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REFIT Evaluation of the Environmental Liability Directive

Accompanying the document

Report from the Commission to the European Parliament and to the Council pursuant to Article 18(2) of Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage

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1. INTRODUCTION

1.1. Purpose of the evaluation

Pursuant to the Commission's Regulatory Fitness and Performance Programme (REFIT)[1], the purpose of this evaluation is to examine to what extent Directive 2004/35/EC on environmental liability[2] (Environmental Liability Directive – ELD) remains fit for purpose with regard to the prevention and remedying of environmental damage remains fit for purpose and whether it delivers the intended results. REFIT is the European Commission's Regulatory Fitness and Performance programme, whose main purpose is to make EU law simpler and to reduce regulatory costs, thus supporting growth and jobs by contributing to a clear, stable and predictable regulatory framework.

The evaluation of Directive 2004/35/EC is triggered by the legal requirement pursuant to its Article 18(2) and (3), to report on the experience gained in the application of the ELD including a review (COM(2016)204). According to this requirement, the Commission shall submit a report to the European Parliament and to the Council by 30 April 2014[3] based on the reports on the experience gained in the application of the Directive between 30 April 2007 and 30 April 2013, as submitted by the Member States to the Commission according to Article 18(1) of the ELD.

According to Article 18(3) ELD the report must review the following points:

(a) the application of Article 4(2) and (4) ELD relating to the exclusion of pollution covered by the international instruments listed in Annexes IV and V of the ELD from the scope of the Directive and of Article 4(3) ELD relating to the right of an operator to limit his liability in accordance with the international conventions in Article 4(3);

(b) the application of the Directive to environmental damage caused by genetically modified organisms (GMOs);

(c) the application of the Directive in relation to protected species and natural habitats;

(d) instruments that may be eligible for incorporation into Annexes III (occupational activities covered by strict liability), IV (international Conventions in the maritime sector) and V (international instruments in the nuclear sector).

In 2013, the REFIT programme included the ELD which required an evidence-based judgment carried out according to the main evaluation criteria of relevance, effectiveness, efficiency, coherence, and EU-added value as well as further criteria, as appropriate.

This evaluation will examine to which extent the ELD is fit for purpose and will look into what works and what does not, including to what extent objectives have been

[1] See last Better Regulation Communication (COM(2015)215)

[2] OJ L 143, 30.4.2004, p. 56.

[3] The Commission ELD evaluation and report is delayed due to several reasons: first, national reports and commissioned studies in 2013 and early 2014 were received with a delay, second, a new Commission was appointed in 2014 and third, the new Better Regulation package and REFIT evaluation regime was introduced on 19th of May 2015.

achieved between April 2007 and April 2013 and why some elements or features were successful or not. It is thus an ex-post evaluation of the Environmental Liability Directive, based on the evidence mainly gathered in the context of the ELD report. It will examine the performance of the ELD according to the abovementioned five standard evaluation criteria, supplemented by the further evaluation criterion of complementarity with MS legislation which appears to be relevant in the context of the ELD.

The evaluation will deliver a summary overview of the functioning and implementation of the Directive and of how and to what extent its objectives were reached. It will also describe the challenges and problems of the Directive regarding its legal obligations, technical requirements, the national transposition, the implementation deficits, shortcomings and sometimes wide variations in implementation, and indicate possible solutions how weaknesses and divergences in the application of the Directive, could be improved on the basis of the evidence gathered in the evaluation.

The results of this evaluation will be used to strive for further improvement of the implementation of the Directive to the extent necessary, through a range of practical measures as presented in the final conclusions and the consequential action plan consistent with the elaborated means and methods in the report under Article 18(2) ELD.

1.2. Scope of the evaluation

This evaluation covers the scope of the Environmental Liability Directive, its implementation in practice, and links to related EU law, national law or international law.

It looks into all aspects of the functioning of the Directive which consists in

- the trigger as well as in the application of preventive action as well as remedial action of liable operators,
- the enforcement including approval of remediation plans by the competent authorities,
- the use of the three remedial action types under the ELD: primary, complementary and compensatory remediation of environmental damage,
- the contribution by civil society (persons affected by environmental damage and environmental NGOs) to the detection and remediation of environmental damage,
- the cover (offer and demand) of financial security including insurance for ELD liabilities,
- the potential deterrent effect and enhanced risk management (changed behaviour),
- the contribution of the Directive to reducing of environmental damage and halting biodiversity loss, improving the freshwater and marine water quality as well as soil protection in the EU.

The evidence base of this evaluation includes the Member States reports of 2013, the targeted external implementation and evaluation studies launched by the Commission in 2012 and 2013, the conclusions from the Commission ELD report 2010 and relevant stakeholder input or feedback.[4] As basic knowledge of the ELD enables a better understanding of the investigation, information and findings, the relevant basic

[4] All relevant documents are available on the environmental liability website of the Commission: http://ec.europa.eu/environment/legal/liability/index.htm including a brief information sheet and a brochure on the ELD and a summary of the Directive).

information in chapter 2 below including figure 3 summarises the functioning of the Directive.

In addition to the four specific review points in Article 18(3) ELD mentioned above, particular reference should also be made to the Commission report of October 2010[5] which covers in its conclusions and recommendations the points to be looked at by this second Commission report on the ELD: the uneven biodiversity damage scope across the EU, the uneven application of the permit and state of the art defences across the EU, the divergent national transposing rules potentially creating difficulties, the sufficiency of the financial capacities of operators in particular in case of major accidents, and the potential need for an EU-wide mandatory financial security system.

2. BACKGROUND TO THE INITIATIVE

2.1. Description of the initiative and its objectives

The background to the adoption of the ELD was the need to reduce environmental damage to natural resources and to ensure that the polluter who caused the damage takes responsibility in order to avoid that such damage remains unrestored or that the general tax payer bears the costs of the restoration.

Industrial and other activities in the 20th century have caused considerable damage to the environment and put the environment under increasing pressure. Hence, the protection and restoration of the environment have become a growing global concern. In the European Union, this has led to the development of an environmental policy based on the current Articles 191 to 193 of the Treaty on the Functioning of the European Union (TFEU). In its Article 191(2), the guiding principles for the implementation of this policy are mentioned. All of these principles and particularly the polluter-pays principle are of direct relevance and are implemented through the ELD.[6]

Problems with contaminated sites posing significant health risks and loss of biodiversity as well as pollution of freshwaters required action in various respects. While environmental impact assessments, the setting of permit requirements or of technical standards to limit pollution levels and the establishment of plans and programs to monitor and better control the environmental degradation and improve environmental protection levels tackle environmental pollution mainly ex ante, a general instrument to tackle it ex post was still missing. In the light of many pollution incidents and events including in particular some major accidents with or without transboundary effects at EU level which contributed significantly to environmental damage, the Commission had started in the 1990s to work on the establishment of a general binding liability instrument[7] to prevent and to repair environmental damage where such damage can be clearly attributed to individual responsible polluters.

