THE IMPLICATIONS OF CURRENT EUROPEAN DIRECTIVES AND THE FUTURE OF MINING IN EUROPE

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INTRODUCTION

In the past ten years there has been a resurgence of interest in metal mining in Europe, particularly in those areas, which have a long history of industrial extraction. Recent mine development proposals have been set against a background of burgeoning environmental and waste management legislation with adoption of an increasingly prescriptive cross-sectoral approach. A number of new European Union (EU) Directives have, or are scheduled to come into force, of particular significance to the extractive industry. With the background of current legislation, these are likely to impose a strict legal framework and threaten increasingly inflexible regulation. The financial implications for the extractive industries of such an approach have already resulted in the withdrawal of some development plans and could seriously dis-benefit European mining.

This paper presents a review of current EU legislation and charts its development over the years. The implications for the extractive industries of both recent and proposed directives for the industry are highlighted and a comparison made between the prescriptive approach of current waste Directives and the risk-based approach proposed for contaminated land.

THE BACKGROUND FOR MINING IN EUROPE

Mining in Europe has a long history, with several regions bearing evidence of over 3,000 years of more or less continuous and significant mineral extraction. While the peak in European mining activity in terms of numbers of operating sites was probably reached in the 18th and 19th centuries, the mining industry in the Community remains significant, particularly with regard to local and regional economies.

Unregulated mines of the past typically disposed of mine wastes with few environmental controls or constraints. Mine waste disposal sites were located for operational convenience with tipping usually adjacent to the mine property or directly down-gradient in the nearest valley. Operators commonly abandoned sites with little, if any thought to remediation. In many settings, this old mine wastes remain vulnerable to wind and water erosion. They remain a potential source of contamination, a state exacerbated under certain geochemical conditions by generation of Acid Rock Drainage.

Following highs and lows of mine production corresponding to supply and demand constraints and opportunities (opening up of new mines in developing countries and world wars) throughout the late nineteenth and first half of the twentieth centuries, there has been a resurgence of interest in the mineral industry in Europe. This has been expressed in a range of ways, from the establishment of mining investment services in European capital cities, particularly London, through to exploration and opening up of new mines, particularly in those areas with a long mining history. These developments are a result of the activity of both senior and junior mining companies. They look positively on the economic and political stability and socio-economic growth of the EU, the availability of a skilled workforce and ready access to markets.

Development of a mine property has always required attention to two issues, i.e. the technical exercise of locating, defining and engineering a mine on the one hand and on the other, the raising of capital. Mining has as much to do with achieving public and potential shareholder's confidence, as it does with exploration and exploitation of mineral resources. The great surge of public interest in environmental issues from the 1970s has therefore very firmly placed *"the environment"* into the mine development equation and no more so than in

Europe. Inevitably, the future of mining is bound to respect the long-term rights and needs of other land users or uses and the community in general. Continued successful development depends on ability to robustly address the environmental issues of mining, co-operating with environmental and government institutions, adapting the business to the changing political landscape and gaining the trust and respect that will foster investor confidence.

LEGISLATION BACKGROUND

Mining legislation in Europe has been established piecemeal in line with development of mines and social conscience. Commencing with need to establish security of tenure, regulation has moved into the area of protection of other land users, health and safety, and efficiency of resource extraction. The resulting legislative framework throughout Europe incorporates a complex system of Codes and Laws, changed through the time in order to adapt to new requirements. An official compilation of European law and regulation is not available, however, Table 1 provides an indicative summary of mining related legislation in force in EU member states compiled from various published sources.

Mining codes and regulations vary considerably in approach and coverage from country to country. For example, UK maintains a set of fully detailed and prescriptive Mines and Quarry regulations which set out requirements for, *inter alia*, baseline studies, engineering design, inspection procedures, reporting, duties of management, involvement of the authorities and abandonment plans. These requirements apply alongside the encompassing planning and environmental framework such that appropriate environmental performance is assured. For other member states, the approach taken is to set out regulations, which establish only principles to be followed in the operation of a mining property. While planning and permitting procedures are usually clearly defined in relevant legislation, provision for inspections and regular auditing of operations usually are incorporated within a requirement for an annual mining plan, leaving independent inspection at the discretion of the operator.

In regard to application of higher level strategic regulation, since the creation of the EU, no specific guidance for the mining industry has been issued, with the exception of Council Resolution (CR) of 28 July 1989 issued by Directorate General (DG) III which refers to the development of the Community mining industry. This CR recognises the significant economic, social and commercial importance of the mining industry and the need for a common approach, in particular for the co-ordination of national and Community measures and budgetary instruments assigned to favour the industrial development. There is also reference to the development of a framework programme to analyse actual requirements and define appropriate Community actions.

Since 1989, there has been no issue of EU or DG III special programmes for the mining industry. DG XVII (Energy) has, however, been active in securing aid for member state coal mining industries and in late 1998, DG XI (Environment, Nuclear Safety and Civil Protection), invited tenders, via an open bidding procedure, for a research project focused on the management of waste resulting from mining and quarrying operations and from the treatment of minerals (98/S 236-161103/EN).

In contrast to the somewhat comatose mining legislation development, there have been sweeping changes in the environmental regulatory framework over the last 20 years. Prior to the mid-1970s, environmental laws and regulations to protect environmental resources such as water, air, wildlife, and cultural and historic features tended to be perfunctory. Compliance with such legislation posed few difficulties to industry, including the mining industry, however, a growing public awareness of environmental issues brought about fundamental changes through the late 1970s and 1980s, as is now well documented.

Thus, nearly all of the environmental laws and regulations most affecting mining, have been enacted since about 1975, with many of the most significant environmental regulations being developed within the last decade. In contrast, mining in a large number of important mining districts commenced more than a century before the enactment of such environmental law. Mining operations frequently located at sites with a long history of extraction and less than environmentally friendly practices had to come to terms almost overnight with the placing of environmental issues at the top of the regulatory agenda.

Furthermore, each EU member state has dealt with environmental issues as they relate to mining in different ways, including appointment of a competent authority and different implementation procedures. This has complicated matters for companies either operating in different states or looking for guidance on practice elsewhere, i.e. there has been no model to follow which makes a pan-European approach difficult.

Having established the general background to mining regulatory history in Europe, we now focus on the current developments likely to significantly impact upon EU mining over the next few years. As noted above, few Directives relate directly to the mining sector, which would appear to be something of an oversight when it is considered that the paper, automotive, chemical and paint industries have all been subject of such consideration. Nevertheless, cross-sectoral EU Directives will have a significant impact on the future development of mining projects throughout Europe, particularly in relation to waste disposal and the environment.

