation in sludge form

10 02 Wastes from the iron and steel industry
10 02 01 Waste from the processing of slag
10 02 02 Unprocessed slag
10 02 05 Other sludges

10 08 Wastes from other non-ferrous thermal metallurgy
10 08 01 Slags (first and second smelting)

10 09 Wastes from casting of ferrous pieces
10 09 03 Furnace slag
10 09 04 Furnace dust

10 11 Wastes from manufacture of glass and glass products
10 11 01 Waste preparation mixture before thermal processing
10 11 02 Waste glass
10 11 03 Waste glass-based fibrous materials

10 12 Wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 01 Waste preparation mixture before thermal processing

10 13 Wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 01 Waste preparation mixture before thermal processing

17 CONSTRUCTION AND DEMOLITION WASTES (INCLUDING ROAD CONSTRUCTION)
17 01 Concrete, bricks, tiles, ceramics, and gypsum-based materials
17 01 01 Concrete
17 01 02 Bricks
17 01 03 Tiles and ceramics
17 01 04 Gypsum-based construction materials
17 01 05 Asbestos-based construction materials

17 02 Wood, glass and plastic
17 02 02 Glass
17 02 03 Plastic

17 05 Soil and dredging spoil
17 05 04 Soil and stones other than those mentioned in 17 05 03
17 05 06 Dredging spoil other than those mentioned in 17 05 05

17 06 Insulation materials
17 06 02 Other insulation materials

17 07 Mixed construction and demolition waste
17 07 03 Mixed construction and demolition waste other than those mentioned in 17 07 02

3.6.2 Directive 89/106/EEC

Construction Products Directive (CPD)
Amended by Directive 93/68/EEC

Directive 89/106/EEC on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products applies to construction products, i.e. any products produced with a view to their incorporation in a permanent manner in construction works according to Article 1.

The purpose of the CPD is to ensure the free movement of all construction products within the European Union by harmonising national laws with respect to the essential requirements applicable to these products in terms of health and safety.\(^{115}\)

**Compliance with the essential requirements**

“Construction products may only be placed on the market if they are fit for their intended use. In this regard, they must be such that works in which they are incorporated satisfy, for an economically reasonable working life, the essential requirements with regard to mechanical strength and stability, safety in the event of fire, hygiene, health and the environment, safety

in use, protection against noise and energy economy and heat retention, as set out in Annex 1 to the Directive.

The essential requirements are defined in the first instance in interpretative documents drawn up by technical committees and are then elaborated further in the form of technical specifications. The latter may consist of:

- harmonised European standards adopted by the European standardisation bodies (CEN and/or CENELEC) acting on a mandate from the Commission and following consultations with the Standing Committee on Construction;
- a system of European technical approvals to assess the suitability of a product for its intended use in cases where there is no harmonised standard, no recognised national standard and no mandate for a European standard and where the Commission feels, after consulting the Member States within the Standing Committee on Construction, that a standard cannot or cannot yet be prepared. In order to facilitate this task, the European Organisation of Technical Approvals (EOTA), which groups together the national approvals bodies, would be in a position to draw up technical approvals guidelines in respect of a construction product or family of construction products, acting on a mandate from the Commission and after consulting the Standing Committee on Construction.

Where neither a European standard nor guidelines for European technical approval yet exist, construction products may continue to be assessed and marketed in accordance with existing national provisions conforming to the essential requirements.

**CE marking**

Only construction products that comply with the national standards transposing the harmonised standards into a European technical approval or, in the absence of such approvals, into national technical specifications complying with the essential standards are eligible to bear the "CE" marking. This will ensure that all construction works bearing the "CE" marking satisfy the essential requirements.

According to an amendment introduced by Directive 93/68/EEC, the conditions governing its use are made the same for a whole range of products that are likely to come simultaneously within the scope of various Directives which had previously involved different marking systems. Among these products are: construction products, simple pressure vessels, personal
protective equipment, toys, telecommunications terminal equipment, hot-water boilers, electrical equipment, etc.

**Attestation of conformity**

It is up to the manufacturers or their representatives established in the Community to attest, either on the basis of their own resources or through an approved certification body, that their products conform with the requirements of a technical specification in keeping with the attestation of conformity procedures set out in the Directive. These procedures should be stipulated by the Commission following consultations with the Standing Committee on Construction and in accordance with the special characteristics of a particular product or group of products.

**Safeguard clause**

Products which have been declared to conform with the Directive but which do not satisfy the essential requirements and therefore pose a health and safety threat may be temporarily withdrawn from the market by the Member States. Where non-conformity is attributable to the technical specifications, to their application or to omissions inherent therein, the Commission will decide, after consulting the Standing Committee on Construction, whether the European or national technical specification should or should not continue to enjoy presumption of conformity.

**Annexes**

The Annexes to the Directive contain detailed information on:

- the essential requirements;
- European technical approval;
- the attestation of conformity with the technical specifications: methods of control, systems of attestation, competent bodies, marking, certificate and EC declaration of conformity;
- the certification and inspection bodies and the testing laboratories.\(^\text{116}\)

3.6.3 Directive 2008/98/EC

Directive on waste and repealing certain Directives (New Waste Framework Directive)

The New Framework Directive lays down measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use. This is stated in Article 1.

According to Article 2 (2) waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries covered by Directive 2006/21/EC are excluded from the scope of the directive. Nevertheless this directive applies to secondary aggregates.

Article 3 contains all important definitions and according to Article 3 (1) ‘waste’ means any substance or object which the holder discards or intends or is required to discard.

Article 4 (1) describes a waste hierarchy which shall apply as a priority order in waste prevention and management legislation and policy:
(a) prevention;
(b) preparing for re-use;
(c) recycling;
(d) other recovery, e.g. energy recovery; and
(e) disposal.

By-product according to Article 5 is:
“A substance or object, resulting from a production process, the primary aim of which is not the production of that item, may be regarded as not being waste referred to in point (1) of Article 3 but as being a by-product only if the following conditions are met:
(a) further use of the substance or object is certain;
(b) the substance or object can be used directly without any further processing other than normal industrial practice;
(c) the substance or object is produced as an integral part of a production process; and
(d) further use is lawful, i.e. the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.”

End-of-waste status according to Article 6

“Certain specified waste shall cease to be waste within the meaning of point (1) of Article 3 when it has undergone a recovery, including recycling, operation and complies with specific criteria to be developed in accordance with the following conditions:
(a) the substance or object is commonly used for specific purposes;
(b) a market or demand exists for such a substance or object;
(c) the substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and
(d) the use of the substance or object will not lead to overall adverse environmental or human health impacts.

The criteria shall include limit values for pollutants where necessary and shall take into account any possible adverse environmental effects of the substance or object.”

“The measures designed to amend non-essential elements of this Directive by supplementing it relating to the adoption of the criteria set out in paragraph 1 and specifying the type of waste to which such criteria shall apply shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 39(2). End-of-waste specific criteria should be considered, among others, at least for aggregates, paper, glass, metal, tyres and textiles.”

Re-use and recycling according to Article 11

Article 11 states that all member states shall take measures, as appropriate, to promote the re-use of products and preparing for re-use activities, notably by encouraging the establishment and support of re-use and repair networks, the use of economic instruments, procurement criteria, quantitative objectives or other measures. Member states shall take measures to promote high quality recycling and shall set up separate collections of waste where technically, environmentally and economically practicable and appropriate to meet the necessary quality standards for the relevant recycling sectors.

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118 Article 6 (1) Directive 2008/98/EC
119 Article 6 (2) Directive 2008/98/EC
“In order to comply with the objectives of this Directive, and move towards a European recycling society with a high level of resource efficiency, Member States shall take the necessary measures designed to achieve the following targets:

(a) by 2020, the preparing for re-use and the recycling of waste materials such as at least paper, metal, plastic and glass from households and possibly from other origins as far as these waste streams are similar to waste from households, shall be increased to a minimum of overall 50 % by weight;

(b) by 2020, the preparing for re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials, of non-hazardous construction and demolition waste excluding naturally occurring material defined in category 17 05 04 in the list of waste shall be increased to a minimum of 70 % by weight.”

3.7 Other relevant issues

3.7.1 Ecolabel

“The European Ecolabel is a voluntary scheme, established in 1992 to encourage businesses to market products and services that are kinder to the environment. Products and services awarded the Ecolabel carry the flower logo, allowing consumers - including public and private purchasers - to identify them easily (Commission Decision 2002/18/EC establishing Community eco-label working plan). Today the EU Ecolabel covers a wide range of products and services, with further groups being continuously added. […] While the logo may be simple, the environmental criteria behind it are tough, and only the very best products, which are kindest to the environment, are entitled to carry the EU Ecolabel.

What is more, this is a label that consumers can genuinely trust. The criteria are agreed at European level, following wide consultation with experts, and the label itself is only awarded after verification that the product meets these high environmental and performance standards. […] Ecolabel criteria are not based on one single factor, but on studies which analyse the impact of the product or service on the environment throughout its life-cycle, starting from raw material extraction in the pre-production stage, through to production, distribution and disposal. The flower logo helps manufacturers, retailers and service providers gain

121 Article 11 (2) Directive 2008/98/EC
recognition for good standards, while helping purchasers to make reliable choices. The EU Ecolabel is part of a broader action plan on Sustainable Consumption and Production and Sustainable Industrial Policy adopted by the Commission on 16 July 2008.”122

Two examples are sited hereby, which are directly applicable to aggregates management:

- Commission Decision 2006/799/EC establishing revised ecological criteria and the related assessment and verification requirements for the award of the Community eco-label to soil improvers
- Commission Decision 2002/272/EC establishing the ecological criteria for the award of the Community eco-label to hard floor-coverings

Especially the latter one is a very up-to-date example of how an extractive and production activity can be characterized and regulated with practical indicators in order to achieve the best ecological performance. This, on the other hand, may also lead an efficient and sustainable economic activity.

3.7.2 EU Eco-Management and Audit Scheme (EMAS)

“The EU Eco-Management and Audit Scheme (EMAS) is a management tool for companies and other organisations to evaluate, report and improve their environmental performance. The scheme has been available for participation by companies since 1995 and was originally restricted to companies in industrial sectors. Since 2001 EMAS has been open to all economic sectors including public and private services.