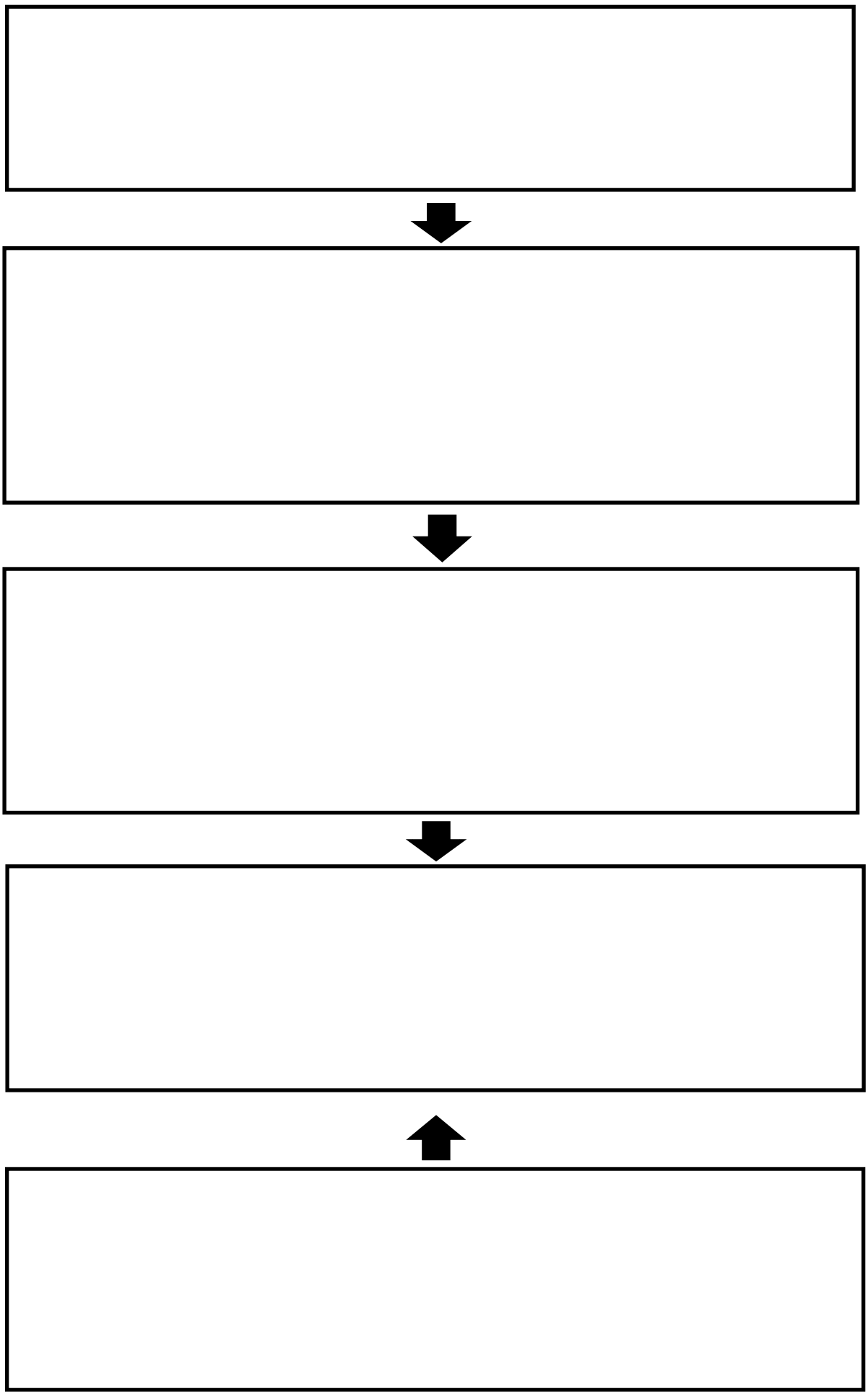
The complete and detailed intervention logic is presented as follows:

[5] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52010DC0581

[6] "*Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.*"

[7] Green Paper of 1993 and White Paper of 2000, leading to the Commission legislative proposal of 2002.

Figure 1: The intervention logic for the Environmental Liability Directive



2.2. Baseline

Before the ELD was adopted, environmental liability had been scattered around many national jurisdictions in the EU. Some Member States had environmental liability regimes either for specific damage categories, others had broader defined regimes which were in general not much elaborated and in practice often ineffective. Environmental liability for biodiversity was lacking nearly everywhere. Apart from some specific laws, strict liability standard for environmental damage was rather the exception; many laws required time-consuming and often inefficient prove of fault, thus failing the purpose of quick remediation. The public liability regimes were in most of the Member States not supported by participation rights of the civil society (affected persons and environmental NGOs). Often the national liability system did not require restoration of the damaged natural resources to the condition which existed before the time of the damage.

Serious accidents leading to major losses in terms of natural capital could not be tackled appropriately as the damage was left un-remedied or was remedied at tax payer's expense. Most severe damage incidents, such as the Boliden's Doñana accident in 1999, briefly described in the box below, had even a direct effect on spurring the development of the Directive, proposed by the Commission in 2002.

Box 1: Severe environmental damage case example: Doñana accident of 1999 illustrating the baseline before intervention

On 25 April 1998, a dam at the *Los Frailes* pyrite mine operated by *Boliden Apirsa* (*Apirsa*), a subsidiary of the Swedish mining company *Boliden*, at *Aznalcóllar* near Seville, Spain, collapsed, resulting in the release of water and slurry from a 1.5 square kilometre tailings pond. Acidic water and heavily contaminated slurry tailings spilled into the *Agrio, Guadiamar* and *Los Frailes* rivers. Around 4 500 hectares of agricultural land were contaminated by the polluted water; 2 600 hectares were covered with tailings. The contamination resulted in the closure of over 50 irrigation wells and a ban on the sale of agricultural produce and shellfish affected by the spill. Only the emergency construction of barriers stopped most of the nearby *Doñana* National Park, a Natura 2000 and World Heritage Site and Spain’s largest park, from being contaminated. The disaster had direct economic impacts on the agriculture and fishing industry, on the mining sector and on tourism in the region. Costs arising from the spill were substantial.

Source: Summary, based on the ELD Fund Study, p. 20, 21

To better understand the baseline, in a first step, a general overview of the functioning of the ELD will be provided. Then, the objectives, principles and scope of the Directive will be explained. The baseline is to be compared with the practical experience in the implementation of the ELD, mainly on the basis of the Member States' reports.