The authors recognise that such "level playing field" EU legislation is an appropriate vehicle for achieving improvements in environmental performance, however an increasingly prescriptive approach is apparent in recent EU Directives (in particular the Landfill Directive) and application globally of detailed specifications for environmental controls, regardless of the risk

posed, is of concern to the mining industry, not least by virtue of its unique characteristics as follows:

- locus of operations fixed ultimately by geology;
- operations frequently cantered on old mines with a legacy of dereliction and contamination;
- operations involving excavation, transport and deposition of very large volumes of material;
- development which is purposely designed to comprise a temporary use of the land and therefore incorporates closure and remediation as part of the works;
- mine development which frequently represents a key socio-economic influence for local and regional economies.

These characteristics set the development of a mine apart from say, constructing and operating a car plant or paper mill. Directives inappropriately applied or enforced may serve to inhibit best practice and to prevent mine development in a cost effective and environmentally appropriate manner. At the same time, it must be recognised that the lack of an effective mining code in the Member State presents the spectre of an under regulated industry in which regulation, enforcement and decision making follows, rather than prevents, environmental incidents.

A listing of relevant EU environmental Directives is provided in Table 2, together with comments on potential impact upon the mining industry in general and the disposal of waste in particular.

KEY EU DIRECTIVES

The following section provides more detailed comment upon the key EU Directives which have had, are having, or potentially will have a significant effect upon the design, operation and closure of mining operations. It will be noted that the impact of these Directives ranges from the benign to the potentially disruptive.

The EIA Directive 885/337/EEC)

Directive 85/337/EEC amended by Council Decision 97/11/EEC (on the assessment of the effects of certain public and private projects on the environment, i.e. Environmental Impact Assessment) has been adopted within the different planning structures of each member state in the late 1980s to early 1990s as appropriate to the requirements and formal procedures set up by the Directive and its subsequent Decisions. EIAs are used by the mining industry to ensure that adequate control, mitigation or protection is incorporated into project design, implementation and decommissioning plans, helping in the decision making process. Figure 1 shows how environmental impact considerations are interrelated within a typical project cycle as defined by Funding Groups and successfully used by the mining industry.

The mining industry was therefore able to react positively to the EIA Directive, successfully applying its experience to ensure that environmental, social and health provi-

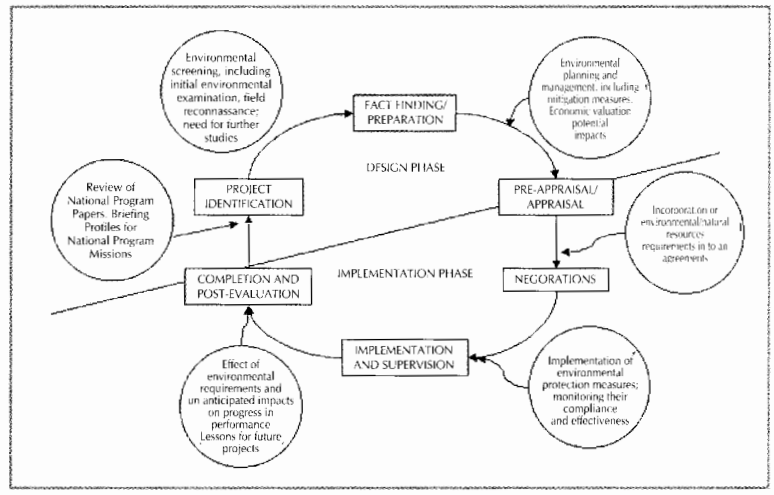

Figure 1. Project Cycle. Environmental and natural resources planning and management (from Lohani, 1992).

sions are afforded adequate consideration in determining the economic viability and acceptability of alternative project scenarios.

The Water Framework Directive (COM(97)49)

Water is one of the most comprehensively regulated issues in EU legislation. The Water Framework Directive aims to establish sustainable water policies geared to provide sufficient water for communities and other economic requirements while protecting the environment. In terms of water management, it establishes the concept of river basin management (left to the discretion of member states) based on an assessment of the characteristics, definition of quality objectives and the establishment of monitoring programs to achieve the defined objectives.

Furthermore, in terms of wastewater, the Directive sets out an emission limit value approach, focusing on maximum allowable levels of pollutants that may be discharged from a particular source into the aquatic environment. A schematic view of the Integrated Water Quality Management procedures and Wastewater regulation is presented in Figure 2.

For the mining industry, water is a key element and implications for exploitation, processing and industrial uses as well as addressing potential impacts upon other users or the natural environment are the elements, which have moved the industry in advance of regulatory requirements. The industry has successfully applied cost effective and advanced methods of operation, employing efficient use of water, reducing emissions and/or impact on the environment, avoiding or minimising contamination of clean sources and attuning its activities with other land users.

As a result, the legislation and its supporting regulations as proposed by the EU will have a minor impact on an industry with a tradition of managing water on a stewardship basis rather that the old ownership concept.