In 2009 the EMAS Regulation has been revised and modified for the second time. Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS) was published on 22 December 2009 and entered into force on 11 January 2010.”123

“The objective of EMAS, as an important instrument of the Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan, is to promote continuous improvements in the environmental performance of organisations by the establishment and

122 http://ec.europa.eu/environment/ecolabel/about_ecolabel/what_is_ecolabel_en.htm, (24.05.2010)
implementation of environmental management systems by organisations, the systematic, objective and periodic evaluation of the performance of such systems, the provision of information on environmental performance, an open dialogue with the public and other interested parties and the active involvement of employees in organisations and appropriate training."\(^{124}\)

3.7.3 The European Committee for Standardization (CEN)

CEN, the European Committee for Standardization (Comité Européen de Normalisation, Europäisches Komitee für Normung), is an international 'horizontal' non-profit organization and covers most areas of economic activity.

“The European Committee for Standardization (CEN) is a business facilitator in Europe, removing trade barriers for European industry and consumers. Its mission is to foster the European economy in global trading, the welfare of European citizens and the environment. Through its services it provides a platform for the development of European Standards and other technical specifications.”\(^{125}\)

“More than 60,000 technical experts from industry, associations, public administrations, academia, and societal organizations are involved in the CEN network that reaches over 480 million people. The European Commission and the EFTA (European Free Trade Association) Secretariat act as CEN's Counsellors in terms of regulatory or public interest.

CEN works in a decentralized way. Its members – the National Standardization Bodies (NSBs) of the EU and EFTA countries – operate the technical groups that draw up the standards; the CEN-CENELEC Management Centre (CCMC) in Brussels manages and coordinates this system.”\(^{126}\)

“These [European] standards have a unique status since they also are national standards in each of its 31 Member countries. With one common standard in all these countries and every conflicting national standard withdrawn, a product can reach a far wider market with much lower development and testing costs. ENs help build a European Internal Market for goods and services and position Europe in the global economy. More than 60,000 technical experts

\(^{124}\) Article 1 Regulation (EC) No 1221/2009
\(^{125}\) [Link](http://www.cen.eu/cen/AboutUs/Pages/default.aspx), (25.05.2010)
\(^{126}\) [Link](http://www.cen.eu/cen/AboutUs/WhatisCEN/Pages/default.aspx), (25.05.2010)
as well as business federations, consumer and other societal interest organizations are involved in the CEN network that reaches over 480 million people.”

3.7.4 EC standards

Standardisation is the voluntary process of developing technical specifications based on consensus among all interested parties, including the industry, consumers, trade unions, environmental Non Governmental Organisations (NGO), public authorities, etc. It is carried out by independent standards bodies, acting at national, European and international level.

“While the use of standards remains voluntary, the European Union has, since the mid-1980s, made an increasing use of standards in support of its policies and legislation. […] Furthermore, European standardisation supports European policies in the areas of competitiveness, Information and Communication Technologies (ICT), innovation, interoperability, environment, transport, energy, consumer protection, etc.

Standardisation is an excellent tool to facilitate international trade, competition and the acceptance of innovations by markets. A key challenge for European standardisation is to strengthen its contribution to the competitiveness of Small and Medium-sized Enterprises (SMEs).”

“Standardisation supports market-based competition, so as to achieve objectives such as the interoperability of complementary products and services, or to provide agreed test methods and requirements for health, safety, organisational and environmental performance. Through the development of European standards and the withdrawal of conflicting national standards, standardisation has played a leading role in the achievement of a Single Market for goods.

Standardisation also has a public interest dimension, in particular with regard to the issues of health, safety, security and of the environment. For this reason, the European Union has an active standardisation policy, which promotes standardisation in support of better regulation, and as an instrument for the competitiveness of European industry. This policy is centred

127 http://www.cen.eu/cen/AboutUs/Pages/default.aspx, (25.05.2010)
upon the recognised European standardisation system, and a partnership to implement the 'New Approach'."\(^{130}\)

**Standards concerning Mining and Minerals**

“Embracing steel, non-ferrous metals, non metallic mineral products (cement, ceramics, glass, and lime) and the **non-energy extractive industries (mining and minerals)**, the mission of Directorate-General Enterprise and Industry is to ensure that these sectors can operate within a framework which allows them to achieve a high level of competitiveness, with particular regard to the principles of sustainable development and the practices of fair trade.

We achieve this mission by:

- assessing the impact on these sectors of Community instruments, legislation and policies, mainly in relation to environment, competition and international trade, innovation, and Research and Development (R&D)
- encouraging the sectors to contribute to the attainment of the objectives of the policy of Sustainable Development and to participate in relevant Community programmes
- communicating information to representative bodies on Community developments, in particular through the Raw Materials Supply Group
- assessing the restructuring of the steel industry in accession countries
- collecting comprehensive economic and technical data on the sectors, within the EU.”\(^{131}\)

**Construction minerals**

The Construction minerals sub-sector is the largest sector in term of minerals extracted, and the number of companies and employees. Their demand is generally high (Europe produces an estimated 3 billion tons yearly) while they typically have a relatively low cost per tonne, requiring a tight network of pits and quarries in order to reduce transport distances and thus limit the costs (and associated environmental impact) of transport.\(^{132}\)

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\(^{131}\) [http://ec.europa.eu/enterprise/sectors/metals-minerals/index_en.htm#top](http://ec.europa.eu/enterprise/sectors/metals-minerals/index_en.htm#top), (26.05.2010)

“Europe is self sufficient regarding its aggregate production, and there is only limited international trade, with the exception of Belgium and the Netherlands. In general there is a good correlation between aggregate consumption and population. […]

A relatively small but increasing amount of aggregate is produced from by-products of other industrial processes, such as blast and electric furnace slags or residues from mineral processing such as china clay sands and left-overs from stone quarrying ("secondary aggregates") and from reprocessing of materials previously used in construction, including construction and demolition waste and railway ballast ("recycled aggregates").

In 2004 over 5% of the aggregates used in the EU were recycled, although the relative contribution varied greatly between Member States. At the low end, some countries report that they use no secondary or recycled aggregates, while others report that over 20% of their national consumption is met from such sources due to specific targeted national policies.”

Sustainability

“Extraction of construction minerals unavoidably has an impact on land use, even if, following land rehabilitation, this is temporary. In surface mineral working this is usually visible by the hole created by the removal of soil, overburden and the mineral; storage mounds containing soil and overburden; spoil tips and lagoons (also known as dumps and tailings ponds), together with associated plant (e.g. crushers and conveyor belts), buildings and access roads.

Modern working methods, including progressive extraction and rehabilitation (including new concepts like "function combination"), strive to minimise the area of land being worked at any one time (i.e. the industry's surface "footprint"), while careful landscaping operations (e.g. using trees or bunds) can limit the visibility of sites.

Besides land management issues, the industry is likely to have a certain environmental impact (e.g. changes in groundwater flow patterns, loss of biodiversity, dust and noise). Managing these impacts effectively requires that activities are in line with all relevant legislation that covers these areas.

However, industry has made large strides recently to improve its environmental performance, and there is general acceptance within the companies active in this sector that they have to reconcile their activities with sustainable development and environmental concerns. […] As the industry and representatives of some Member State identified the Habitats Directive and its requirement to designate areas of land as sites of Community importance and form a network of protected areas (Natura 2000) as having the greatest potential effect on the industry, the Commission is currently finalising guidelines on how to reconcile extractive activities with a high level of environmental protection.”

3.7.5 ISO (International Organization for Standardization) standards

The International Organization for Standardization is the world's largest developer and publisher of International Standards and is a network of the national standards institutes of 161 countries, one member per country, with a Central Secretariat in Geneva (Switzerland) that coordinates the system. ISO is a non-governmental organization which represents a bridge between the public and private sectors. On the one hand, many of its member institutes are part of the governmental structure of their countries, or are mandated by their government. On the other hand, other members have their roots uniquely in the private sector, having been set up by national partnerships of industry associations. So ISO enables a consensus to be reached on solutions that meet both the requirements of business and the broader needs of society.

ISO standards are developed by technical committees, comprising experts from the industrial, technical and business sectors which have asked for the standards, and which subsequently put them to use. These experts may be joined by representatives of government agencies, testing laboratories, consumer associations, non-governmental organizations and academic circles.

135 Cp.: http://www.iso.org/iso/about.htm, (30.05.2010)
136 Cp.: http://www.iso.org/iso/about/how_iso_develops_standards.htm, (30.05.2010)
How ISO standards are developed

“The national delegations of experts of a committee meet to discuss, debate and argue until they reach consensus on a draft agreement. The “organizations in liaison” also take part in this work. In some cases, advanced work within these organizations means that substantial technical development and debate has already occurred, leading to some international recognition and in this case, a document may be submitted for "fast-track" processing. In both cases, the resulting document is circulated as a Draft International Standard (DIS) to all ISO's member bodies for voting and comment.

If the voting is in favour, the document, with eventual modifications, is circulated to the ISO members as a Final Draft International Standard (FDIS). If that vote is positive, the document is then published as an International Standard. (There is no FDIS stage in the case of documents processed through the fast track procedure of the joint technical committee ISO/IEC JTC 1, Information technology.)

Every working day of the year, an average of seven ISO technical meetings takes place around the world.”

The most extended and detailed review of existing national and international standards with regard to aggregates are provided by the outstanding work of Lorenz, Walter & Gwosdz, Werner: Manual on the Geological-technical Assessment of Mineral Construction Materials: Hrsg. von der Bundesanstalt für Geowissenschaften und Rohstoffe und den Staatlichen Geologischen Diensten in der Bundesrepublik Deutschland. – Stuttgart: Schweizerbart 2003 (Geologisches Jahrbuch : Sonderhefte : Reihe H, Wirtschaftsgeologie, Berichte zur Rohstoffwirtschaft: SH 15)).

4. Documents with a political relevance

The next chapter will demonstrate documents without a binding character, but nevertheless they are relevant and effective in establishing objectives of European Policy.

137 http://www.iso.org/iso/about/how_iso_develops_standards.htm, (30.05.2010)

The Communication was the first European document, which dealt with the problem of sustainable mining.138 “The Commission sets out broad policy lines for promoting sustainable development in the EU non-energy extractive industry while reconciling the competitiveness of the industry with environmental protection.”139 This is also the objective of the Communication. The Communication compasses the extraction of all solid minerals. Coal, uranium, lignite, peat, brown coal and oil shale are excluded from the communications’ scope.