2.2.1. Overview on the functioning of the Environmental Liability Directive

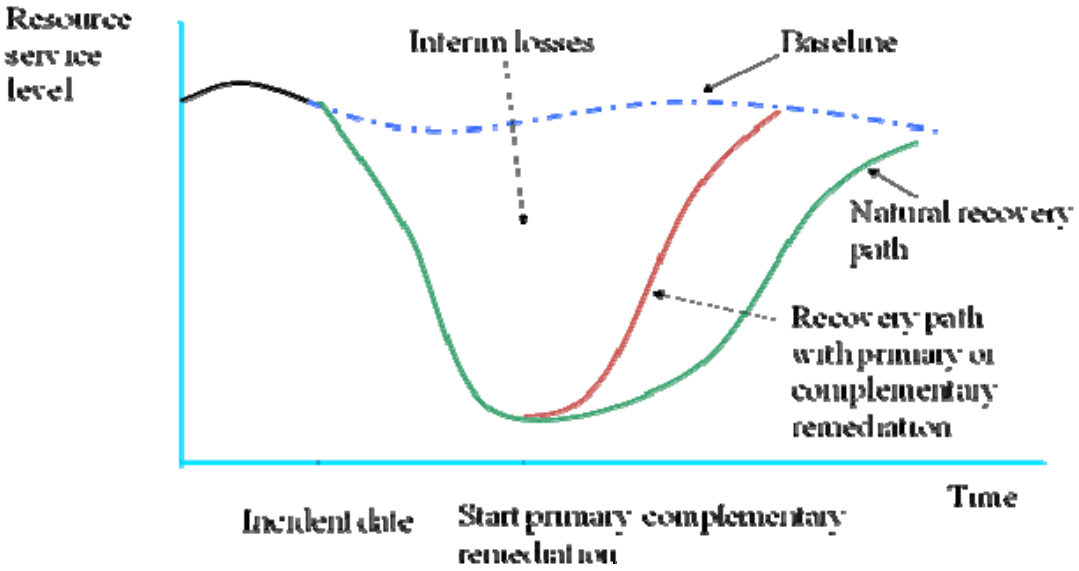
The ELD aims at ensuring that significant natural resource damage (harm to biodiversity, water or land) is restored to the condition which existed before the damage occurred. The economic operator who caused the environmental harm has to take the necessary restoration action and to bear the costs. Besides the restoration of damage to the environment, another important objective of the Directive is to prevent damage in case of an imminent threat that such damage will happen in the near future. The ELD provides

for the responsibility of an operator, based on the 'polluter-pays' principle: An operator is a (natural or legal, private or public) person who operates or controls the damaging occupational (professional) activity. Operators who carry out certain – mostly industrial – activities potentially dangerous to the environment (listed in Annex III of the Directive) are liable according to the standard of strict liability, which means that no proof of fault (intent or negligence) is necessary. This makes the liability faster and more efficient. It is however necessary to proof that the operator has caused the damage (causal link). In addition, economic operators, other than those carrying out the listed dangerous activities, are liable for the damage they caused to protected animal or plant species or to protected natural habitats (biodiversity damage) on the basis of fault.

The ELD requires that the damaged environment is physically reinstated. This is achieved through the replacement of the damaged natural resources by identical or, where appropriate, equivalent or similar natural components ('primary remediation'). If measures taken on the affected site do not allow achieving the return to the baseline condition, 'complementary remediation' measures have to be taken elsewhere (preferably at an adjacent site). Finally, 'compensatory remediation' has to be taken to compensate for the 'interim losses', i.e. loss resulting from the fact that the damaged natural resources are not able to perform their ecological functions or services after the damage until the environment is fully restored. Such measures consist in additional improvement of the ecological structures and functions to compensate for the interim losses.

The following graphics shows how remediation under the ELD is basically working.

Figure 2: Anatomy of damage, source ELD training slides

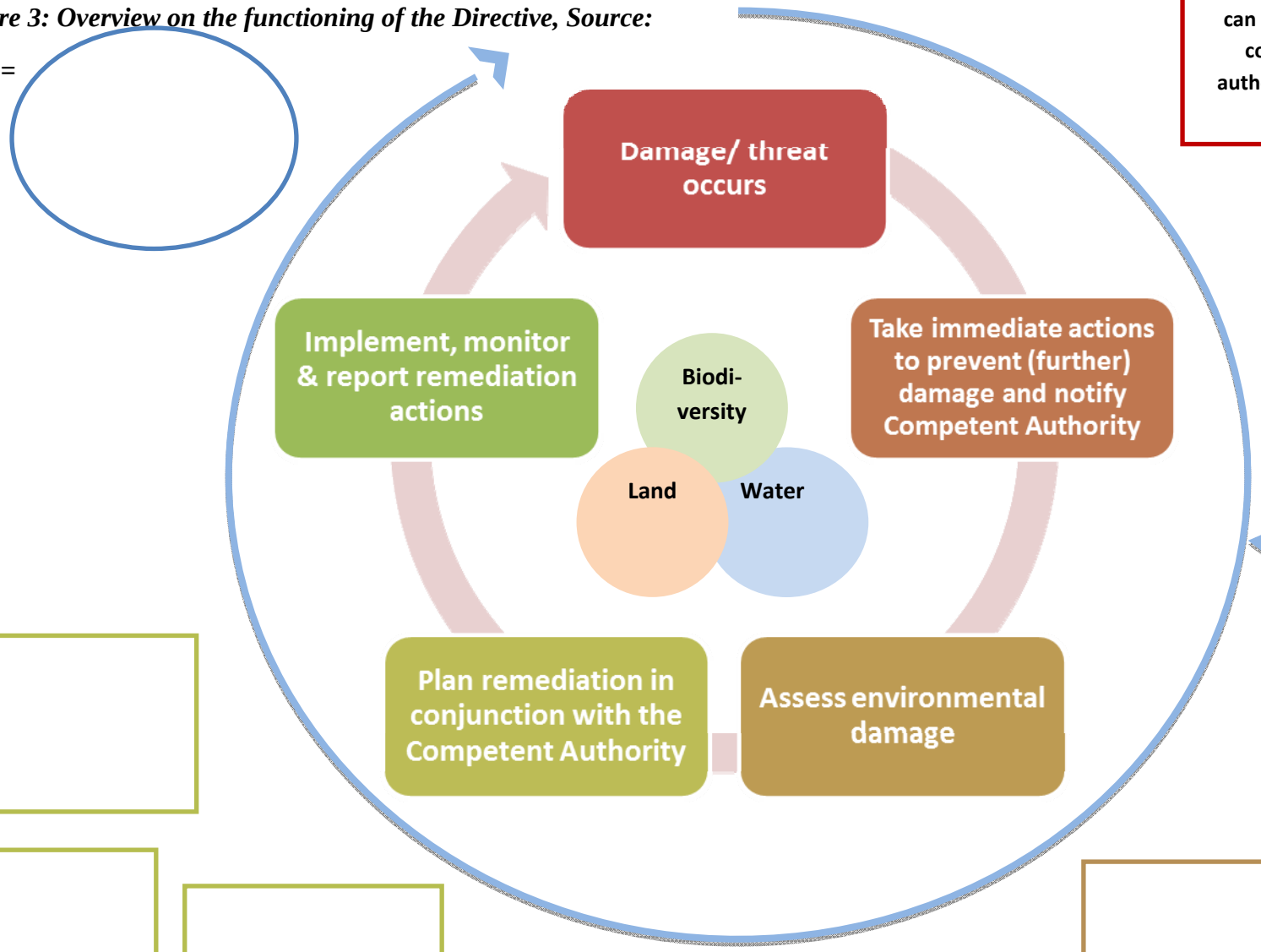


Source: ELD Training Handbook (2 days version), p. 13

The liable operator must take the necessary preventive or remedial measures and bear the costs thereof. The competent authorities play a major role within the administrative liability system of the ELD. They have to survey and enforce the environmental liability, in particular to identify the liable operator, to assess the significance and to approve or determine the remedial measures. The third key player in the system is civil society. Natural or legal persons affected by environmental damage and enabled environmental NGOs have the right to request the competent authority to decide on an instance of observed environmental damage.