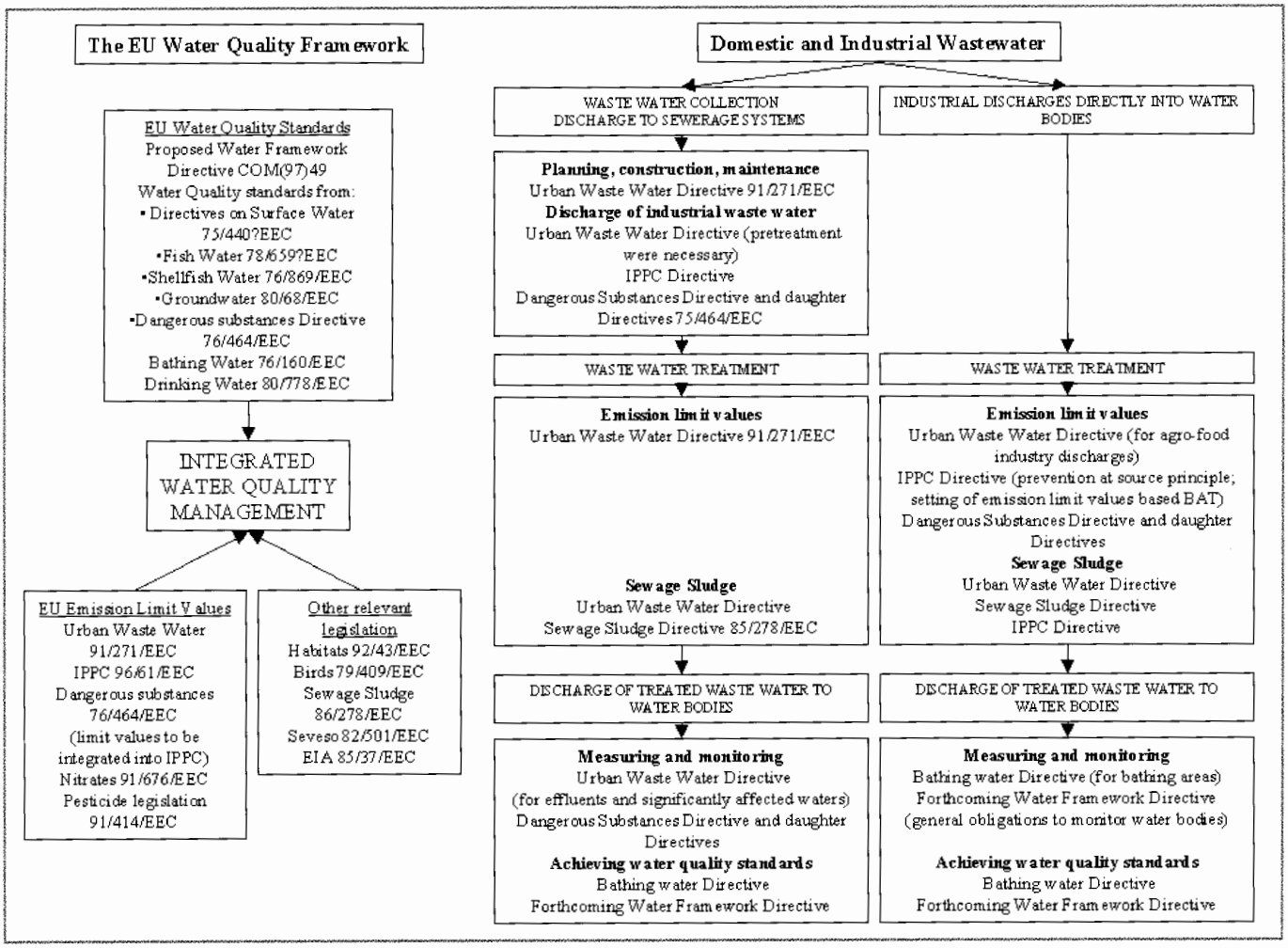

Figure 2. EU Water framework. Source: EU web site.

The Waste Framework and Hazardous Waste Directives (91/156/EEC; 91/689/EEC)

Another recent policy initiative having important implications for the extractive industry is that covering waste management as set out in the Waste Framework Directive (WFD) and the complementary Hazardous Waste Directive (HWD). These Directives establish the framework for waste management structures, elaborated through two "lines" of daughter Directives. One group sets down requirements for permitting and operating waste disposal facilities while the other deals with specific types of waste such as oils, packaging and batteries. Figure 3 provides an overview of the framework.

The WFD specifically exempts waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries providing that management of the same is covered by other legislation (e.g. Mining Codes). However, this exemption could also be in regard to prior application of other EU Directives, such as the HWD. As a consequence, member states may adopt different courses in applying the WFD to mining.

The WFD does not specify particular disposal routes or methods. Member states must ensure that waste is disposed of appropriately, without endangering human health, without risk to water, air, soil, plants and animals, without causing a nuisance through noise or odours and without adversely affecting the countryside or places of special interest. The WFD also requires member states to establish a disposal network using the best available technology not entailing excessive costs (BATNEEC).

Annex I to the WFD sets out the Categories of Waste. Those of relevance to the minerals industry include slags, etc. (Q8) and the residues from raw minerals extraction and processing such as mineral residues, oil field slops, etc. (Q11). Annex II specifies the Disposal Operations of concern, in particular, surface impoundment (D4), specially engineered landfill (lined, capped, & isolated from environment) (D5) and permanent storage (placement of containers into mines) (D12).

The WFD also requires the Commission to draw up a list of waste (the European Waste Catalogue (EWC) as set up by the 94/3/EEC). The following waste categories are of particular relevance:

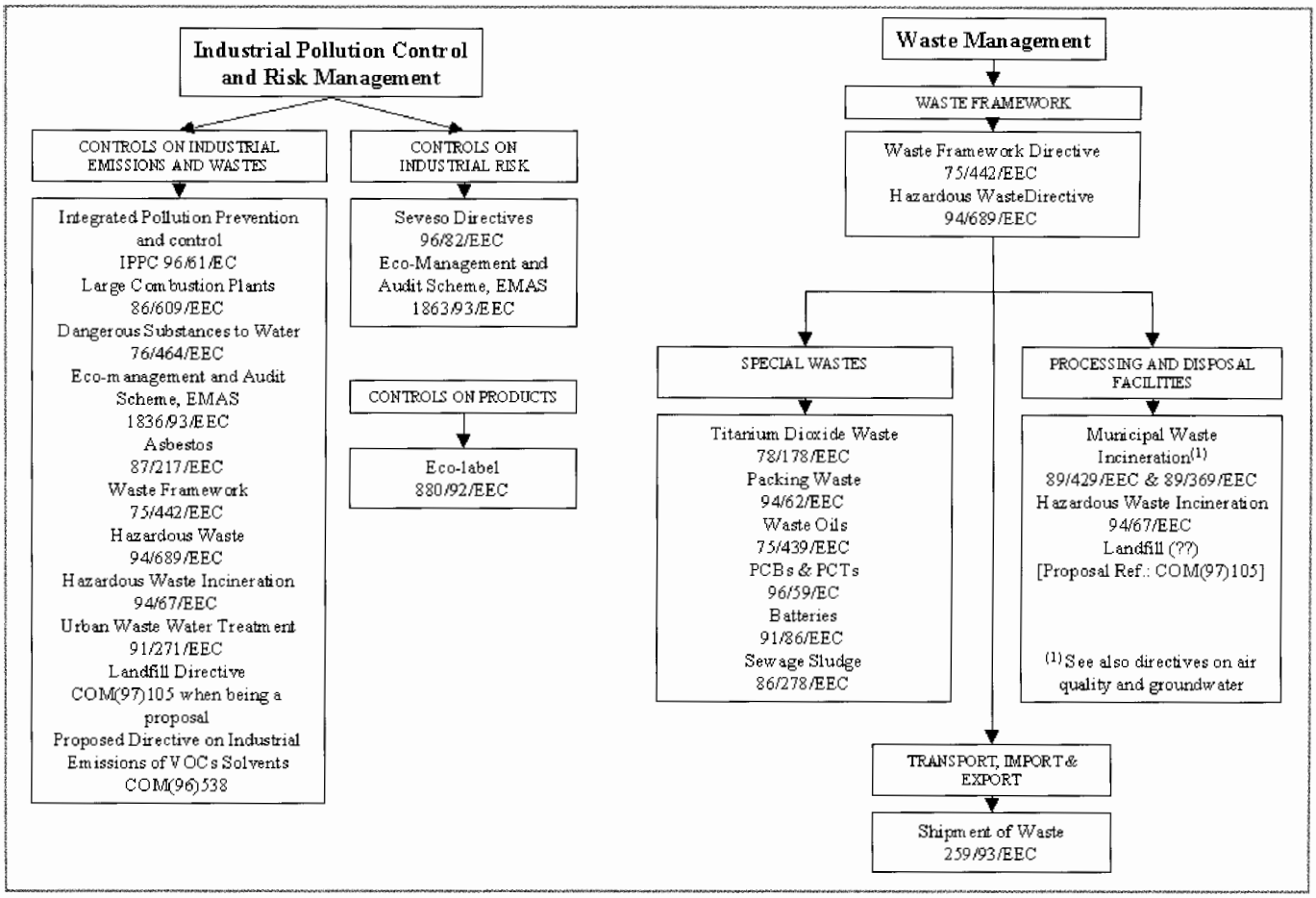

Figure 3. EU waste framework. Source: EU web site.