Extractive industry occurs across the whole Community and is relatively evenly spread over its territory. Regarding construction materials, the EU is a major world producer and is largely self-supplying, natural stones are important export products.

4.1.1 Environmental impact of extractive operations

“From the point of view of the environment, extractive operations raise two types of concern: the use of non-renewable sources may mean that these resources will not be available for future generations and extractive operations harm the environment (air, soil and water pollution, noise, destruction or disturbance of natural habitats, visual impact on the surrounding landscape, effects on groundwater levels).

The waste produced by the extractive industry is a major problem. Mining waste is among the largest waste streams in the Community and some of that waste is dangerous. Abandoned mine sites and unrestored quarries spoil the landscape and can pose severe environmental threats due especially to acid mine drainage.”140

1.1.2 Measures for sustainable development of the extractive industry

The main issues for the integration of the environmental policies into the extractive industry practices are the prevention of mining accidents, the improvement of the overall environmental performance of the industry and the sound management of mining waste.

138 Cp.: Hámor, Sustainable mining in the European Union: The legislative aspect, page 5
Concerning the prevention of mining accidents the European Commission proposed to extend the scope of the Seveso II Directive to extractive activities.
Concerning mining waste a study on the management of mining waste and the assessment of related environmental risk will be completed during 2000. On the basis of the results of the study, a Directive on the management of mining waste may be proposed.\textsuperscript{141}

“The Commission proposed to draw up an inventory of abandoned mine sites and unrestored quarries which spoil the landscape and may pose environmental threats.
As a result of the exchange of information under the IPPC Directive, it will be possible to produce a document on the best available technology to reduce pollution and prevent or mitigate accidents in the extractive industry.
The communication stresses that the development of environmental performance indicators would make it possible to establish a detailed assessment of the industry's environmental performance. Resource use, discharges to air and water and land use are proposed as indicators. These indicators must provide for common measuring standards to allow for comparison of performance.

\textbf{The communication stresses the importance of finding an approach for the extractive industry which takes greater account of the environment and land use planning.}

Extractive operations may help to arrest depopulation in certain areas. As those operations have a finite life however, it is necessary to consider how lasting economic effects can be created in those areas.
The Commission points to the very rapid technological progress in the sector. It encourages the extractive industry to develop a common European platform to take advantage of the potential which the European research area will offer.
The Commission is willing to facilitate a framework to intensify the dialogue between the Member States, both sides of industry, NGOs, the Commission and other stakeholders. It invites all these parties to make proposals on the objectives, constitution and format of such a framework.”\textsuperscript{142}

\textsuperscript{141} Cp.: \url{http://europa.eu/legislation_summaries/enterprise/industry/l28113_en.htm}, (15.04.2010)
\textsuperscript{142} \url{http://europa.eu/legislation_summaries/enterprise/industry/l28113_en.htm}, (15.04.2010)
1.1.3 Role of the Member States

According to the Communication, the competent authorities of all member states are invited to ensure access to sites for the extractive industry and guarantee a high level of environmental protection, e.g. by implementing environmental protection rules in their mining laws.

The Commission recommends that they should adequately balance the need for land access for industry with the need for a high level of environmental protection. Member States are also invited to share experiences and information in this area.


Meeting our critical needs for growth and jobs in Europe

This communication from the Commission to the European Parliament and the Council, which sets out targeted measures to secure and improve access to raw materials both within the EU and globally, was adopted in 2008.

“Raw materials are essential for the sustainable functioning of modern societies. Access to and affordability of mineral raw materials are crucial for the sound functioning of the EU's economy. […] On the one hand, the EU has many raw material deposits. However, their exploration and extraction are facing increased competition for different land uses and a highly regulated environment, as well as technological limitations in access to mineral deposits. On the other hand, the EU is highly dependent on imports of strategically important raw materials which are increasingly affected by market distortions. […] Securing reliable and undistorted access to raw materials is increasingly becoming an important factor for the EU’s competitiveness and, hence, crucial to the success of the Lisbon Partnership for growth and jobs.” 143

It is therefore appropriate to develop a more coherent EU policy response and this Communication is a first step towards this. It should also help the EU to form a common approach in the international discussion on raw materials. 144

The first part of the Communication is an analysis of supply and demand of non-energy raw materials, but this will not be presented.

4.2.1 The policy response: an integrated strategy

Whereas Japan and the US have recognised their critical dependence on raw materials and therefore are adopting specific policies for securing their supply, there has been no integrated policy response at EU level to ensure that it has sufficient access to raw materials at fair and undistorted prices. The EU should therefore agree on an integrated raw materials strategy. Such a strategy should be based on the following 3 pillars:

- ensure access to raw materials from international markets under the same conditions as other industrial competitors;
- set the right framework conditions within the EU in order to foster sustainable supply of raw materials from European sources;
- boost overall resource efficiency and promote recycling to reduce the EU’s consumption of primary raw materials and decrease the relative import dependence.

Another important step is to identify a common list of critical raw materials in co-operation with the member states.

4.2.1.1 First pillar: Access to raw materials on world markets at undistorted conditions

The European Union shall actively pursue raw materials diplomacy to secure access to raw materials. This includes better and more effective coordination and coherence among EU external policies (external relations, trade, and development). It also means coordination at EU level in the management of EU strategic partnerships and policy dialogues with third partner countries, following “mutual interest” principles.

4.2.1.2 Second pillar: Foster sustainable supply of raw materials from European sources

To facilitate the sustainable supply of raw materials from European deposits, it is important to have the right framework conditions in place.

Access to land is a key requirement for the extractive industry, but the area available for extraction in the EU is being reduced by other land uses. Unfortunately it is usual in the EU that it lasts 8-10 years between the discovery of deposits and actual production. So there is a need to speed up the permit process for exploration and extraction activities. For example, Sweden has modernised its mining legislation and introduced lead times in the permit process.
But especially of utmost importance is that the knowledge base of mineral deposits within the EU can be improved. Therefore the long term access to these deposits should be taken into account in land use planning. In this regard the Commission recommends that the national geological surveys become more actively involved in land use planning. In line with the principle of subsidiarity, the Commission proposes to provide a platform for Member States to exchange best practices in the area of land use planning (such as for example the Austrian Minerals Plan) and other important framework conditions for the extractive industry.

Most of the legislation at EU level relevant to the non-energy extractive industry is horizontal. The implementation of the Natura 2000 legislation is of particular relevance for the extractive industry. There were concerns about the contradictoriness between the protection of Natura 2000 areas and the development of extractive activities in Europe. But the Commission stresses that there is no absolute exclusion of extractive operations within the Natura 2000 legal framework. Unfortunately there is still limited public awareness of the importance of domestic raw materials for the European economy. More effective partnerships between universities, geological surveys and industry should be encouraged to address this challenge.145 “The Commission will encourage initiatives such as the European Minerals Day 2009 and will also foster the generation of new high skills on geology, earth observation and environmental issues, notably through the Erasmus Mundus Minerals and Environmental Programme (2009-2013) joint master and doctoral study programmes, to help counter this shortage. As a safe working environment is essential to attract skilled personnel, the Commission will also support actions to improve worker protection.”

4.2.1.3 Third pillar: Reduce the EU’s consumption of primary raw materials

“Resource efficiency, recycling, substitution and the increased use of renewable raw materials should be promoted in view of easing the critical dependence of the EU on primary raw materials, reduce import dependency, and improve the environmental balance, as well as meeting industrial needs for raw materials.”

The Commission promotes research projects that focus on resource-efficient products and production. Research will also play a major role in developing substitutes for the aim of flexibility in the production process and reduced vulnerability to import dependence. The increased use of secondary raw materials contributes to the security of supply and energy efficiency. But however, today, a lot of end-of-life products do not enter into sound recycling channels, which results in an irremediable loss of valuable secondary raw materials. The Commission has to work with member states to raise awareness and ensure the sound and harmonised enforcement of the Waste Shipment Regulation, e.g. by better specifying the criteria for denying export authorisation of end-of-life products. In cooperation with the Member States, it will propose more effective control mechanisms on waste shipments and release information on illegal shipment flows.

The recycling of secondary raw materials will be facilitated by the full implementation and enforcement of relevant recycling legislation (Directive 2002/96/EC on Waste electrical and electronic equipment (WEEE); Directive 2000/53/EC on end-of-life vehicles; Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators; Directive 94/62/EC on packaging and packaging waste, Directive 2006/12/EC on waste) as well as by the new provisions in the Waste Framework Directive on when waste ceases to be waste. The Directive will also require Member States to meet collection targets for the re-use and recycling of metals, paper, glass and non-hazardous construction and demolition waste. To boost the reuse or recycling of products and materials at within the EU, a fair and transparent market is essential, based on agreed minimum standards, certification schemes where appropriate, within proportionate legal framework conditions.148

2.2 The way forward
“The challenges in ensuring a sustainable supply of non-energy raw materials for the EU economy are multiple, complex, and interrelated. These challenges are likely to persist, or even increase. There is need for a decisive European response in order to ensure European competitiveness. Therefore, the issue of raw materials requires high level political attention and should be addressed in an integrated EU strategy that ties together various EU policies and promotes further cooperation between the Member States where appropriate. The three pillars of the proposed strategy aim to ensure a level playing field in access to resources in

third countries, better framework conditions for extracting raw materials within the EU and a reduced consumption of primary raw materials by increasing resource efficiency and promoting recycling.”  

As implementing measures, working groups were established consisting of member states expert and industry representatives. The groups were aiming at conciliating on further conclusive reports on the critical minerals, on best practice mineral policy and on land use planning aspects. The reports were published for open consultation when this report was accomplished.

4.3 The Sixth Community Environment Action Program, 2002

Although the Community Environmental Action Program has no binding character, it sets out the framework for the European environmental policy for the period 2002-2012 and outlines actions that need to be taken to achieve them.

The current program of 2002 focuses mainly on four priority areas:

- Climate change
- Nature and biodiversity
- Environment and health
- Natural resources and waste

The 6th EAP calls for the development of seven Thematic Strategies in the field of soil and the marine environment, air, pesticides and urban environment and natural resources and waste recycling. The Thematic Strategies constitute the framework for action at EU level in each of the concerned priorities.  