Figure 3: Overview on the functioning of the Directive, Source:

Aim =



NGOs and citizens can request the competent authority to take action

2.2.2. Objectives of the Environmental Liability Directive

The two main objectives of the ELD are *prevention* of environmental damage in case of imminent threat of damage and *remediation* of environmental damage if it has already occurred. Environmental damage continues to create significant losses in natural resources in the EU every year. Some of these losses are due to major accidents (for example *Doñana*/Spain[8], *Baia Mare*/Romania[9], *Kolontár*/Hungary[10], *Moordijk*/Netherlands[11]) or big scale pollution events. Other incidents are smaller but still significant.

The purpose of the ELD is thus to contribute to the halting of biodiversity loss in the EU by 2020 and to the improvement of the water quality of European freshwaters under the Water Framework Directive. This aim is pursued first by *incentivising* operators who typically carry out those hazardous activities which most frequently cause environmental damage, to take a more effective *precautionary approach* by e.g. establishing an environmental management system, environmental safety measures, carrying out risk assessments, investing in risk abatement technology and taking out sufficient financial security. Second, in case of imminent threat of damage or actual damage, operators are liable to take the necessary preventive or remedial action and to bear all costs, i.e. to *internalise the external environmental costs* so that neither the public pays for the damage nor the damage remains un-remedied.

The liable operator must take the necessary preventive or remedial measures and bear the costs thereof. Operators should therefore have sufficient financial capacity to cover the costs which may arise due to their potential liability for environmental damage. The ELD does however not establish a system of mandatory financial security at EU level but leaves this decision to the Member States. Around one third of the MS have established or are about to establish such mandatory financial security schemes at national level and two thirds of the Member States rely on voluntary instruments and market developments.

The ELD targets only pollution which is significant, measurable and can be traced back to an identifiable polluter.[12] A liability instrument would face challenges in tackling so called diffuse pollution, caused by multiple polluters whose share cannot be calculated or estimated, as e.g. is the case with air pollution due to car traffic or household heating. For the latter type of pollution, other instruments are available, as e.g. environmental taxes or charges.

[8] See box 1 above.

[9] At the end of January 2000 near *Baia Mare*, Romania a dam holding waters from the gold mining activities by the *Aurul* company burst and 100,000 cubic metres of cyanide-contaminated water spilled over to farmland and into the *Someș* river. The waters polluted by cyanide and heavy metals eventually reached the Tisza and then the Danube, killing large numbers of wildlife (foxes, otters, ospreys etc.) and fish in particular in Hungary and Serbia (80% of aquatic life) and had a long-lasting negative impact on the environment. There was no adequate remediation of the damaged natural resources to their baseline condition.

[10] The *Ajka* alumina sludge spill was an industrial accident at a caustic waste reservoir chain of the *Ajkai Timföldgyár* alumina plant in *Ajka, Veszprém* County, in western Hungary. On 4 October 2010, the north-western corner of the dam of reservoir no. 10 collapsed, freeing approximately one million cubic metres (35 million cubic feet) of liquid waste from red mud lakes. The mud was released as a 1–2 m (3–7 ft) wave, flooding several nearby localities, including the village of *Kolontár* and the town of *Dececser*. Ten people died, and 150 people were injured. About 40 square kilometres of land were initially affected. The waste extinguished all life in the *Marcal* river.

[11] A major fire at the firm *ChemiePack*, which resulted in damage to the soil, surface water and groundwater due to pollution of the water used to put out the fire. The activity causing the damage is covered by Annex III (7) of the ELD, as dangerous substances were stored and packaged.

[12] Articles 2(1), (2) and 4(5) ELD, also Article 11(2) ELD.

2.2.3. The Polluter-Pays Principle

The ELD establishes a framework based on the polluter pays principle (PPP) to prevent and remedy damages on certain environmental media. Article 191(2) TFEU provides that the Union policy on environment shall be based on the principle that the polluter should pay[13]. The PPP is one of the main principles guiding EU environmental law and policy. Economic activities often create emissions discharged into air, soil or water and having a detrimental effect on flora and fauna or human health; this is what is often referred as 'external effects' of an activity. On a macroeconomic level, the question arises whether the public or a specific person or group of persons have to bear the costs of preventing and remedying the costs of such environmental damages. If the costs are attributed to the person responsible, the 'external effects' are considered to be internalized. This is what the 'polluter-pays principle' is aiming for. If the costs are, however, born by the public, a 'community-pays' system is implemented.[14] More background information on the economic principles of cost allocation for environmental damage can be found in the Annex on the 'polluter-pays principle'.

The ELD implements not only the polluter-pays principle expressly invoked by its Article 1,[15] but also the other environmental principles enshrined in Article 191(2) TFEU, namely the precautionary principle[16], the preventive principle[17] and the principle that environmental damage should as a priority be rectified at source (primary remediation)[18].

2.2.4. The Liability Scope and Standard of the ELD

The material, personal, temporal and territorial scope of application is crucial for the degree of internalization of external effects and thereby for the effectiveness and efficiency of the ELD. The scope of application of the ELD answers the questions who can be held liable (personal scope), for what type of damage (material scope: environmental or traditional damage), within which geographical ambit or area (territorial scope), and within which time (temporal scope). The standard of liability (strict or fault-based) and the treatment of multi-party liability are also basic elements of each liability system which will be briefly presented below for the ELD.

<u>Material scope – Environmental damage vs. traditional damage:</u>

Traditional damage or third-party damage is caused to persons as victims resulting from an activity. This old concept of tort law consists in three categories: damage to property, bodily

[13] See footnote 6 above.

[14] Opposed to the polluter-pays principle is the beneficiary-pays principle attributing the costs to the persons benefitting from the intact environment (a certain group interested in the conservation of a certain environment) or the general public which would be tantamount to the community-pays principle: the costs of a certain polluting activity are socialised (which is what is happening most often in reality, including under the ELD for the non-significant environmental damage). Another cost allocation principle is the ability-to-pay principle according to which the costs are allocated according to the economic capacities of the payers.

[15] "*The purpose of this Directive is to establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage.*"

[16] See the incentivising role of the internalisation of damage costs (PPP) and in particular Article 14 ELD (Financial security)

[17] See in particular Article 5 ELD (Preventive action).

[18] See in particular Article 6 (Remedial action) and Annex II ELD (Remedying of environmental damage).

injury (health damage) including loss of life, and economic loss (comprehending consequential or even pure economic loss[19]).