- 01 00 00 waste resulting from exploration, mining, dressing and further treatment of minerals and quarrying;
- 01 01 01 waste from mineral metaliferous excavation, and;
- 01 03 01 tailings from processing of metaliferous excavations.

As a complement to the WFD, the HWD defines categories or generic types of hazardous wastes and lists the constituents and properties of the wastes, which render them hazardous. These hazardous waste definitions are provided in the Annexes to the Directive with specific reference to waste consisting of liquids or slugs containing metals or metal compounds, wastes with metal constituents and/or waste which render specific properties and/or substances not considered as waste but could produce leachates with the same characteristics

The attribution of hazard properties are laid down by Directive 67/548/EEC relating to the classification, packaging and labelling of dangerous substances in the version as amended by Council Directive 79/831/EEC, 92/32/EEC and subsequent Directives.

The methods to be used for the characterisation are also described in Directive 67/548/EEC, in the versions as amended by subsequent Directives adapting it to technical progress. These methods are themselves based on the work and recommendations of the competent international bodies, in particular the OECD.

As an extension to the HWD, there is also the List of Hazardous Wastes (LHW) as set up by the 94/904/EEC, which uses the same EWC codes. Again reference is made to definitions established in its parent HWD and respective annexes. However, the list does not include the code category identified in the EWC that relates to mining.

Regulation under the waste management framework as structured by the EU has clear implications for the mining industry. Mining wastes in general, and tailings dams in particular, clearly fall within the scope of the two waste Directives. In those Member States with a tradition of mining, the scope of the Waste Directives overlaps provisions for waste management set out in Mining Codes. In such cases, the waste framework would have limited impact. No mineral processing wastes are currently clearly designated as listed hazardous wastes and specific references for exemptions are made within the Directives. Implications do, however, remain for smelters processing or co-processing listed hazardous waste as raw material feedstock.

For those member states without a Mining Code, waste management legislation, if applicable under the directives, does not to date make prescriptive demands for such aspects as

lining of waste or hazardous waste facilities. In addition, it is possible to argue that the Directive's demands are satisfied by demonstrating provision for protection of the environment and minimisation of risks in line with the BATNEEC principle.

The Landfill Directive (COM(97)105)

Within the above-complicated waste management framework, the EU adopted the Landfill Directive on 26 April 1999. Member states now have 2 years to incorporate the Directive into national legislation.

The Landfill Directive refers back to the WFD for waste definitions while establishing for proposed landfill schemes the permit application procedures, conditions and contents of the permit, as well as engineering design, control and monitoring procedures, not only for the operational phase but also for closure.

It has always been understood that this Directive was likely to impose substantial restrictions on landfill as a future option for waste disposal. Debate has been focused principally upon disposal of municipal and general industrial wastes (with landfill as part of a waste management hierarchy) but little discussion has been raised regarding its implications for the mining industry where quite different issues apply.

It is acknowledged that the disposal of wastes arising from mine operations represents a focus for concern regarding both engineering and environmental performance and that current legislative control is neither uniform in application nor sufficiently adequate to reassure public concern. However, some clear and fundamental differences exist in relation to management of mining as opposed to municipal and general industrial wastes, as follows:

- mining wastes may of necessity be produced in such volumes and of such a nature that issues like drainage, stability, resistance against erosion and amenability to rehabilitation may be of far more significance than isolation or containment;
- the common situation where mining and waste management activity is located on a site already contaminated by the residues of mineral extraction which may be traced semi-continuously back over 3000 years;
- engineering of waste disposal facilities for the mining industry is already highly developed and best practice incorporated successfully within existing Mining Codes;
- (as previously stated) the ultimate geological controls which apply is locating facilities.

Proposed Civil Liability Provision

Finally, under EU environmental regulation, it is important to note the existence of COM(91)0219 final, amending COM(89)0282, a proposal relating to civil liability for damage caused by waste, which is under discussion regarding its legal implications. This is probably the most radical and far-reaching waste management provision currently under consideration. Its main aim is to establish a system whereby waste producers, or other persons directly responsible for waste, bear the cost of any environmental damage caused by their waste. The intention would be to make the system of liability uniform throughout the EU to avoid any tendency for waste to end up in those countries where standards and/or regulations are the most lax.

The end result will be provision for enforcement of EU environmental law through recourse to the civil law courts (Croner's, 1997).

CONCLUSIONS

Europe represents a highly favourable location for mining operators, with a combination of prospective geological conditions, a trained workforce, a tradition and acceptance of mining, political stability and well established procedures for establishing tenure and achieving appropriate permitting.

On the other hand, imposition of cross-sectoral EU Directives has potential to create problems for mining operations. Indeed this potential is already being realised particularly in the area of wastes management with a tendency for imposition of a prescriptive approach to permitting, e.g. design requirements of tailings management facilities, irrespective of the risks they pose. A separate framework for mining is clearly justified which is able to accommodate a risk-based approach to design of waste disposal facilities as well as such important considerations as long term stability, drainage, end-use, etc. The well established and strong Mining Code in UK serves as a good model for other European countries and exemption of mining wastes from prescriptive general waste legislation on the basis that is dealt with under a sector-specific code appears to present a satisfactory way forward.

The current crop of EU Directives therefore spells out the way in which legislation must be developed through the member states and across all industrial sectors. For the mining industry, there appears to be two choices - to accept imposition of prescriptive law which applies equally in all its detail to a complex mining project as it to would, say, cheese factory, or to lobby for exemption on the basis of a sector specific code which fulfil the objectives of the Directives for the mining industry in a way which allows continued prosperity to the good of communities and the environment.