Natural resources and waste

The Programme aims at better resource efficiency and resource and waste management to bring about more sustainable production and consumption patterns, thereby decoupling the use of resources and the generation of waste from the rate of economic growth and aiming to

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ensure that the consumption of renewable and non-renewable resources does not exceed the carrying capacity of the environment.\textsuperscript{151}

Objectives and priority areas for action on the sustainable use and management of natural resources and wastes are described in Article 8 (1).

The aims set out in Article 2 should be pursued by the following objectives:
— aiming at ensuring that the consumption of resources and their associated impacts do not exceed the carrying capacity of the environment and breaking the linkages between economic growth and resource use. In this context the indicative target to achieve a percentage of 22\% of the electricity production from renewable energies by 2010 in the Community is recalled with a view to increasing drastically resource and energy efficiency;
— achieving a significant overall reduction in the volumes of waste generated through waste prevention initiatives, better resource efficiency and a shift towards more sustainable production and consumption patterns;
— a significant reduction in the quantity of waste going to disposal and the volumes of hazardous waste produced while avoiding an increase of emissions to air, water and soil;
— encouraging re-use and for wastes that are still generated: the level of their hazardousness should be reduced and they should present as little risk as possible; preference should be given to recovery and especially to recycling; the quantity of waste for disposal should be minimised and should be safely disposed of; waste intended for disposal should be treated as closely as possible to the place of its generation, to the extent that this does not lead to a decrease in the efficiency in waste treatment operations.

The EU \textit{Strategy on Sustainable Use of Natural Resources} was launched in December 2005\textsuperscript{152}. The objective of the strategy is to reduce the environmental impacts generated by the use of natural resources and to do so in a growing economy. It aims to introduce an analytical framework allowing the environment impact of resource use to be taken into account into public policymaking.

The strategy includes actions 1) to improve our understanding and knowledge of European resource use, its negative environmental impact and significance in the EU and globally, 2)
develop tools to monitor and report progress in the EU, Member States and economic sectors, 3) foster the application of strategic approaches and processes both in economic sectors and in the Member States and encourage them to develop related plans and programmes, and 4) raise awareness among stakeholders and citizens of the significant negative environmental impact of resource use.

In December 2005 the Commission published a Communication on the Thematic Strategy in the prevention and recycling of waste. Progress towards the objectives set out in the strategy is currently being reviewed and this review will be published in the form of a communication. A major element is the introduction of life-cycle thinking into waste management policy and practices. All products cause environmental degradation in some way, whether from their manufacturing, use or disposal. Integrated Product Policy (IPP) seeks to minimise these by looking at all phases of a products' life-cycle and taking action where it is most effective.

The life-cycle of a product is often long and complicated. It covers all the areas from the extraction of natural resources, through their design, manufacture, assembly, marketing, distribution, sale and use to their eventual disposal as waste. At the same time it also involves many different actors such as designers, industry, marketing people, retailers and consumers. IPP attempts to stimulate each part of these individual phases to improve their environmental performance.

With so many different products and actors there can not be one simple policy measure for everything. Instead there is a whole variety of tools - both voluntary and mandatory - that can be used to achieve this objective. These include measures such as economic instruments, substance bans, voluntary agreements, environmental labelling and product design guidelines.

5. Jurisdiction of the European Court of Justice

Case-law plays an increasingly important role in legal systems – as well as at European Community level. The major authority body in this legal field is the European Court of Justice.
The European Court of Justice comprises a judge for each member state; these 27 judges are assisted by 8 Advocate Generals. They are designated for 6 years. The Court is responsible for ensuring that the law is observed in the interpretation and implementation of the Treaties. He has the duty to identify infringements of European law. If the Court of Justice is of the opinion that the member state concerned has not complied with its judgment it may impose a lump sum or penalty payment on it. He is also responsible for giving preliminary rulings on the validity and interpretation of the provisions of the European Union.153

Jurisdiction of the European Court of Justice is also important concerning mining and aggregates. In this context, the parties involved are individuals, mining companies, member states, and their authorities, and the European Commission itself.

The most important general subjects of the suits are:

• economic origin (debate on supply of financial state-aid, deferred terms of tax and royalty payments, anti-dumping of mining products, exploration tenders, etc.)
• personal affairs (occupational diseases, early retirement schemes for miners, employees’ rights)
• environmental management
• extraction rights
• minerals supply contracts (supply contracts of uranium, coal)"154.

The following judgements will deal with the problem of mining waste management, due to the fact that especially before the Mining Waste Directive came into force, the field of waste management legislation was really complex. In that time the waste management legislation wasn’t able to regulate all problems resulting from extracting minerals. Since 2006, when the Directive came into force, the situation is much easier and has terminated the legal obscurity.

154 Cp.: Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) page 166
5.1 Case C-6/00

The following questions to the Court for a preliminary ruling are touching the extraction of minerals:
“Is any delivery of waste to a mine to be regarded, irrespective of the actual circumstances of such delivery, as a disposal of waste within the meaning of Regulation No 259/93 in conjunction with Annex II A (D 12) to Directive 75/442/EEC? (C-6/00, paras 24)
If the question is answered in the negative:
According to what criteria is classification under the operations listed in Annex II to Directive 75/442 to be carried out? (C-6/00, paras 24)”

The court has given a judgement with the following tenor:
The deposit of waste in a closed mine does not necessarily constitute a disposal operation for the purposes of D 12 of Annex II A to Directive 75/442/EEC on waste, as amended by Directive 91/156/EEC Decision 96/350/EC.
The deposit shall be assessed on a case-by-case basis to determine whether the operation is a disposal or a recovery operation within the meaning of that Directive. A single operation may not be classified simultaneously as a disposal and a recovery operation. A deposit constitutes a recovery if its main objective is that the waste has a useful purpose in replacing other materials.

5.2 Case C-9/00

The following questions to the Court for a preliminary ruling are touching the extraction of minerals:

a) Place of storing:

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155 Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) page 167
156 Cp.: Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) page 167
What relevance, in deciding the above question, does it have that the leftover stone is stored on a site adjoining the place of quarrying to await subsequent use? Is it relevant generally whether it is stored on the quarrying site, a site next to it or further away? […]

b) Composition:
What relevance does it have that the leftover stone is the same as regards its composition as the basic rock from which it has been quarried, and that it does not change its composition regardless of how long it is kept or how it is kept? […]

c) Possible effect on health and environment:
What relevance does it have that the leftover stone is harmless to human health and the environment? To what extent generally is importance to be attached to its possible effect on health and the environment in assessing whether it is waste? […]

d) Use of leftover stone:
What relevance does it have that the intention is to transfer the leftover stone in whole or in part away from the storage site for use, for example for landfill or breakwaters, and that it could be recovered as such without processing or similar measures? To what extent in this connection should attention be paid to how definite the plans are which the holder of the leftover stone has for such use and to how soon after the leftover stone has been deposited on the storage site the use takes place? […]" 157

The court has given a judgement in which it has ruled:  
The holder of leftover stone resulting from stone quarrying which is stored for an indefinite length of time to await possible use discards or intends to discard that leftover stone, which is accordingly to be classified as waste within the meaning of Directive 75/442/EEC on waste.  
The place of storage of leftover stone, its composition and the fact, even if proven, that the stone does not pose any real risk to human health or the environment are not relevant criteria for determining whether the stone is to be regarded as waste.158

157 Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) pages 168-169

158 Cp.: Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) page 169
5.3 Case C-114/01

The following questions to the Court for a preliminary ruling are touching the extraction of minerals:


a) Place of storing:
What relevance has the place of storing in deciding the above question? Is it relevant generally where the by-products of mining operations are stored? […]

b) Composition:
What relevance does it have, in assessing the matter, that the leftover rock is the same as regards its composition as the basic rock from which it is quarried, and that it does not change its composition regardless of how long it is kept and how it is kept? Should ore-dressing sand which results from the ore-dressing process perhaps be assessed differently from leftover rock in this respect? […]

c) Possible effect on health and environment:
What relevance does it have, in assessing the matter, that leftover rock is harmless to human health and the environment, but that, according to the view of the environmental licence authorities, substances harmful to health and the environment dissolve from ore-dressing sand? To what extent generally is importance to be attached to the possible effect of leftover rock and ore-dressing sand on health and the environment in assessing whether they are waste? […]

d) Use of leftover rock:
What relevance does it have, in assessing the matter, that leftover rock and ore-dressing sand are not intended to be discarded? Leftover rock and ore-dressing sand may be re-used without special processing measures, for example for supporting mine galleries, and leftover rock also for landscaping the mine after it has ceased operation. Minerals may in future with the development of technology be recovered from ore-dressing sand for utilisation. To what extent should attention be paid to how definite plans the person carrying on mining operations has for such utilisation and to how soon after the leftover rock and ore-dressing sand has been tipped on the mining area or the ancillary site the utilisation would take place? […]
If leftover rock and/or ore-dressing sand is to be regarded as waste within the meaning of Article 1(a) of the Council Directive on waste, it is further necessary to answer the following supplementary questions:

Does "other legislation" within the meaning of Article 2(1)(b) of the Waste Directive (91/156/EEC), waste covered by which is excluded from the scope of the directive, and which under point (ii) concerns inter alia waste resulting from prospecting, extraction, treatment and storage of mineral resources, mean exclusively the European Community's own legislation?

Or may national legislation too be "other legislation" within the meaning of the Waste Directive? […]" 159

The court has given a judgement in which it has ruled the following tenor:

“In a situation such as that at issue in the main proceedings, the holder of leftover rock and residual sand from ore-dressing operations from the operation of a mine discards or intends to discard those substances, which must consequently be classified as waste within the meaning of D 75/442/EEC on waste, as amended by D 91/156/EEC, unless

• he uses them lawfully for the necessary filling in of the galleries of that mine and provides sufficient guarantees; that the substances used for that purpose
• have the identification
• are actually used for that purpose

[…] Thus so far as it does not constitute a measure of application of Directive 75/442, as amended by Directive 91/156, and in particular Article 11 of that directive, national legislation must be regarded as 'other legislation' within the meaning of Article 2(1)(b) of that directive covering a category of waste mentioned in that provision, if it relates to the management of that waste as such within the meaning of Article 1(d) of Directive 75/442, and if it results in a level of protection of the environment at least equivalent to that aimed at by that directive, whatever the date of its entry into force.” 160

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159 Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) pages 169-171

160 Vallefuoco, Legal framework of the EU with regard to the extraction of non-energetic minerals (2004) pages 171-172
European Land Use Planning Law related to aggregates

I. Review of the situation

Introduction

Land use planning is also a theme which has to be dealt with in the context of sustainable development in the EU non-energy extractive industries and therefore also regarding aggregates. The Communication from the Commission on “Promoting Sustainable Development in the EU Non-Energy Extractive Industry” stresses the importance of finding an approach for the extractive industry which takes greater account of the environment and land use planning. Therefore Strategic level spatial planning plays a great role.