In contrast, the pure environmental or ecological damage, which is the subject of the ELD, concerns the environment as such without any person needed to have suffered damage or losses. This rather novel legal concept makes the owned as well as the un-owned environment (the 'common good') the victim of damaging activities. As 'the environment' cannot raise claims, it needs a 'trustee' to act on its behalf. Under the ELD, this is the public authority responsible for the protection of environment, with civil society (affected persons including entitled environmental NGOs) enabled to request decisions by the competent authorities on remedial actions in case of observed environmental damage.[20]

The material scope of the ELD is defined by the three categories of 'environmental damage': 'protected species and natural habitats', 'water' and 'land' (called altogether 'natural resources'). As regards protected species and natural habitats, the legal definitions of the ELD refer to the Birds Directive (2009/147/EC)[21] and the Habitats Directive (92/43/EEC)[22]. For water damage, the ELD refers to the waters covered by the Water Framework Directive (2000/60/EC)[23], including groundwater, surface water, transitional waters and coastal waters, as well as marine waters covered by the Marine Strategy Framework Directive (2008/56/EC)[24]. The term "land" in contrast is not further defined in the ELD, neither explicitly nor indirectly via reference to EU legislation.

The application of the ELD is not triggered by just any impairment of these three natural resources, but only if certain thresholds are exceeded. Article 2, letter (a) ELD specifies damage to protected species and natural habitats[25], letter (b) specifies water damage[26] and

[19] A civil or third-party liability system acknowledging only consequential economic loss limits the scope of economic loss to such damage suffered as a consequence of other traditional damage (damage to property or bodily harm) while the concept of pure economic loss allows also claims for economic loss suffered without such a link, for example loss of income to fishermen as a consequence of damage to fish populations.

[20] There are however overlaps between 'traditional' and 'environmental' damage in particular as far as 'pollution' damage is concerned. International conventions, notably those included in Annex IV of the ELD, contain a definition of 'pollution damage' that covers also damage to the environment and the cost of any preventive measures taken to address the threat of such damage. Claimants under the conventions may include the State or local communities, who have taken such measures for the reinstatement of the environment – including biodiversity – in an area falling within their territorial waters and the EEZ, or for any relevant preventive measures wherever taken. The notion of 'pollution damage' under these conventions transcends the distinction between 'traditional' and 'environmental' damage.

[21] Directive 2009/147/EC on the conservation of wild birds, OJ L 20, 26.1.2010, p.7 .

[22] Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, OJ L 206, 22.7.1992, p. 7.

[23] Directive 2000/60/EC establishing a framework for Community action in the field of water policy, OJ L 327, 22.12.2000, p. 1.

[24] Directive 2008/56/EC establishing a framework for community action in the field of marine environmental policy, OJ L 164, 25.6.2008, p. 19.

[25] "*… damage to protected species and natural habitats, which is any damage that has significant adverse effects on reaching or maintaining the favourable conservation status of such habitats or species.*" (Article 2(1)(a) ELD).

[26] "*any damage that significantly adversely affects: (i) the ecological, chemical or quantitative status or the ecological potential, as defined in Directive 2000/60/EC, of the waters concerned; … or (ii) the environmental status of the marine waters concerned, as defined in Directive 2008/56/EC*" (Article 2(1)(b) ELD). 'Deterioration of the status' under the Water Framework Directive (WFD) has recently been the subject of a recent judgment by the Court of Justice (see case C-461/13): http://curia.europa.eu/juris/document/document.jsf?text=&docid=165446&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=175744.

letter (c) land damage[27]. Also, the obligation to take preventive measures pursuant to the ELD is only triggered when it is likely that a non-action would result in a significant environmental damage. However, in application of the precautionary principle, scientific certainty that the potential damage will exceed the significance threshold is not required, a reasonable belief would be sufficient.[28]

Box 2: ELD case example how the Directive is applied

On or about 2 July 2009, crude sewage was discharged for several hours into the "Three Pools" waterway at *Crossens* (United Kingdom), following the failure of foul water pumps at the *Crowland Street* pumping station. This resulted in a release of raw sewage effluent into surface water which impacted the biological quality of the water. The spill caused the death of over 6,000 fish in a 5 km stretch of the river. Based on the reasonable grounds that an environmental damage may have been caused, the competent authority assessed the damage under the Environmental Damage (Prevention and Remediation) Regulations 2009 (hereinafter "the EDR"), the ELD transposing legislation. The authority determined that environmental damage to surface water had occurred pursuant to Regulation 4 of the EDR because the biological quality element for fish had dropped from good to poor, changing sufficiently to lower the status of the water body within the meaning of the Water Framework Directive (2000/60/EC).[29]

Therefore, on 2 December 2009, the authority served a Notification of Liability on the operator, requiring him to propose measures for the remediation of the damage by 5 February 2010. The operator agreed to let the authority propose remediation measures on its behalf. Subsequently, the authority developed and consulted on options for remediation of the damage in accordance with the requirements of the EDR which are more stringent than those set forth under the Water Resources Act 1991. Pursuant to Regulation 20 of the EDR, the operator has to carry out primary as well as compensatory remediation to compensate for the interim loss of resources or services pending full recovery. On 7 October 2011, the authority served a Remediation Notice under the EDR on the Operator, ordering it to restock the river with fish (primary remediation) and to carry out habitat and access improvements to compensate for the loss of angling services due to the damaged aquatic environment (compensatory remediation).[30]

Source: ELD Implementation Study, Annex 1, p. 13, slightly adapted and shortened

Personal scope – Liable person:

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[27] "*any land contamination that creates a significant risk of human health being adversely affected as a result of the direct or indirect introduction, in, on or under land, of substances, preparations, organisms or micro-organisms*" (Article 2(1)(c) ELD).

[28] See for example the English Environmental Damage Regulation 13(1) which provides: "*An operator of an activity that causes an imminent threat of environmental damage, or an imminent threat of damage which there are reasonable grounds to believe will become environmental damage, must immediately (a) take all practicable steps to prevent the damage;*"

[29] Please note that pursuant to case C-461/13 (the Weser ruling), the fact that the biological quality element for fish had dropped from good to poor would be sufficient to qualify as a 'deterioration of the status', notwithstanding whether it changed sufficiently to lower the (overall) status of a water body pursuant to Directive 2000/60/EC.

[30] Case study taken from the ELD Implementation Study 2013, Annex, Part B, slightly shortened and adapted.

The persons liable to prevent and to remedy environmental damage and to bear the costs for it under the ELD are those who have caused the imminent threat or the actual damage through their occupational activities (first level-channelling of liability to occupational/professional activities). An activity is "occupational" when it is carried out in the course of an economic activity, a business or undertaking, irrespectively of its private or public, profit or non-profit character.

On a secondary basis, a third party who has caused the damage despite appropriate safety measures of the strictly liable operator have been in place, or a public authority who has given a compulsory order which led to the damage are financially liable for the preventive or remedial action to be taken by the liable operator in case the latter has successfully invoked a defence under Article 8(3) of the ELD. A further secondary liability of additional responsible parties (e.g. landowners, successor in rights) is possible under Article 16(1) ELD if a Member State so decides and it is compatible with the Treaties, in particular if the ELD requirements are complied with (causality, no liable operator)[31].