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Table 1.	Summary of available European mining legislation
EU Member	Laws, Decrees and acts referring Mining
Austria	• Mining Law of 11 April 1975 • Federal Law of 22 October 1947 regarding rights & duties of Geological Institute • Bitumen Law No. 375 of 15 August 1938 • Ordinance of the Minister of Agriculture of 21 April 1894 to implement Law of 30 December 1893, regarding the appointment of managers & inspectors in mining Operations • Law of 31 December 1893 containing regulations regarding appointment of operation Managers and Inspectors in mining operations • Provisions of the general Mining Law applicable to petroleum in keeping with Article 3 of the Bitumen Law
Belgium	• Continental Shelf Law of 13 June 1969
Denmark	• Act 292 of 10 June 1981 concerning certain marine installations (Offshore Safety) • Act 293 of 10 June 1981 concerning the use of the Danish Underground
Finland	• Uranium Mining Law 503 of 17 September 1965 (Effective 1 January 1966) (Repealed Mining Law of 24 March 1943 (273/43) & the Law of 4 February 1944 (101/44)
France	• Law No. 68-1181 of 30 December 1968, regarding exploration of the continental shelf and exploitation of its natural resources. Also concerns offshore safety regulations, rights and penal provisions. • Law 55-720 of 26 May 1955, regarding the procedures for the codification of the Legislative Provisions Concerning Mines, Surface Mines and Quarries. • Law 77-620 of 16 June 1977 amending the Mining Code (governs geothermal) • Decree No. 71-326 of 6 May 1971, regarding authorisations for prospecting for mineral or fossil substance in the subsoil of the continental shelf. Decree No. 70-990 of 29/10/1970, modifying Decree No. 59-680 of 19 May 1959, establishing public administration regulations related to certain types of works or operations declared of public utility. Decree No. 70-989 of 29/10/1970, related to the servitude established to the benefit of holders of Mining Titles, Permits for the exploitation of Quarries, and authorisations for the Research of Mines and Quarries, when failing the landowner's consent. Decree No. 70-987 of 29/10/1970, Related to the study of applications for the concession of Mining Titles and Cancellation of these Titles. Sets Conditions for Offshore applications • Decree No. 70-987 of 29/10/1970, Establishing Modification or Abrogation of Certain Provisions of the Mining Code. Decree No. 70-986 of 29/10/1970, Fixing the Date of Enforcement of Several Provisions of Law No. 70-1 of 2 January 1970, Establishing Modification of Various Provisions of the Mining Code, and Decree of 14 January 1909 Governing Procedures In Operation of Mines & Safety Requirements. • There is also a number of Executive Decree (ED) such as ED 52-1048 of 8 September 1952, leasing to private parties of mines which have been returned to the state as a result of waiver or withdrawal, terms and conditions. ED 49-827 of 27 June 1949, regulation conditions pursuant to which certain mines may be placed in the situation of a deposit open for exploration. ED No. 55-587 of 20 May 1955, which applies to all Mine Laws in the Departments of the Haut-Rhin, Bas-Rhin and Moselle. • ED No. 56-838 (Mining Code) of 16 August 1956 Supplemented By Law No. 56-1327 of 29 December 1956 and ED of 6 September 1936 establishing Public Administrative Regulations for the Application of the Decree Law of 30 October 1935 Concerning Mining Concessions. ED of 14 August 1923, containing regulations governing the processing of applications for the granting of Authorisations to carry out Mining Exploration without the consent of the owner of the Surface and ED of 31 August 1920 concerning applications for Mining Concessions.
Germany	• Federal Mining Law Dated 13 August 1980.

Greece	• Greek Mining Code (Complication of all Laws, Decrees, & other legislative provisions governing mines & minerals from enactment of first Greek Law on Mines, Dated 22 August 1861 to 1963. Includes Applicable Provisions of Legislative Decree 4029/1959 & of Law 3948/1959, & Applicable Provisions From the From the Constitution of Greece & Resolution of the Minister of Industry Dated 12 April 1960). (Annuls Laws of 22 August 1861, 26 April 1867, 24 December 1875, Article 12 of Law of 5 August 1892, 14 March 1896, & Decree of 15 October 1863)
Ireland	• Petroleum & Other Minerals Development Act, 1960 of 10 March 1960 (Amends the Minerals Development Act, 1940) • Minerals Development Regulations, 1941 (Statutory Rules & Orders 1941, No. 28) Regulating the Minerals Development Act, 1940 (No. 31 of 1940). • Minerals Development Act, 1940 (Act 31 of 14 November 1940)
Italy	• Mining Law 1443 Promulgated 29 July 1927.
The Netherlands	• Regulations of 3 August 1810 to the Mining Law of 1810. • Dutch Mining Act of 1903 Dated 27 April 1904 Amended Regulations to the Mining Law of 1810 • Regulations to the Mining Law of 1810, including Decrees from 1818 to 1939 (Decree s.568 of 2 December 1939)
Norway	• Act No. 70 of 30 June 1972 (Effective 1 April 1974) on Mining, with regulations (Replaces 1842 Mining Act and Act 1 of 21 March 1952) relating to the Surrender of Land etc. for the working of non-claimable mineral deposits. • Act of 15 February 1946 to amplify mineral industry legislation (reserving minerals of special importance to the state for licensing) • Act of 14 December 1917, (No. 16), relating to the acquisition of Waterfalls, mines and other real property etc. (as amended). • Act of 11 March 1905, Embodying Amendments & Additions to the Mineral Industry Act of 14 July 1842. • Mineral Industry Act of 14 July 1842.
Portugal	• Mining Law of Portugal, Decree 18713 of 1930 •••• • Decree Law 88/90 and 90/90 on prospecting and exploration of geological resources
Spain	• Mining Law of Spain published 24 July 1973.
Sweden	• Minerals Act of 24 January 1991 (As Amended Through January 1994). • Mining Act of 1 July 1974 (SFS 1974:342) (1974:892) (Issued 31 May 1974) • Act Concerning Certain Mineral Deposits (Law SFS 1974:890 Issued 13 December 1974 Effective 1 January 1975) (Applied to Oil, Gas, Sale, Coal, U2, & Peat)
United Kingdom	• Deep Sea Mining (Temporary Provisions) Act 1981. • Mines & Quarries Act; 1954. • The Mining Industry Act, 1926 (Promulgated 4 August 1926) • The Coal Mines Act, 1911 (Promulgated 16 December 1911)
Source:	Web Site. Barrows Company. Mining Legislation. Edition 116. September 1998.