1. Policy Issues

1.1 CEMAT

Council of Europe’s Conference of Ministers responsible for Regional/Spatial Planning

“The Council of Europe Conference of Ministers responsible for Spatial/Regional Planning (CEMAT) brings together representatives of the 47 member states of the Council of Europe, united in their pursuit of a common objective: sustainable spatial development of the European continent.

The activities of the Council of Europe, relating to spatial planning, began in 1970 in Bonn with the first European Conference of Ministers responsible for Regional Planning (CEMAT).
Over the years a number of reference texts have been elaborated to guide spatial planning policies.

The most important are the Guiding Principles for Sustainable Spatial Development of the European Continent, adopted at the 12th Session of the CEMAT held in Hanover in 2000 and incorporated into Recommendation (2002)1 by the Committee of Ministers to Member States on the Guiding Principles for Sustainable Spatial Development of the European Continent. The Guiding Principles stress the territorial dimension of human rights and democracy”.161

1.1.1 The concept of regional/spatial planning

“Regional/spatial planning gives geographical expression to the economic, social, cultural and ecological policies of society. It is at the same time a scientific discipline, an administrative technique and a policy developed as an interdisciplinary and comprehensive approach directed towards a balanced regional development and the physical organisation of space according to an overall strategy. […]

Characteristics of spatial planning

Man and his well-being as well as his interaction with the environment are the central concern of regional/spatial planning, its aims being to provide each individual with an environment and quality of life conducive to the development of his personality in surroundings planned on a human scale.

Regional/spatial planning should be democratic, comprehensive, functional and long-term oriented:

  democratic: it should be conducted in such a way as to ensure the participation of the people concerned and their political representatives;
  comprehensive: it should ensure the co-ordination of various sectoral policies and integrate them in an overall approach;
  functional: it needs to take into account the existence of a regional consciousness based on common values, culture and interests, sometimes crossing administrative and territorial boundaries, without overlooking the institutional arrangements of different countries;

161 http://www.coe.int/t/dg4/cultureheritage/heritage/cemat/default_en.asp, (11.05.2010)
long-term: it should analyse and take into consideration long-term trends and development. It should be oriented to address economic, social, cultural, ecological and environmental phenomena and interventions.

**Operation**

Regional/spatial planning must take into consideration the existence of a multitude of individual and institutional decision-makers, which influence the organisation of space, the uncertainty of all forecasting studies, the market pressures, the special features of administrative systems and the different socio-economic and environmental conditions. It must however strive to reconcile these influences in the most harmonious way possible.

**Fundamental objectives**

The fundamental objectives are: balanced socio-economic development of the regions; improvement of the quality of life; responsible management of natural resources and protection of the environment; and rational use of land.

**Implementation of regional/spatial planning objectives**

The achievement of regional/spatial planning objectives is essentially a political matter. Many private and public agencies contribute through their actions towards developing and changing the organisation of space. Regional/spatial planning reflects the desire for interdisciplinary integration and co-ordination and for co-operation between the authorities involved. It must be based on active citizen participation.162

1.1.2 **Recommendation (2002) by the Committee of Ministers to Member States on the Guiding Principles for Sustainable Spatial Development of the European Continent**

The recommendation stresses the importance of enhancing and protecting natural resources. Concerning the protection of natural resources it stresses the following:

“Natural resources contribute not only to properly balanced ecosystems but also to the attractiveness of regions, their recreational value and the general quality of life. They must, therefore, be protected. The Convention on the Conservation of European Wildlife and

162 [http://www.coe.int/t/dg4/cultureheritage/heritage/cemat/concept_en.asp](http://www.coe.int/t/dg4/cultureheritage/heritage/cemat/concept_en.asp), (11.05.2010)
Natural Habitats (Bern Convention, 1979) and the Pan-European Biological and Landscape Diversity Strategy must also be taken into account in a sustainable spatial planning policy. [...] The establishment of a coherent network of special protection areas within the European Union and the applicant countries, called Natura 2000, is one of the measures contributing to this goal. In conjunction with the European Conference of Ministers “Environment for Europe”, the development of these networks should be developed on a Europe-wide scale.”

1.2 ESDP
European Spatial Development Perspective

“The characteristic territorial feature of the European Union (EU) is its cultural variety, concentrated in a small area. This distinguishes it from other large economic zones of the world, such as the USA, Japan and MERCOSUR. This variety – potentially one of the most significant development factors for the EU – must be retained in the face of European integration. Spatial development policies, therefore, must not standardize local and regional identities in the EU, which help enrich the quality of life of its citizens. [...] Development projects in different Member States complement each other best, if they are directed towards common objectives for spatial development. Therefore, national spatial development policies of the Member States and sectoral policies of the EU require clear spatially transcendent development guidelines. These are presented in this European Spatial Development Perspective (ESDP), drawn up by the Member States in co-operation with the European Commission.”

Concerning natural resources ESDP says the following: “The conservation and development of natural resources calls for appropriate integrated development strategies and planning concepts as well as suitable forms of management. This ensures that nature conservation and the improvement of living conditions for people are taken into consideration equally. Spatial and environmental impact assessment can provide

164 European Spatial Development Perspective (ESDP) (1999) page 11
the necessary information basis for this. In the search for balanced solutions, the population affected should be intensively involved.”\(^{165}\)

**Policy Options**

It stresses the following policy options:

- “Continued development of European ecological networks, as proposed by Natura 2000, including the necessary links between nature sites and protected areas of regional, national, transnational and EU-wide importance.
- Integration of biodiversity considerations into sectoral policies (agriculture, regional policies, transport, fisheries, etc) as included in the Community Biodiversity Strategy.
- Preparation of integrated spatial development strategies for protected areas, environmentally sensitive areas and areas of high biodiversity such as coastal areas, mountain areas and wetlands balancing protection and development on the basis of territorial and environmental impact assessments and involving the partners concerned.
- Greater use of economic instruments to recognise the ecological significance of protected and environmentally sensitive areas.
- Promotion of energy-saving and traffic-reducing settlement structures, integrated resource planning and increased use of renewable energies in order to reduce CO2 emissions.”\(^{166}\)

1.3 Planning for the future need of minerals

1.3.1 Strategic level spatial planning

“Strategic level spatial planning is a tool used by public authorities to help them establish a coherent sustainable development policy for their municipality, region or country.

Enacted at national, regional or local levels depending on the laws and planning systems in place in each country, spatial planning allows different demands on the land to be examined

\(^{165}\) European Spatial Development Perspective (ESDP) (1999) page 35

\(^{166}\) European Spatial Development Perspective (ESDP) (1999) page 36
across a broad geographical area so that a more integrated regional development strategy can be drawn up that maximises wins-wins and minimises conflicts wherever possible.

It also provides for a more balanced development framework because it enables wider societal and environmental concerns to be taken into account very early on in the planning process. In addition, it encourages different economic sectors, interest groups and the general public to become engaged through public consultation, thereby ensuring greater transparency in the decision making process.

In this context, spatial planning is a particularly useful tool for examining how to support economic development whilst at the same time avoiding or reducing, wherever possible, potentially negative impacts on the natural environment, including on Natura 2000 sites. The fact that this happens at such an early stage in the planning process is important as the scope for examining alternative approaches and scenarios is usually that much greater at this level.

Although not in place in all EU countries, there is growing evidence to show that this kind of strategic spatial planning approach leads to a more predictable and stable planning framework for all concerned. This should, in turn, help reduce the risk of unforeseen difficulties and delays at later stages, for instance at the level of individual projects.\textsuperscript{167}

### 1.3.2 Mineral plans

Forward planning is important for the whole industry and due to this awareness a few European countries have adopted strategic mineral plans, which could help to:

- **identify where the reserve mineral deposits are located so that initial explorations can be made to gauge their quality and quantity, and to determine whether their exploitation could be commercially viable or not**

- **analyse projected needs for different types of minerals over the longer term and ensure, as far as possible, the prudent, efficient and sustainable use of minerals and recycling of suitable materials in line with the EU Raw Mineral Initiative.**

\textsuperscript{167} EC Guidance on undertaking new non-energy extractive activities in accordance with EU nature legislation, European Commission (2010) page 37
- develop a more integrated mineral planning strategy which takes account of wider societal concerns such as the environment. In this respect the involvement of different stakeholders, amongst others from the NEEI and nature conservation sectors, in the development of the mineral plan is a key point.  

An example of planning systems for mineral extraction is the **Austrian Mineral Resource Plan**. The work on this plan commenced in 2001, with the intention of providing minerals resource maps covering all the mineral deposits in the country. The first step was the work on compiling information on the occurrence of minerals, identify mineral reserves (mainly sand and gravel) and evaluate their quality and quantity (productivity), regional importance (demand, etc.) and suitability for exploitation. The plan also analyses the possible conflicts with other land uses, which include Natura 2000, natural protection areas, forests, groundwater protection zones, settlement areas and traffic routes. It finally identifies areas that may be suitable or unsuitable for extraction.

This may be the first step into the direction of a sustainable raw materials supply, by identifying mineral reserves and analysing possible conflicts. The results are sites, which provide enough raw materials to extract and which may be signed in land use planning as “Rohstoffvorrangzonen”.

### 1.3.3 Mineral maps & Natura 2000 maps: identifying conflicts at a strategic level

“A key to good spatial planning is sound geographical knowledge. Much of the planning is done with the help of maps which make it possible to overlay different interests, activities, resources, etc on base maps that show the area’s natural geography and existing land uses. From these overlays, decisions can be made about zoning certain areas for particular types of development.