Standard of liability – Strict and fault-based:

The ELD contains two standards of liability. The liability standard is strict (faster to establish) for environmental damage (damage to biodiversity, water and land) if caused by one or more of the dangerous activities listed in its Annex III. Article 3(1)(b) ELD establishes in addition a fault-based standard of liability for an imminent threat or damage to protected species or natural habitats for operators pursuing an occupational activity which is not listed in Annex III ELD.

The legal design of the liability rules and the standard of liability in particular is crucial for the extent of internalization, hence for efficiency. A strict liability system (which does not require any form of culpability) represents the polluter-pays principle more adequately and is commonly regarded as highly effective to its aims if it is strictly enforced and not undermined by too many exceptions and defences.

Multi-party liability – joint & several vs. proportionate liability:

The liability scope in case of multi-party causation of environmental damage (i.e. if more than one person contributes to the damage) could range from joint and several liability, where each polluter, who has contributed to causing the damage, is liable for the prevention or remediation of the full damage to a proportionate system of liability where the judge or the authority determines the share of liability of each polluter. The ELD does not take a decision but leaves it up to the Member States.[32] Joint and several liability is commonly regarded more effective while a proportionate system has the fairness argument on its side. Most Member States apply joint and several liability or a mitigated/combined joint and several liability.[33]

Temporal scope:

[31] Judgment of the Court of Justice of the European Union of 4 May 2015 in Case C-534/13, paragraphs 59-62.

[32] *"This Directive is without prejudice to any provisions of national regulations concerning cost allocation in cases of multiple party causation especially concerning the apportionment of liability between the producer and the user of a product."* (Article 9 ELD).

[33] Only Denmark, Finland, France and Slovakia opted for proportionate liability in the ELD context.

Unlike some other liability laws[34], the Environmental Liability Directive does not establish retroactive liability. The Directive does neither apply to damages caused by an emission, event or incident that took place before the 30th of April 2007, nor to an emission, event or incident subsequent to this date when they derive from an activity that took place and finished before the deadline for the transposition in the Member States (30th of April 2007), nor to a damage caused by an emission, event or incident that took place more than 30 years ago. This limitation of the temporal scope of the ELD implicates that remediation of pollution stemming from the time before the entry into application of the ELD may be treated under any previously existing national regime.[35]

Territorial scope:

The territorial application of ELD applies to the geographical extent where Member States exercise jurisdiction (land territories, water damage not only in the coastal and territorial waters but also in the exclusive economic zone and the continental shelf where Member States apply jurisdiction[36]). According to Article 52 TEU, EU law applies to the European territories of the Member States and to certain overseas territories and islands as specified in Article 355 TFEU. Environmental damages occurring, for example, on the Saint-Martin, the Azores or Madeira Islands, have to be remedied according to the ELD, but for those occurring at the Faeroe Islands, the genuine national law is decisive.

3. EVALUATION QUESTIONS

The key evaluation questions for this exercise can be summarised as:

Relevance:

- *Are the objectives of the Directive still relevant (i.e. do they still match current needs) and are key problems still properly addressed?*

Effectiveness:

- *What progress have Member States made over time towards achieving the objectives set out in the Directive? And does the Directive lead to a level playing field in terms of preventing and remedying environmental damage across the EU?*

- *Has the current scope of the Directive worked out to be right in meeting practical demands?*

Efficiency:

- *What are the costs and benefits (monetary and non-monetary) associated with compliance with the Directive in the Member States and in the EU?*

[34] For instance the US federal environmental liability legislation pursuant to CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) establishes retrospective liability for clean-up costs.

[35] In addition to this absolute time limitation, there is a relative limitation in temporal application of the ELD which enables the competent authority within five years after completion of the preventive or remedial measures or the identification of the liable operator or third party to initiate cost recovery proceedings in case the competent authority has taken the preventive or remedial action (Article 10 ELD).

[36] See for water damage in particular the ELD amendment through Directive 2013/30/EU on safety of offshore oil and gas operations and amending Directive 2004/35/EC, OJ L 178, 28.6.2013, p. 66 (Article 38).

- *Is there evidence that the Directive has caused unnecessary administrative burden? Can any costs be identified that are out of proportion with the benefits achieved?*

Coherence:

- *To what extent is the Directive satisfactorily integrated and coherent with other parts of EU environmental law/policy?*
- *Are there overlaps, gaps and/or inconsistencies that significantly hamper the achievements of the objectives and to what extent is the Directive consistent with the Habitats Directive?*

Complementarity:

- *To what extent does the ELD support and usefully supplement other instruments or policies?*

EU-added value:

- *What has been the EU added value?, i.e. what has been the practical significance of the Directive as compared to (pre-) existing national legislation and what would likely happen if EU action were repealed?*

4. METHOD/PROCESS FOLLOWED

4.1. Process/Methodology

The evaluation started in 2012. The work took longer due to the delayed arrival of several Member State reports (the last ones received in December 2013 with translation in January 2014 completed), and the slightly delayed completion of the ELD evaluation studies (by March 2014). Where possible, the present evaluation and how it is being reported is aligned with the Better Regulation guidelines of 19 May 2015.

The evaluation is mainly based on the information and data provided in the 27 national application reports of the Member States[37] under Article 18(1) ELD. The studies are summarised horizontally according to the main trends and features and the reports are summarised vertically per Member State in two Annexes to this REFIT evaluation. They are also available in English translation of the originals on the Commission liability website: http://ec.europa.eu/environment/legal/liability/index.htm

A major source of the evaluation provided the two implementation studies of 2012/2013 and the three evaluation studies of 2013/14. These studies are summarised in an Annex to this REFIT evaluation and are as well available at the aforementioned environmental liability website. The studies investigated the main questions guided by the evaluation criteria, in particular as regards effectiveness, coherence and EU-added value.

Information drawn from experts and stakeholders complete the overall information sources.[38]

[37] Croatia accessed to the EU on 1 July 2013 and has not yet been a member of the EU at the time of the deadline set for the submission of the national ELD reports (30 April 2013).

[38] This covers comments and feedback gathered in meetings with ELD Member States' experts, in particular the 11th, 12th, 13th, 14th and 15th meetings of 30th May 2012, 15th January 2013, 10th June 2013, 3rd February 2014 and 13th May 2015, and in the three ELD stakeholder

In addition, information from financial security providers,[39] from industry,[40] and from environmental NGOs or interest groups[41] were taken into account. The permanent exchange with experts and stakeholders, including their consultation in all ELD studies and their involvement in the ELD information and training material, is an indispensable contribution to the development of the ELD implementation.

There was no formal public internet consultation of twelve weeks, but stakeholders had the above mentioned opportunities to consider the implementation and evaluation of the ELD and to express views.

4.2. Limitations – robustness of findings

Information and data provided in the MS reports 2013 varies considerably. While some Member States submitted detailed and well-structured information, others provided much less information. The length of the reports differed between half a page and more than 60 pages. Several Member States provided only narrative reports, some MS only tables, and others a combination of a written report and a table.

Overall the Commission did not receive from all MS all the information sought or needed for a complete assessment and while some MS have supplemented the data upon extra request from the Commission, the situation remains partly incomplete for others. However, the obtained information appears in general sufficient to provide an overview, as is shown in the chapter on implementation. One of the significant information shortcomings concern data on costs, in particular on administrative costs. Only a few MS have provided seemingly reliable data in this respect, some more have provided at least illustrative information but the majority nothing. This part of the information was to be submitted by Member States however only on a voluntary basis according to Annex VI ELD[42].