Table 2.	Summary of European environmental legislation
Area	List of available Directives and regulations
Horizontal	Directives: • Environmental impact assessment, 85/337/EEC, amended by 97/11/EC. • Environmental information, 90/313/EEC • Reporting, 91/692/EEC • Decision 94/741/EEC - Questionnaire on waste • Decision 96/511/EC - Questionnaire on pollution • Decision 97/101/EC - Exchange of information on air quality • Decision 97/622/EC - Questionnaire on waste Regulations: • European Environment Agency, EEC/1210/90 • LIFE, EEC/1973/92, amended by EC/1404/96
Air quality	Directives: • Air Quality Framework,96/62/EC, including 3 older directives to be replaced by new requirements under the framework directive • SO2 and particulate, 80/779/EEC, amended by 89/427/EEC and 91/692/EEC • Lead 82/884/EEC, amended by 91/692/EEC • Nitrogen oxide, 85/203/EEC, amended by 91/692/EEC • Troposphere Ozone Pollution, 92/72/EEC • Emissions from motor vehicles, 70/220/EEC, amended by 74/270/EEC, 77/102/EEC, 78/665/EEC, 83/351/EEC, 88/76/EEC, 88/436/EEC, 89/458/EEC, 89/491/EEC, 91/441/EEC, 93/59/EEC, 94/12/EEC, 96/44/EEC and 96/69/EEC - "Auto-Oil". Proposal COM(96) 0163 (COD) • Emissions from diesel engines - soot, 72/306/EEC, amended by 89/491/EEC and 97/20/EC • Emissions from diesel engines 88/77/EEC, amended by 91/542/EEC and 96/1/EEC • Emissions from motor vehicles - roadworthiness for emissions, 92/55/EEC • VOC emissions from storage and transport of petrol, 94/63/EC • (1) Lead content of petrol, 85/210/EEC, amended by 87/416/EEC • (1) Sulphur content of liquid fuels, 93/12/EEC, replacing 75/716/EEC • Emissions from non-road mobile machinery, 97/68/EC • Proposal: on the quality of petrol and diesel fuel, COM(96) 0164 (COD) - "Auto-Oil". • (1) The proposed directive on the quality of petrol and diesel fuel, COM(96) 0164 (COD) will replace 85/210/EEC and the limit values for sulphur content in diesel fuel for road vehicles found in 93/12/EEC.
Waste management	Directives • Waste from the titanium dioxide industry, 78/176/EEC, amended by 91/692/EEC, and related directives, such as: Procedures for the surveillance of titanium dioxide industry, 82/883/EEC and the Harmonisation of reduction programmes, 92/112/EEC • Municipal waste incineration for new installations, 89/369/EEC and Municipal waste incineration, existing installations 89/429/EEC • Hazardous waste incineration, 94/67/EEC and Decisions 96/302/EC and 97/283/EC • Proposal for a directive on Landfill of waste, (COM(97)105)-final. Adopted on 26 April 1999 while preparing this paper. • Disposal of waste oils, 75/439/EEC, amended by 87/101/EEC and 91/692/EEC • Waste Framework directive 75/442/EEC, amended by 91/156/EEC and 91/692/EEC, and related Decisions: 76/431/EEC, 94/3/EC, 96/350/EC • Disposal of PCBs and PCTs, 96/59/EC • Hazardous waste, 91/689/EEC, amended by 94/31/EC and Decision 94/904/EC • Sewage sludge and soil, 86/278/EEC, amended by 91/692/EEC • Batteries, 91/157/EEC, amended by 93/86/EEC • Packaging waste, 94/62/EC and Decisions 97/129/EC and 97/138/EC Regulations: • Supervision of shipment of waste, EEC/259/93, amended by 120/97/EC. Related Decisions 94/575/EC, 94/721/EC, 94/774/EC and 96/660/EC

Water quality	Directives • Proposed Water Quality Framework Directive, (COM(97)49 -final • Urban waste water, 91/271/EEC and Related decision 93/481/EEC • Nitrates, 91/676/EEC • Dangerous substances to the aquatic environment, 76/464/EEC, including 7 'daughter' directives, all amended by 91/692/EEC: Mercury discharges from chlor-alkali industries, 82/176/EEC; Cadmium discharges, 83/513/EEC; Other mercury discharges, 84/156/EEC; HCH discharges, 84/491/EEC; List one substances, 86/280/EEC, amended by 88/347/EEC and 90/415/EEC • Bathing water, 76/160/EEC • Drinking water, 80/778/EEC, amended by 91/692/EEC • (2) Surface water for the abstraction of drinking water, 75/440/EEC, amended by 79/869/EEC and 91/692/EEC. Decision 77/795/EEC on procedures for exchange of information, amended by decisions 84/422/EEC, 86/574/EEC and 90/2/EEC • Measurement and sampling of drinking water, 79/869/EEC, amended by 81/855/EEC • (2) Ground water 80/68/EEC, amended by 91/692/EEC • (2) Fish water, 78/659/EEC, amended by 91/692/EEC • (2) Shellfish water, 79/923/EEC, amended by 91/692/EEC (2) will be incorporated in the proposed Water Quality Framework Directive (COM(97)49)
Nature protection	Directives: • Habitats, 92/43/EEC, related decision 97/266/EC • Wild birds, 79/409/EEC, amended by 81/854/EEC, 85/411/EEC, 91/244/EEC and 94/24/EC • Skins of seal pups, 83/129/EEC, amended by 85/444/EEC, 89/370/EEC Regulations: • Endangered species, 338/97/EC, amended by regulations 938/97/EC and 2307/97/EC, implemented by regulations 939/97/EC and 2551/97/EC and amended by regulation 767/98/EC • Import of whales, 348/81/EEC • [Protection of the Antarctic 90/3943/EEC] • Leghold traps, EEC/3254/91, implemented by 35/97/EC • [Protection of forests against atmospheric pollution, EEC/3528/86, amended by EEC/1696/87, EEC/2157/92, EEC/926/93, EEC/836/94, EC/1091/94, EC/690/95, EC/1398/95 and 307/97/EC] • [Protection of forests against fire, EEC/2158/92, amended by EEC/1170/93, EC/804/94 and 308/97/EC]
Industrial pollution control and risk management	Directives: • (3)Air pollution from industrial plants, 84/360/EEC, amended by 91/692/EEC • Large combustion plants, 88/609/EEC, amended by 94/66/EC • Integrated Pollution Prevention and Control, PPC, 96/61/EC • Seveso - Control of major accident hazards, 96/82/EC, replacing 82/501/EEC, amended by 87/216/EEC, 88/610/EEC and 91/692/EEC • Proposed Directive on industrial emissions of VOC-solvents, COM(96) 538-final. Regulations: • Regulation on Eco-Label, EEC/880/92 • Decisions on Eco-Label criteria for: Dishwashers, 93/431/EEC, Soil improvers, 94/923/EEC, Toilet paper, 94/924/EEC, Paper kitchen rolls, 94/925/EEC, Laundry detergents, 95/365/EEC, Single-ended lightbulbs, 95/533/EEC, Indoor paints and varnishes, 96/13/EEC, Bed-linen and T-shirts, 96/304/EEC, Double-ended lightbulbs, 96/337/EEC, Washing machines, 96/461/EEC, Copying paper, 96/467/EEC, Refrigerators, 96/703/EEC, Tissue paper, 98/94/EC and other related decisions: • 93/326/EEC, 93/517/EEC, 94/10/EC • Regulation on EMAS, EEC/1836/93 and related decisions: 97/265/EC, 97/267/EC, (3) will be replaced by the IPPC Directive 96/91/EC
Chemicals and genetically modified organisms	Directives: • Animal experiments, 86/609/EEC and Decision 90/67/EEC • [Good laboratory practice, 87/18/EEC, related directive 88/320/EEC on inspection and decision 89/569/EEC] • GMOs, contained use, 90/219/EEC, amended by 94/51/EC and related decision 91/448/EEC • Asbestos, 87/217/EEC, amended by directive 91/692/EEC • Classification, packaging and labelling of dangerous substances, 67/548/EEC, amended by 69/81/EEC, 70/189/ECC, • 71/144/EEC, 73/146/EEC, 75/409/EEC, 76/907/EEC, 79/370/EEC, 79/831/EEC, 80/1189/EEC, 81/957/EEC, 82/232/EEC, • 83/467/EEC, 84/449/EEC, 86/431/EEC, 87/432/EEC, 88/302/EEC, 88/490/EEC, 90/517/EEC, 91/325/EEC, 91/326/EEC,