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In the case of the NEEI industry, detailed mineral maps are essential in identifying which types of minerals are located where and whether these are considered exploitable or not from a commercial perspective.

If these mineral maps are then overlaid on maps showing the location and boundaries of Natura 2000 sites within a particular geographical region, it should be possible to quickly identify areas where there is no or a low risk of potential conflicts and those where there is a higher risk, for instance where the potential mineral sites are located within or close to a Natura 2000 sites. These can then be investigated further.

Such overlay maps can be created by developers, nature conservation bodies or local, regional or national administrations, including mining administrations. Ideally, they should cover large enough areas and have a high enough resolution as well as a reliable long-term data input. Some geological surveys or other national institutions and organisations have produced similar tools that allow the display of information about the location of mineral resources alongside the location of protected areas (including Natura 2000 sites).\(^{170}\)

1.3.4 Carrying out more detailed investigations and searching for alternatives

“The detailed investigation of potential conflict areas identified through these overlay maps can be done either by the industry itself as part of its own forward planning strategy or through the public authorities’ mineral plan, or spatial development/land-use plans.

In the case of public authority plans and programmes, it is most likely that such plans will be subject to a Strategic Environmental Assessment under the SEA Directive as they usually set the framework for future development consent of projects listed in the EIA Directive. Where they are likely to significantly affect one or more Natura 2000 sites, an Appropriate Assessment under the Habitats Directive will also be required. These assessments provide a mechanism for examining the extent and degree of potential negative effects on the environment and for exploring viable alternatives. […]

\(^{170}\) EC Guidance on undertaking new non-energy extractive activities in accordance with EU nature legislation, European Commission (2010) pages 40-41
Strategic plans and accompanying impact assessments don’t just help identify potential areas of conflict, they also provide a means for resolving these conflicts early on in the planning process. This is achieved by examining various less damaging alternatives. This is an essential part of both the SEA and the AA process and could involve looking at alternative locations so as to be able zone future mining operations away from sensitive areas or it may involve studying alternative approaches, such as placing as greater emphasis on recycling instead of more first time extraction.

The key is to find as many win-win situations as possible where future mineral resources are safeguarded whilst at the same time avoiding Natura 2000 or minimising the risk of adverse effects on them. To achieve this, it is important that all stakeholders are involved in the exploration of alternative scenarios so that they can bring their reasoning to the table and at the same time learn more about the concerns of other interest groups.

It has been demonstrated time and time again that discussion and public consultation helps raise awareness of the issues at stake and the needs of each sector (be it the mineral sector or nature conservation) so that more a integrated and informed decision can be taken which are based on a greater recognition and understanding of the needs of others.

This is not to say that all conflicts can be planned away. There will be occasions where potential overlaps with Natura 2000 may not be avoidable (eg for very rare minerals located only in a few places) or where potential sites without important land-use conflicts but with good possibilities for efficient exploitation of raw materials are very difficult to find.¹⁷¹

1.3.5 Marine spatial planning

Existing planning frameworks have a largely terrestrial focus. Challenges that emerge from the growing competing uses of the sea, ranging from maritime transport, fishing, aquaculture, leisure activities, off-shore energy production and other forms of sea bed exploitation must be addressed. Therefore, maritime spatial planning can be a fundamental tool for the sustainable

¹⁷¹ EC Guidance on undertaking new non-energy extractive activities in accordance with EU nature legislation, European Commission (2010) pages 41-42
development of marine areas and coastal regions, and for the restoration of Europe’s seas to environmental health (EC 2007e).

Marine spatial planning provides a mechanism for stakeholder involvement, which is particularly important as multiple organisations have competencies in the planning and management of activities in the marine environment (WWF/Wildlife Trusts 2004).

In 2008 the European Commission launched a Communication on Maritime Spatial Planning (MSP), which focus on achieving common principles in the EU (COM(2008) 791 final). Maritime Spatial Planning is considered a key instrument for the Integrated Maritime Policy in the EU. It helps public authorities and stakeholders to coordinate their action and optimises the use of marine space to benefit economic development and the marine environment. This Communication aims to facilitate the development of MSP by Member States and encourage its implementation at national and EU level. It sets out key principles for MSP and seeks, by way of debate, to encourage the development of a common approach among Member States.
European Health and Safety Law related to aggregates

I. Review of the situation

1. Policy Issues

1.1 Communication from the Commission on Safe Operation of Mining Activities: a follow-up to recent Mining Accidents

The main objective of this Communication is to set the broad policy lines for promoting sustainable development in the EU non-energy extractive industry by reconciling the need for more secure and less polluting extractive activities while maintaining the competitiveness of the industry.

Therefore the Commission stresses the need for an improvement in the environmental performance of this industry in general and to prevent accidents such as the ones in Romania (Baia Mare) and Spain (Aznalcollár). "The Communication places existing and future legislative and other initiatives in the context of sustainable development and sets out a way forward to continue to address these issues respecting the principle of subsidiarity. It invites Member States, industry and other stakeholders to actively participate in setting in place a framework designed to achieve improved dialogue that should lead to identifiable targets, a timetable for the achievement of these targets, and concrete actions." The Communication stresses also the impacts on the environment, but in this context only health and safety aspects will be discussed.

172 Cp.: COM/2000/265 page 3
173 COM/2000/265 page 3
1.1.1 Current Situation

“Accident statistics show that the industry belongs to the high-risk sectors, harbouring potential hazards as a result of the close interaction between nature, technology and people. Occupational health and safety impacts include the control of potential hazards to workers related to a hostile working environment to which work has to be adapted. […]

With regard to EU legislation in the health and safety field, the Directive on the introduction of measures to encourage improvements in the safety and health of workers at work and the Directive on the minimum requirements for improving the safety and health protection of workers in surface and underground mineral-extracting industries lays down specific requirements for the industry. Both Directives are based on former article 118A of the EC Treaty requiring that "such directives shall avoid imposing administrative, financial and legal constraints in a way which would hold back the creation and development of small- and medium-sized undertakings".”\(^{174}\)

1.1.2 Follow-Up Actions

In this Communication the Commission has identified a number of complex issues that need to be addressed through balanced consideration of economic, environmental and social aspects to ensure the sustainable development of the industry. Therefore a coherent Community policy is necessary.

Regarding the main lines for this policy approach, stakeholder dialogue has an essential part. Also included are the safety management and the prevention of industrial risks, cover best available techniques for the industry and focus on the specific requirements for sound management of mining waste as well as environmental liability.\(^{175}\)

“With regard to existing structures for dialogue, the Safety and Health Commission for the Mining and Other Extractive Industries, set up by a Council Decision, is funded and managed by the European Commission and composed of national representatives of governments, employers and workers. At present, it is seeking to intensify its contacts with the candidate countries. Its activities consist in the ensuring of an efficient exchange of information in the establishing of recommendations, guidelines and proposals to the Member States and in

\(^{174}\) COM/2000/265 pages 9-10
\(^{175}\) Cp.: COM/2000/265 page 19
assisting the European Commission as regards the preparation of relevant measures aiming to improve the working environment in the industry. Concerning informal arrangements, Commission officials have consulted regularly with experts of Member States and industry representatives through the Raw Materials Supply Group on the main issues arising, notably in relation to competitiveness. Recently the first steps have been taken to involve other stakeholders in the group, including NGOs and trade unions. Other existing fora include EUROTEN […] and EuroGeoSurveys, a consortium of national geological surveys of the Member States together with Norway and Iceland.176

The main results/follow-up actions of the Communication are:

- the amendment of the Seveso II Directive,
- an initiative on the management of mining waste and
- a BAT reference document (according to the IPPC Directive).177

2. Secondary Legislation

2.1 Directive 89/391/EEC

Directive on the introduction of measures to encourage improvements in the safety and health of workers at work

The objective of this Directive is to introduce measures to encourage improvements in the safety and health of workers at work. Therefore it contains general principles concerning the prevention of occupational risks, the protection of safety and health, the elimination of risk and accident factors, the informing, consultation, balanced participation in accordance with national laws and/or practices and training of workers and their representatives, as well as general guidelines for the implementation of the said principles. This states Article 1 of the Directive.

176 COM/2000/265 pages 19-20
177 Cp.: Hámor, Sustainable mining in the European Union: The legislative aspect, page 5
2.1.1 Scope

According to Article 2 (1) it shall apply to all sectors of activity, both public and private. It shall not be applicable in the case of certain specific public service activities, such as the armed forces or the police, or of certain specific activities in the civil protection services inevitably conflict with it.

In Article 3 all important definitions in this context are described:

- **worker**: any person employed by an employer, including trainees and apprentices but excluding domestic servants;
- **employer**: any natural or legal person who has an employment relationship with the worker and has responsibility for the undertaking and/or establishment;
- **workers' representative with specific responsibility for the safety and health of workers**: any person elected, chosen or designated in accordance with national laws and/or practices to represent workers where problems arise relating to the safety and health protection of workers at work;
- **prevention**: all the steps or measures taken or planned at all stages of work in the undertaking to prevent or reduce occupational risks.”178

Article 4 states an obligation for each member states to take the necessary steps to ensure that employers, workers and workers' representatives are subject to the legal provisions necessary for the implementation of this Directive. Therefore also adequate controls and supervision are essential.

2.1.2 Employers’ Obligations

Article 4 states the obligation for the member states, whereas the following Articles are describing the obligations of the employers.

**Article 5** states a general provision that the employer shall have a duty to ensure the safety and health of workers in every aspect related to the work.

The employer has to take the necessary measures for the safety and health protection of workers, including the prevention of occupational risks and provision of information and

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178 Article 3 Directive 89/391/EEC
training, as well as provision of the necessary organization and means. He has also to take
account of changing circumstances and aim to improve existing situations (Article 6).

Article 6 (2) names the general principles of prevention:
- avoiding risks;
- evaluating the risks which cannot be avoided:
- combating the risks at source;
- adapting the work to the individual, especially as regards the design of work places,
  the choice of work equipment and the choice of working and production methods,
  with a view, in particular, to alleviating monotonous work and work at a
  predetermined work-rate and to reducing their effect on health.
- adapting to technical progress;
- replacing the dangerous by the non-dangerous or the less dangerous;
- developing a coherent overall prevention policy which covers technology,
  organization of work, working conditions, social relationships and the influence of
  factors related to the working environment;
- giving collective protective measures priority over individual protective measures;
- giving appropriate instructions to the workers.