The robustness of the findings may be challenged in some respects: First, despite the common interpretative guidance on the reporting, MS may have had a different understanding of some terms, or use from the outset different systems e.g. for the calculation of costs. While for example Hungary provided that the Directive did not cause additional administrative costs for their total 573 ELD cases, the United Kingdom found that the Directive could become onerous if it exceeded the number of cases they have experienced (which is 19 in the reporting period), based on the national interpretation of the 'significance threshold'. Most of the MS remained quiet in this respect.

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conferences of 8th November 2011, 11th June of 2013 and 26th November 2014. Information on these meetings is available on: http://ec.europa.eu/environment/legal/liability/eld_meetings.htm

[39] In particular surveys carried out by Insurance Europe, and feedback from some national insurance associations.

[40] Surveys and papers from the Ad-Hoc Natural Resource Management Group and from CEFIC, information on environmental claims dealt with by the IOPC Funds, information by the 'International Group of P & I Clubs' and ITOPF on shipping incidents covered by the Clubs in the reporting period 2007-2013, input from the ship owners associations.

[41] In particular from Justice and Environment, Client Earth and the CPMR.

[42] Annex VI ELD lists all the information and data to be submitted by Member States according to Article 18(1) of the Directive. The first five numbers cover the mandatory information and data, the last three numbers contain the voluntary information and data. The Commission agreed with the ELD government experts of the MS a 'non-binding guidance document for the reporting' which helped in the sense that several MS sent also voluntary data and information, even beyond those listed in Annex VI, but could despite all efforts not ensure that the overall submitted information was complete and coherent.

The overall finding from the submitted information and data confirmed the conclusion from the previous Commission report on the ELD of October 2010 of a significant variance between Member States. Despite the efforts undertaken so far by the Commission and the stakeholder groups to create a better level field by non-legislative measures, not only the transposition of this framework directive but also the implementation still varies greatly. This is the reason why the topic of the remaining 'patchwork' situation as regards environmental liability was broadly discussed in several of the ELD implementation and evaluation studies.

Therefore, despite more efforts to step up implementation and create a better level playing field, more transparency and complete data about ELD instances, as well as on environmental damage instances which are not treated under the ELD transposing legislation in the Member States but by other national legislation, would be necessary to assess the effectiveness of the Directive in an unbiased manner (as such other national legislation is often used instead of the ELD). As the above comparison between the United Kingdom and Hungary shows, the approach towards the use of the ELD varies greatly. The factors of the different use are multiple but as the most important ones could be identified the use of other national legislation instead of the ELD, based on the justification that the damage remains below the significance threshold.

This significant data gap brings a potential bias into the evaluation and in order to improve the quality of the next REFIT evaluation, the aforementioned additional data would be necessary to examine the overall effect of the Directive in relation to the total environmental damage caused. This would however require a long term planning and an agreement by all Member States and stakeholders to jointly work on it for the benefit of regulatory monitoring and better implementation and regulation. The costs of such monitoring must be carefully weighed against the environmental benefits. It follows from the ELD studies, in particular from the ELD implementation Study and the Legal analysis Study, that a complete and transparent ELD case register, as is already established by at least one third of the Member States, could enhance significantly the necessary information platform for the exchange of ELD-relevant data. Not only the Commission, but all Member States and the insurance sector, industrial operators and environmental NGOs could benefit from such an EU data base for private and public decisions.

5. TRANSPOSITION AND IMPLEMENTATION OF THE ENVIRONMENTAL LIABILITY DIRECTIVE (STATE OF PLAY)

There is a difference between transposition and implementation. Transposition is the formal act of translating Directives addressed to Member States into national law, i.e. integrating the Directive into the national legal system in order to render the Directive effective. A Directive is binding as to the result to be achieved but leaves the form and methods to the Member States (Article 288 TFEU). Implementation describes all the measures giving practical effect to the transposed legislation (application, enforcement, inspections, awareness raising, information, guidance, training, etc.). It is sometimes also used as broad term covering transposition and all application aspects.

5.1. Transposition of the ELD

Communication of transposition:

The Directive was to be transposed by 30 April 2007 but only four Member States met the deadline (Italy, Latvia, Lithuania and Hungary). Consequently, the Commission opened

infringement procedures against 23 Member States, issued 16 Reasoned Opinions and referred nine Member States to the Court of Justice of the European Union (CJEU). The CJEU decided in 2008 and 2009 that seven Member States had not communicated on time the measures to transpose the Directive into national law[43]. The last piece of transposing legislation was communicated in 2010.

The Directive does not contain specific measures to be implemented by certain deadlines except the designation of the competent authorities by the date of transposition[44], which does not mean that the Directive was completely implemented by that time, as its full effectiveness depends on several conditions and factors. The most important are:

- Designation of competent authorities by the time of the transposition (Article 11(1) ELD): All Member States have designated competent authorities which are in charge of determining significant environmental damage, establishing the causal link, identifying the liable operators, deciding in cooperation with the liable operators the remedial measures and approving the remediation plan of the operator, as well as executing and overseeing the required application of the prevention and remedial action and the cost reimbursement provisions.
- Establishment of financial security instruments and markets (Article 14(1) ELD): While the Directive acknowledges that liability without appropriate financial security is doomed to be ineffective[45], it did not choose to set up the establishment of mandatory financial security at EU level. It required Member States instead to "*take measures to encourage the development of financial security instruments and markets*" including the decision as to whether mandatory financial security should be established at national level. One third of them have either so far established mandatory financial security on a legal basis or are working on it. The other two thirds decided to let the market itself develop adequate instruments.
- Member States have to provide since the entry into application of the Directive for the economic valuation of a damage which occurred, and have to apply the remediation types and techniques as required by Annex II ELD. The extent to which the Member States implemented these provisions depended also on the existing administrative structures and resources, on the already achieved practical experience, and on the respective arrangements between authorities, stakeholders and practitioners. This is one of the core elements and probably the biggest novelty brought by the ELD. Without functioning instruments and available resources, the remediation measures cannot properly be determined, designed and implemented.

<u>Conformity of transposition:</u>

The conformity of the transposed legislation means that the national law is correctly and completely covering the requirements addressed to the Member States in the Directive. For example, rights conveyed to citizens or business, as well as obligations imposed on them have to be clearly transformed into domestic law in compliance with the provisions in the Directive. Noncompliant legal transposition risks that the objectives of the Directive will not

[43] France, Finland, Slovenia, Luxembourg, Greece, Austria and the United Kingdom.

[44] The designation of the competent authorities is mostly integrated in the transposing legislation.

[45] Article 14(1) ELD.

be achieved. It is therefore with priority that the Commission examines the conformity of the transposition in order to ensure at an early time a level playing field and the functionality and effectiveness of a Directive.

The Commission has in the last years assessed the conformity of the transposing legislation of the 27 Member States covered by the report. It has opened further investigations in several cases, some still ongoing. In six Member States, legislation was completely conform, while more than 20 Member States had some non-conformities, 15 of which have been solved so far.