	• 91/410/EEC, 91/632/EEC, 92/32/EEC, 92/37/EEC, 92/69/EEC, 93/21/EEC, 93/67/EEC, 93/72/EEC, 93/90/EEC, 93/101/EEC, 93/105/EEC, 94/69/EC, 96/54/EC, 96/56/EC and related decision 85/71/EEC • [Classification, labelling and packaging of dangerous preparations, 88/379/EEC amended by 89/178/EEC, 90/492/EEC, 91/155/EEC, 93/18/EEC, 93/112/EEC, 91/442/EEC, 95/65/EEC] • Restrictions on the marketing and use of certain dangerous substances and preparations, 76/769/EEC amended by 79/663/EEC, 82/806/EEC, 82/828/EEC, 83/264/EEC, 83/478/EEC, 85/467/EEC, 85/610/EEC, 89/677/EEC, • 89/678/EEC, 91/173/EEC, 91/338/EEC, 91/339/EEC, 91/659/EEC, 94/27/EC, 94/48/EC, 94/60/EC, 96/55/EC and 97/10/EC, 97/16/EC • GMOs, deliberate release, 90/220/EEC amended by 94/15/EC, 97/35/EC and related decisions: 91/274/EEC, 91/596/EEC, 92/146/EEC, 93/572/EEC, 93/584/EEC, 94/385/EC, 94/505/EC, 94/730/EC, 96/158/EC, 96/281/EC, 96/424/EC, 97/98/EC, 97/392/EC , 97/393/EC, 97/549/EC • [Detergents, 73/404/EEC amended by 82/242/EEC and 86/94/EEC and related directive on testing the biodegradability, 73/405/EEC] • [Transport of dangerous goods by road 94/55/EC] • Placing on the market of biocidal products 98/8EC Regulations: • Regulation on Existing substances, EEC/793/93 and related regulations: • Principles for the Evaluation of Risks, EC/1488/94 • First list of priority substances, EC/1179/94 • Second list of priority substances, EC/2268/95, • Third list of priority substances,143/97/EC, • Delivery of information on existing substances EC/142/97 • Regulation on Import and export of dangerous chemicals, EEC/2455/92 • Regulation on Ozone depleting substances, EC/3093/94
Noise from vehicles and machinery	Directives: • [Motor Vehicles 70/157/EEC amended by 73/350/EEC, 77/212/EEC, 81/334/EEC, 84/372/EEC, 84/424/EEC, • 87/354/EEC, 89/491/EEC, 92/97/EEC and 96/20/EC] • [Motor cycles 78/1015/EEC amended by 87/56/EEC and 89/235/EEC] • Construction plant equipment (framework), 79/113/EEC amended by 81/1051/EEC and 85/405/EEC • Subsonic aircraft, 80/51/EEC amended by 83/206/EEC • Subsonic jet aeroplanes, 89/629/EEC • Limitation of the operations of aeroplanes, 92/14/EEC • EEC type approval for construction plant and equipment, 84/532/EEC • Compressors, 84/533/EEC, amended by 85/406/EEC • Tower cranes, 84/534/EEC, amended by 87/405/EEC • Welding generators, 84/535/EEC, amended by 85/407/EEC • Power generators, 84/536/EEC, amended by 85/408/EEC • Concrete breakers, 84/537/EEC, amended by 85/409/EEC • Lawn mowers, 84/538/EEC, amended by 87/252/EEC, 88/180/EEC and 88/181/EEC • Hydraulic excavators, 86/662/EEC amended by 89/514/EEC and 95/27/EC • Household appliances, 86/594/EEC
Nuclear safety and radiation protection	• Treaty establishing the European Atomic Energy Community (E.A.E.C-Euratom). • Title two, provision for the encouragement of progress in the field of nuclear energy, chapter III: Health and safety, articles 33, 35 and 37. Directives: • Radiation protection to medical exposures, 97/43/EURATOM • Information of the public, 89/618/EURATOM • Padiation protection of outside workers, 90/641/EURATOM • Shipments of radioactive waste, 92/3/EURATOM supplemented by decision 93/552/EURATOM • Basic Safety Standards, 96/29/EURATOM related decision on early exchange of information in case of a radiological emergency, 87/600/EURATOM Regulations: • Maximum permitted levels of radioactive contamination of foodstuffs following a radiological emergency, 87/3954/EURATOM, amended by 2218/89/EURATOM and related regulations: 770/90/EURATOM, 2219/89/EURATOM, 944/89/EURATOM. • Imports of agricultural products following the Chernobyl Accident, 90/737/CEE, amended by 95/686/EEC and 97/727/EC • Shipments of radioactive substances, 93/1493/EURATOM
Climate change	Monitoring mechanism for Community CO2 and other greenhouse gas emissions, Council decision 93/389/EEC.