The employer also has to take into account the nature of the activities of the enterprise and/or
establishment:
“(a) evaluate the risks to the safety and health of workers, inter alia in the choice of work
equipment, the chemical substances or preparations used, and the fitting-out of work places.
Subsequent to this evaluation and as necessary, the preventive measures and the working and
production methods implemented by the employer must:
- assure an improvement in the level of protection afforded to workers with regard to safety
  and health,
- be integrated into all the activities of the undertaking and/or establishment and at all
  hierarchical levels;
(b) where he entrusts tasks to a worker, take into consideration the worker's capabilities as
regards health and safety;
(c) ensure that the planning and introduction of new technologies are the subject of
consultation with the workers and/or their representatives, as regards the consequences of the
choice of equipment, the working conditions and the working environment for the safety and health of workers;
(d) take appropriate steps to ensure that only workers who have received adequate instructions may have access to areas where there is serious and specific danger.”

Article 7 contains the obligation of protective and preventive services. Therefore the employer has to designate one or more workers to carry out activities related to the protection and prevention of occupational risks for the undertaking and/or establishment. These workers may not have disadvantages due to this activity and shall have adequate time to fulfil their obligations. If such competent workers are not available, competent external services or people have to be enlisted.

But in all cases:
- these workers have to have the necessary capabilities and the necessary means,
- the external services or persons consulted must have the necessary aptitudes and the necessary personal and professional means, and
- these workers and the external services must be sufficient in number to deal with the organization of protective and preventive measures, taking into account the size of the undertaking and/or establishment and/or the hazards to which the workers are exposed and their distribution throughout the entire undertaking and/or establishment.

In the context of first aid, fire-fighting and evacuation of workers the employer has according to Article 8 to take the necessary measures therefore, adapted to the nature of the activities and the size of the undertaking and/or establishment and arrange any necessary contacts with external services, particularly as regards first aid, emergency medical care, rescue work and fire-fighting. He has also to designate the workers required to implement such measures.

The employer shall:
“(a) as soon as possible, inform all workers who are, or may be, exposed to serious and imminent danger of the risk involved and of the steps taken or to be taken as regards protection;
(b) take action and give instructions to enable workers in the event of serious, imminent and unavoidable danger to stop work and/or immediately to leave the work place and proceed to a place of safety;

179 Article 6 (3) Directive 89/391/EEC
(c) save in exceptional cases for reasons duly substantiated, refrain from asking workers to resume work in a working situation where there is still a serious and imminent danger.”

**Article 10** states the obligation of the employer to inform the workers of all necessary information concerning the safety and health risks and protective and preventive measures and activities and the measures taken pursuant to Article 8 (2).

**Article 11** regulates the consultation and participation of workers in discussions on all questions relating to safety and health at work.

The training of workers is regulated in **Article 12** of the Directive. According to this Article the employer shall ensure that each worker receives adequate safety and health training, in particular in the form of information and instructions specific to his workstation or job. The training shall be adapted to take account of new or changed risks and repeated periodically if necessary. This training must take place during working hours. Workers' representatives with a specific role in protecting the safety and health of workers shall be entitled to appropriate training.

### 2.1.3 Workers’ Obligations

According to **Article 13** it shall be the responsibility of each worker to take care as far as possible of his own safety and health and that of other persons affected by his acts at work in accordance with his training and the instructions given by his employer.

So the worker has to:

“(a) make correct use of machinery, apparatus, tools, dangerous substances, transport equipment and other means of production;

(b) make correct use of the personal protective equipment supplied to them and, after use, return it to its proper place;

(c) refrain from disconnecting, changing or removing arbitrarily safety devices fitted, e.g. to machinery, apparatus, tools, plant and buildings, and use such safety devices correctly;

(d) immediately inform the employer and/or the workers with specific responsibility for the safety and health of workers of any work situation they have reasonable grounds for

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180 Article 8 (3) Directive 89/391/EEC
considering represents a serious and immediate danger to safety and health and of any shortcomings in the protection arrangements;
(e) cooperate, in accordance with national practice, with the employer and/or workers with specific responsibility for the safety and health of workers, for as long as may be necessary to enable any tasks or requirements imposed by the competent authority to protect the safety and health of workers at work to be carried out;
(f) cooperate, in accordance with national practice, with the employer and/or workers with specific responsibility for the safety and health of workers, for as long as may be necessary to enable the employer to ensure that the working environment and working conditions are safe and pose no risk to safety and health within their field of activity.”181

2.2 Directive 92/91/EEC

Directive concerning the minimum requirements to improve the safety and health protection of workers in the mineral-extracting industries through drilling


Article 2 contains the important definitions:
“(a) mineral-extracting industries through drilling shall mean all the industries practising:
- extraction, in the strict sense of the word, of minerals through drilling by boreholes, and/or
- prospection with a view to such extraction, and/or
- preparation of extracted materials for sale, excluding the activities of processing the materials extracted;
(b) workplace shall mean the whole area intended to house workstations, relating to the immediate and ancillary activities and installations of the mineral-extracting industries through drilling, including accommodation, where provided, to which workers have access in the context of their work.”182

According to Article 12 all member states have to bring into force the laws, regulations and administrative provisions necessary to meet the obligations of this Directive not later than 24 months after its adoption. They shall forthwith inform the Commission thereof and have to

181 Article 13 (2) Directive 89/391/EEC
182 Article 2 Directive 92/91/EEC
communicate to the Commission the texts of the provisions of national law which they have already adopted or are adopt in the field governed by this Directive.
Member states shall also report to the Commission every five years on the practical implementation of this Directive, indicating the views of employers and workers.

2.2.1 Employers’ Obligations

Article 3 states the general obligation to safeguard the safety and health of workers; therefore the employer shall take the necessary measures to ensure that:
“(a) workplaces are designed, constructed, equipped, commissioned, operated and maintained in such a way that workers can perform the work assigned to them without endangering their safety and/or health and/or those of other workers;
(b) the operation of workplaces when workers are present takes place under the supervision of a person in charge;
(c) work involving a special risk is entrusted only to competent staff and carried out in accordance with the instructions given;
(d) all safety instructions are comprehensible to all the workers concerned;
(e) appropriate first-aid facilities are provided;
(f) any relevant safety drills are performed at regular intervals.”\(^{183}\)

The employer also has to ensure that a document concerning safety and health, (“safety and health document”), covering the relevant requirements laid down in Articles 6, 9 and 10 of Directive 89/391/EEC (directive described previously), is drawn up and kept up to date.
This document has to demonstrate in particular:
“- that the risks incurred by the workers at the work place have been determined and assessed,
- that adequate measures will be taken to attain the aims of this Directive,
- that the design, use and maintenance of the workplace and of the equipment are safe.”\(^{184}\)

According to Article 3 (4) of the Directive the employer shall, without delay, report any serious and/or fatal occupational accidents and situations of serious danger to the competent authorities.

\(^{183}\) Article 3 (1) Directive 92/91/EEC
\(^{184}\) Article 3 (2) Directive 92/91/EEC
In the context of the protection from fire, explosions and health-endangering atmospheres, the employer shall according to Article 4 take measures and precautions appropriate to the nature of the operation:
- to avoid, detect and combat the starting and spread of fires and explosions, and
- to prevent the occurrence of explosive and/or health-endangering atmospheres.

Article 5 states the obligation for the employer to provide and maintain appropriate means of escape and rescue in order to ensure that workers have adequate opportunities for leaving the workplaces promptly and safely in the event of danger.

According to Article 6 the employer has to take the necessary measures to provide the necessary warning and other communication systems to enable assistance, escape and rescue operations to be launched immediately if the need arises.

All workers and their representatives have to be comprehensible informed of all measures which have to be taken concerning safety and health. This states Article 7. Article 9 says that the workers and/or of their representatives shall have the opportunity to participate and be consulted on all matters covered by this Directive.

Article 8 contains provisions concerning health surveillance:
“1. To ensure that workers receive health surveillance appropriate to the health and safety risks they incur at work, measures shall be introduced in accordance with national law and/or practices.
2. The measures referred to in paragraph 1 shall be such that each worker shall be entitled to or shall undergo health surveillance before being assigned to duties related to the activities referred to in Article 2 and subsequently at regular intervals.
3. Health surveillance may be provided as part of a national health system.”

2.3 Directive 1996/82/EC
Directive on the control of major – accident hazards (Seveso II)
Amended – Directive 2003/105/EC

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Article 8 Directive 92/91/EEC
Major accidents in chemical industry have occurred around the world. Such a major accident in Europe was the one in Seveso/Italy. This "Seveso" accident happened in 1976 at a chemical plant, manufacturing pesticides and herbicides. A dense vapour cloud containing tetrachlorodibenzoparadioxin (TCDD) was released from a reactor. “Commonly known as dioxin, this was a poisonous and carcinogenic by-product of an uncontrolled exothermic reaction. Although no immediate fatalities were reported, kilogramme quantities of the substance lethal to man even in microgramme doses were widely dispersed which resulted in an immediate contamination of some ten square miles of land and vegetation. More than 600 people had to be evacuated from their homes and as many as 2000 were treated for dioxin poisoning.”

This accident caused the adoption of legislation aimed at the prevention and control of such accidents at EU-level. In 1982, the first EU Directive 82/501/EEC – Seveso Directive – was adopted. In 1996, this directive was replaced by Directive 96/82/EC, so-called Seveso II Directive. It applies to some thousands of industrial establishments where dangerous substances are present in quantities exceeding the thresholds in the directive. The Seveso II Directive has fully replaced its predecessor and has made and introduced important changes and new concepts. This includes a revision and extension of the scope, the introduction of new requirements relating to safety management systems, emergency planning and land-use planning and a reinforcement of the provisions on inspections to be carried out by Member States.

In the year 2003 the Seveso II Directive 96/82/EC was extended by the Directive 2003/105/EC. “The most important extensions of the scope of that Directive are to cover risks arising from storage and processing activities in mining, from pyrotechnic and explosive substances and from the storage of ammonium nitrate and ammonium nitrate based fertilizers.”

It should be mentioned that this directive covers mining but not aggregates.

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2.3.1 Aim of the Directive (Article 1)

“The aim of the Seveso II Directive is two-fold. Firstly, the directive aims at the prevention of major-accident hazards involving dangerous substances. Secondly, as accidents do continue to occur, the directive aims at the limitation of the consequences of such accidents not only for man (safety and health aspects) but also for the environment (environmental aspect). Both aims should be followed with a view to ensuring high levels of protection throughout the Community in a consistent and effective manner.”[189]

2.3.2 Scope

The scope of the Seveso II Directive is described in Article 2. “It deals solely with the presence of dangerous substances in establishments. It covers both, industrial "activities" as well as the storage of dangerous chemicals. The directive can be viewed as inherently providing for three levels of proportionate controls in practice, where larger quantities mean more controls. A company who holds a quantity of dangerous substance less than the lower threshold levels given in the Directive is not covered by this legislation but will be proportionately controlled by general provisions on health, safety and the environment provided by other legislation which is not specific to major-accident hazards. Companies that hold a larger quantity of dangerous substance, which is above the lower threshold contained in the directive, will be covered by the lower tier requirements. Companies that hold even larger quantities of dangerous substance (upper tier establishments), which is above the upper threshold contained in the directive, will be covered by all the requirements contained within the directive.

Important areas excluded from the scope of the Seveso II Directive include nuclear safety, the transport of dangerous substances and intermediate temporary storage outside establishments and the transport of dangerous substances by pipelines.”[190]

Concerning mining Directive 2003/105/EC the following is excluded from the directives’ scope:

- “the exploitation (exploration, extraction and processing) of minerals in mines, quarries, or by means of boreholes, with the exception of chemical and thermal

189 http://ec.europa.eu/environment/seveso/legislation.htm (18.05.2010)
190 http://ec.europa.eu/environment/seveso/legislation.htm (18.05.2010)
processing operations and storage related to those operations which involve dangerous substances, as defined in Annex I;

- the offshore exploration and exploitation of minerals, including hydrocarbons\textsuperscript{191}

The result is that risks arising from storage and processing activities in mining are within the scope of the directive.

All important definitions contain Article 3.

2.3.3 General obligations of the operator

The directive contains general and specific obligations on both operators and the member states’ authorities. Article 5 states general obligations of the operator: Thus all member states have to ensure that the operator is obliged to take all measures necessary to prevent major accidents and to limit their consequences for humans and the environment. Member States shall ensure that the operator is required to prove to the competent authority referred to in Article 16, at any time, in particular for the purposes of the inspections and controls referred to in Article 18, that he has taken all the measures necessary as specified in this Directive.

According to Article 6 and 7 all operators of establishments coming under the scope of the directive need to send a notification to the competent authority and need to establish a major accident prevention policy. This major-accident prevention policy shall be designed to guarantee a high level of protection for humans and the environment by appropriate means, structures and management systems.

In addition, operators of upper tier establishments need to establish a safety report, a safety management system and an emergency plan\textsuperscript{192}

The notification shall contain the following details:

a. “the name or trade name of the operator and the full address of the establishment concerned;

b. the registered place of business of the operator, with the full address;

c. the name or position of the person in charge of the establishment, if different from (a);

d. information sufficient to identify the dangerous substances or category of substances involved;

\textsuperscript{191} Article 1(1) Directive 2003/105/EC

\textsuperscript{192} Cp.: http://ec.europa.eu/environment/seveso/legislation.htm (18.05.2010)
e. the quantity and physical form of the dangerous substance or substances involved;
f. the activity or proposed activity of the installation or storage facility,
g. the immediate environment of the establishment (elements liable to cause a major accident or to aggravate the consequences thereof)\(^{193}\).

2.3.4 Safety report

Article 9 of the directive contains the obligation for all member states to require the operator to produce a safety report for the purposes of:

a. “demonstrating that a major-accident prevention policy and a safety management system for implementing it have been put into effect in accordance with the information set out in Annex III;

b. demonstrating that major-accident hazards have been identified and that the necessary measures have been taken to prevent such accidents and to limit their consequences for man and the environment;

c. demonstrating that adequate safety and reliability have been incorporated into the design, construction, operation and maintenance of any installation, storage facility, equipment and infrastructure connected with its operation which are linked to major-accident hazards inside the establishment;

d. demonstrating that internal emergency plans have been drawn up and supplying information to enable the external plan to be drawn up in order to take the necessary measures in the event of a major accident;

e. providing sufficient information to the competent authorities to enable decisions to be made in terms of the siting of new activities or developments around existing establishments.”\(^{194}\)

“The safety report shall contain at least the data and information listed in Annex II. It shall name the relevant organisations involved in the drawing up of the report. It shall also contain an updated inventory of the dangerous substances present in the establishment.”\(^{195}\)

**Annex II – Minimum data and Information to be considered in the safety report specified in Article 9:**

\(^{193}\) Article 6 (2) Directive 1996/82/EC

\(^{194}\) Article 9 (1) Directive 1996/82/EC

\(^{195}\) Article 1 (5) Directive 2003/105/EC
I. Information on the management system and on the organization of the establishment with a view to major accident prevention

This information shall contain the elements given in Annex III.

II. Presentation of the environment of the establishment

A. description of the site and its environment including the geographical location, meteorological, geological, hydrographic conditions and, if necessary, its history;
B. identification of installations and other activities of the establishment which could present a major-accident hazard;
C. description of areas where a major accident may occur.

III. Description of the installation

A. description of the main activities and products of the parts of the establishment which are important from the point of view of safety, sources of major-accident risks and conditions under which such a major accident could happen, together with a description of proposed preventive measures;
B. description of processes, in particular the operating methods;
C. description of dangerous substances:
   1. inventory of dangerous substances including
      - the identification of dangerous substances: chemical name, CAS number, name according to IUPAC nomenclature,
      - the maximum quantity of dangerous substances present or likely to be present;
      2. physical, chemical, toxicological characteristics and indication of the hazards, both immediate and delayed for man and the environment;
      3. physical and chemical behaviour under normal conditions of use or under foreseeable accidental conditions.

IV. Identification and accidental risks analysis and prevention methods

A. detailed description of the possible major-accident scenarios and their probability or the conditions under which they occur including a summary of the events which may play a role in triggering each of these scenarios, the causes being internal or external to the installation;
B. assessment of the extent and severity of the consequences of identified major accidents including maps, images or, as appropriate, equivalent descriptions, showing areas which are liable to be affected by such accidents arising from the establishment, subject to the provisions of Articles 13(4) and 20;
C. description of technical parameters and equipment used for the safety of installations.

V. Measures of protection and intervention to limit the consequences of an accident

A. description of the equipment installed in the plant to limit the consequences of major accidents;
B. organization of alert and intervention;
C. description of mobilizable resources, internal or external;
D. summary of elements described in A, B, and C above necessary for drawing up the internal emergency plan prepared in compliance with Article 11.”

2.3.5 Emergency plans

“Internal Emergency plans for response measures to be taken inside establishments have to be drawn up by the operator and to be supplied to the local authorities to enable them to draw up External Emergency Plans. Emergency Plans have to be reviewed, revised and updated, where necessary. Important new elements require operators to consult with their personnel on Internal Emergency Plans and on the local authorities to consult with the public on External Emergency Plans. The Seveso II Directive contains an obligation to regularly test in practice the Internal and External Emergency Plans.” This contains Article 11 of the directive.

2.3.6 Land-Use Planning

“This new provision reflects the ‘lesson learnt’ from the Bhopal accident that the land-use planning implications of major-accident hazards should be taken into account in the regulatory process. Member States are obliged to pursue the aim of the directive through controls on the siting of new establishments, modifications to existing establishments and new developments such as transport links, locations frequented by the public and residential areas in the vicinity of existing establishments. In the long term, Land-use Planning Policies shall ensure that appropriate distances between hazardous establishments and residential areas are maintained.” This states Article 12 of the directive.

2.3.7 Information to and consultation of the public

“The Seveso II Directive gives more rights to the public in terms of access to information as well as in terms of consultation. Operators as well as public authorities have certain

197 http://ec.europa.eu/environment/seveso/legislation.htm (18.05.2010)
198 http://ec.europa.eu/environment/seveso/legislation.htm (18.05.2010)
obligations to inform the public. Whereas passive information means permanent availability of information, i.e. that this information can be requested by the public, active information means that operators or competent authorities themselves need to be pro-active, for example through the distribution of leaflets or brochures informing the public about the behaviour in the case of an accident.”

2.3.8 Accident Reporting

Article 14 contains information which has to be supplied by the operator following a major accident:

“Member States shall ensure that, as soon as practicable following a major accident, the operator shall be required, using the most appropriate means:

a. to inform the competent authorities;

b. to provide them with the following information as soon as it becomes available:
   o the circumstances of the accident,
   o the dangerous substances involved,
   o the data available for assessing the effects of the accident on man and the environment, and
   o the emergency measures taken;

c. to inform them of the steps envisaged:
   o to alleviate the medium- and long-term effects of the accident,
   o to prevent any recurrence of such an accident;

d. to update the information provided if further investigation reveals additional facts which alter that information or the conclusions drawn.”

“Member States have the obligation to report major accidents to the Commission. In order to fulfil its information obligations towards the Member States, the Commission has established a so-called Major-Accident Reporting System (MARS) and the Community Documentation Centre on Industrial Risks (CDCIR) at the Major-Accident Hazards Bureau established within its Joint Research Centre (JRC) in Ispra, Italy.”

199 http://ec.europa.eu/environment/seveso/legislation.htm (18.05.2010)
201 http://ec.europa.eu/environment/seveso/legislation.htm (18.05.2010)
2.3.9 Inspections

Inspections are regulated in Article 18 of the directive. “In the Directive, an attempt is made to ensure increased consistency in enforcement at European level through greater prescriptive detail of the obligations of the competent authorities. The most important new element is that competent authorities are obliged to organise an Inspection System which can either consist of a systematic appraisal of each establishment or of at least one on-site inspection per year.”202

2.4 Directive 93/15/EEC

Council Directive 93/15/EEC of 5 April 1993 on the harmonization of the provisions relating to the placing on the market and supervision of explosives for civil uses is an important piece of legislation in regulating explosives handling and safety requirements in aggregate exploitation as well.