Civil protection	• Community action programme in the field of civil protection, Council decision 98/22/EC • Strengthening Community co-operation on civil protection, resolution of the Council and the representatives of the Governments of the Member States, meeting within the Council, of 31 October 1994, OJC 313 10. 1. 94 • [Single European emergency call number, Council decision 91/396/EEC] • Community information system for the control and reduction of pollution caused by hydrocarbons discharged at sea, Council decision 86/85/EEC, amended by Council decision 88/346/EEC • Advisory Committee on the control and reduction of pollution caused by hydrocarbons discharged at sea. Commission decision 80/686/EEC, amended by decision 85/208/EEC and decision 87/144/EEC. • Strengthening Community co-operation on civil protection, resolution of the Council and the representatives of the governments of the Member States, meeting within the Council of 31 October 1994, 94/C, OJ 313/01. • Community co-operation on civil protection, resolution of the Council and the representatives of the governments of the Member States, meeting within the Council of 23 November 1993, 90/C, OJ 315/01. • Improving mutual aid between Member States in the events of a natural or man-made • Disaster, resolution of the Council and the representatives of the governments of the Member States, meeting within the Council of 23 November 1993, 90/C, OJ 315/02. • New developments in Community co-operation on civil protection, Resolution of the Council and the representatives of the governments of the Member States, meeting within the Council of 13 February 1989, 89/C, OJ 44/03. • Introduction of Community co-operation on civil protection, resolution of the Council and the • Representatives of the governments of the Member States, meeting within the Council of 25 June 1987, 87/C, OJ 176/01.
Policy	• 5th Environmental Action Programme, Resolution by Council and representatives of Member States of 1 February 1993, OJ C 138 17.05.93, p/1 • Community action programme to promote environmental NGOs, Council decision 97/872/EC • Community strategy on waste management, Council resolution of 24 February 1997, OJ C 076 11.03.97, p.1 • Reuse of waste paper and use of recycled paper, Council recommendation of 3 December 1981, 81/972/EEC • Environmental agreements, Council resolution of 7 Oct. 1997, OJ C 321 22.10.97, p.6 • Environmental agreements, Commission recommendation, 96/733/EC • Groundwater protection, Council resolution of 20 February 1995, OJ C049 28.02.95.,p.1 • Cost allocation and action by public authorities on environmental matters, Council recommendation 75/436/EURATOM. ECSC,EEC of 3 March 1975 • Renewal of Community action plan on radioactive waste, Council resolution of 15 June 1992, OJ C 158 25.06.92, p.3 • Radioactive waste management, Council resolution of 19 December 1994 OJ C 379 31.12.94, p.1 • Protection against indoor exposure to radon, Commission recommendation, 90/143/EURATOM • EC action programme on the control and reduction of pollution caused by hydrocarbons discharged at sea, Council resolution of 26 June 1978, OJ C 162.08.78, p.1 • Improving mutual aid between Member States in the event of natural or technological disasters, resolution • of Council and representatives of Member States of 8 July 1991, OJ C 198 27.07.91,p.1 • Community action programme to combat pollution by cadmium, Council resolution of 25 January 1988, OJ C 030 04.02.88. p.1 • Future Community policy concerning the European coastal zone, Council resolution of 25 February 1992, OJC 059. 06. 03. 92 • Community strategy for integrated coastal-zone management, Council resolution of 6 May 1994, OJ C 135 18.05.94, p. 2 • On the application of Art. 37 of the Euratom Treaty, Commission recommendation, 91/4/EURATOM • Technological problems of nuclear safety, Council resolution of 22 July 1975, OJ. NO. C185, 14/08/1975, p.0001-0002 • Technological problems of nuclear safety, Council resolution of 18 June 1992, OJ. NO. C172, 08/07/1992, p.0002-0003
International co-operation	• Convention on the protection of the Mediterranean Sea against pollution (Barcelona convention) – Protocol for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircraft's, OJ L 240 19.09. 77, p.3 • Protocol concerning co-operation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency, OJ L 162 19.06.81, p.6 • Convention on long-range transboundary air pollution – Resolution on long-range transboundary air pollution. OJ L 171 27.06.81. p. 13 • Convention on the conservation of European wildlife and natural habitats, OJ L 038 10.02.82, p.3, related decision 98/145/EC • Convention on the conservation of migratory species of wild animals, OJ L 210 19.07.82, p.11 • Convention on international trade in endangered species of wild fauna and flora, OJ L 384 31.12.82 p. 7 • Protocol for the protection of the Mediterranean Sea against pollution from land-based sources, OJ L 067 12.03.83, p. 3 • Protocol concerning Mediterranean specially protected areas, OJL 068 10.03.84 p.36, adopted by Council decision 84/132/EEC • Council decision of 12 June 1986 on the conclusion of a Protocol to the 1979 Convention on long-range transboundary air pollution on long-term financing of the co-operative programme for monitoring and evaluation of the long-range transmissions of air pollutants in Europe (EMEP), 86/277/EEC, OJ L 181 04.07.86, p. 1

	• Protocol to the 1979 Convention on long-range transboundary air pollution on long-term financing of the co-operative programme for monitoring and evaluation of the long-range transmission of air pollutants in Europe (EMEP), OJ L 181 04.07.86, p.2 • Council decision of 14 October 1988 concerning the conclusion of the Vienna Convention for the protection of the ozone layer and the Montreal Protocol on substances that deplete the ozone layer, 88/540/EEC, OJ L 297 31.10.88, p. 8 • Vienna convention for the protection of the ozone layer, OJ L 297 31.10.88, p.10 • Montreal Protocol on substances that deplete the ozone layer – Declaration by the European Economic Community, OJ L 297 31.10.88, p. 21 • Convention on the International Commission for the Protection of the Elbe, OJ L 321 23.11.91, p. 25 • Amendment to the Montreal protocol on substances that deplete the ozone layer, OJ L 377 31.12.91, p. 30 • Basel Convention on the control of transboundary movements of hazardous wastes and their disposal, OJ L 039 16.02.93, p. 3 • related decision 97/640/EC • Protocol to the Convention of 8 October 1990 between the Governments of the Federal Republic of Germany and the Czech an Slovak Federal Republic and the European Economic Community on the International Commission for the Protection of the Elbe, OJ L 045 23.02.93, p.26 • Protocol to the 1979 Convention on long-range transboundary air pollution concerning the control of emissions of nitrogen oxides or their transboundary fluxes, OJ L 149 21.06.93, p. 16 • Convention on biological diversity – Declarations, OJ L 309 13.12.93, p. 3 • Amendment to the Montreal Protocol on substances that deplete the ozone layer, OJ L 033 07.02.94, p.13 • United Nations Framework Convention on Climate Change – Declarations, OJ L 073 16.03.94, p.2 • Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1974, (Helsinki Convention), OJ L 073 16.03.94, p. 2 • Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992, (Helsinki Convention revised in 1992), OJ L 073 16.03.94, p. 20 • European Convention for the Protection of Vertebrate Animals used for Experimental and other Scientific Purposes, 18.03.1986, Strasbourg, Council of Europe • Convention on Transboundary Effects of Industrial Accidents, 17.03.1992, Helsinki UN-ECE • Protocol to the Convention on Long-range Transboundary Air Pollution of 1979 on the further reductions of Sulphur Emissions, SO2 13.06.1994, Oslo • UN Convention on the Law of the Sea, 10.12.1982, Montego Bay, Jamaica
Source:	EU Web Site. Guide to the Approximation of EU Legislation (1999).