The aforementioned (potential) non-conformities related to virtually all provisions in the ELD which needed to be transposed (not all must be transposed[46]). The provisions of the ELD which were most often invoked by the Commission in the bilateral meetings as a result of the conformity assessments concern: Articles 2 (Definitions), 4 (Exceptions), 8 (Prevention and remediation costs) and 12 (Request for action) as well as Annexes II (Remedying of environmental damage) and III (Activities referred to in Article 3.1). In all cases so far, Member States' authorities could either satisfactorily answer and explain or have rectified the ELD non-conformities, but the exercise is not yet completed.

The Commission pursued the method of a bilateral dialogue with the Member State, discussing the potential non-conformities including points for clarification together with other implementation-relevant topics, such as on general implementation (challenges and obstacles, numbers of cases, awareness of and communication with stakeholders, etc.) on remediation of environmental damage (methods and categories, information/guidance/training tools or needs, etc.), and on financial security (available financial security instruments and options, development and experience, risk assessment, etc.). Where the problems could not be clarified within this framework bilateral investigations were opened.

It would appear in general that identified problems regarding the effective application of the Directive are often not related with the transposition. There are examples where Member States with better implementation of the ELD have also more non-conformity issues. However, the opposite correlation (higher non-conformities related with better implementation record) can also not be verified. Only few complaints regarding bad application of the Directive have reached the Commission. Apart from some initial inquiries, the Commission has so far not opened any formal investigations regarding the bad application of the Directive on the basis of citizen's complaints.

Quality of transposition:

The quality of the transposition varies widely, as well as the type and method: Single laws, sometimes reproducing the ELD, are the most common, but in several instances such specific national ELD transposing laws are supplemented by legislative amendments to existing material laws, mainly regarding nature protection, water management and soil protection. The integration of the transposition into the existing national frameworks is in any case crucial for the transposition and effectiveness of the Directive.

[46] This is for instance the case for provisions which require a direct action by the Member States (such as a reporting obligation), or address the Commission, or are by nature clarifications (e.g. on the relationship with other applicable law).

Therefore, the Legal Analysis studies mentioned above and summarised in the Annex on ELD studies investigated this question extensively. As overall conclusion can be drawn that most Member States transposed the ELD fairly faithfully, sometimes even in a "copy/paste"-style, which may entail risks of not fitting well into the existing legal frameworks, hence suffering more in the application under the competition of similar pre-existing national legislation than well integrated transposing provisions.

There are also Member States with well-considered integration of the Directive into a multitude of existing material laws. And nearly all Member States have transposed large parts of the Directive, such as technical annexes, in quite a literal manner.

6.2. Implementation of the ELD

The following overview of the implementation of the ELD, follows largely the national reports submitted by the Member States to the Commission on the experience gained in the application of the Directive between 30 April 2007 and 30 April 2013 according to Article 18(1) in conjunction with Annex VI(1) ELD. Member States were required to report on the type of environmental damage, the date of its occurrence and/or discovery and the date on which proceedings were initiated under the ELD. The requirements were specified in a non-binding guideline prepared with the government experts as follows:

- "Type of environmental damage" refers to the three categories of environmental damage as specified in Article 2(1) ELD: damage to protected species and natural habitats; water damage; land damage. The Member States were asked to report on *confirmed* damage incidents, therefore on cases treated as environmental damage cases by the liable operators and/or competent authorities according to the requirements of the ELD.
- "Date of its occurrence" refers to the date when the event, incident or emission causing the damage occurred.
- "Date of its (…) discovery" refers to the date when the damage has been discovered by any person (private person, operator, authority, etc.).
- "Date on which proceedings were initiated under the ELD" refers to the date when remedial action was commenced.

The focus of the Member State reports is on environmental damages and the measures to remediate them. Incidences of imminent threat of environmental damage and the implementation of preventive measures remained formally outside of the reporting scope. This means that the numbers of imminent threat incidents as disclosed by the Member States in their Article 18(1) ELD-reports is not necessarily tantamount to the actual number of cases treated under the national law transposing the ELD. Thus, the exact number of incidents causing an imminent threat of an environmental damage is due to the narrow scope of the reporting duty not known by the Commission.

The abovementioned guidelines were of non-binding character; the Member State reports contained therefore sometimes additional information. The Commission received hence partially also information on cases of imminent threat and on other details of the administrative procedure. Although just of indicative character, this information is also included as much as available, in the present ELD report.

<u>Number of cases handled under national law implementing the ELD:</u>

Within the reporting period April 2007 to April 2013 around 1,245 confirmed incidents of environmental damage triggered the application of national rules transposing the ELD. At least 34 administrative procedures were pending at the time of reporting with the competent authorities or (administrative or judicial) instances and are therefore not considered confirmed ELD damage cases. 31 instances of imminent threat were reported voluntarily by Member States, excluding Italy; Italy communicated that it had identified almost 150 liability cases and that *"most of these"* concerned imminent threats of environmental damage. As mentioned before, the real number of 'imminent threat incidents' might be substantially higher since the Member States were only obliged to report cases of natural resource damage pursuant to the ELD.[47]

Case numbers vary considerably between the 27 reporting Member States. Three basic scenarios can be distinguished:

- *Member States without any confirmed environmental damage incidents (11):* Czech Republic, Denmark, France, Luxembourg, the Netherlands[48], Slovenia and Slovakia reported that no incidence of environmental damage as defined by the ELD occurred in the reporting period. Austria, Bulgaria, Ireland and Malta initiated proceedings under national law transposing the ELD but these cases are either pending or they concerned only incidents of imminent threat of environmental damage.

- *Member States with 1 to 60 confirmed environmental damage incidents (14):* Belgium, Cyprus, Estonia, Finland, Germany, Greece, Italy, Latvia, Lithuania, Portugal, Romania, Spain, Sweden and United Kingdom.

- *Member States with more than 500 confirmed environmental damage incidents (2):* Hungary and Poland.

Table 1: Confirmed or pending cases of environmental damage or imminent threat

Member State	Confirmed Damage Cases[49]	Confirmed Threat Cases	Total of Confirmed Cases	Pending Cases[50]	Dismissed Cases[51]	In Total

[47] For 35 incidents, administrative procedures according to the national law transposing the ELD were initiated but later dismissed; Italy classified 850 incidents as non ELD-cases after a first technical assessment. Reasons for dismissal were, inter alia, that the activity concerned did not fall under Annex III ELD; that the significance threshold was not met; or that the damage occurred before the entry into force of the ELD. Several Member States mentioned an unspecified number of 'other' environmental damage incidences for which no administrative proceedings were initiated due to the same aforementioned reasons.

[48] The *ChemiePack* accident at *Moerdijk* of January 2011 is mentioned in the Dutch report, but not as a case in which the ELD transposing legislation has been applied.

[49] "Confirmed" case means – as distinct from "pending" – that the case even though remediation may still be ongoing is being handled under the national ELD law.

[50] "Pending" is not tantamount to "open" (which amount together with "completed" to the total of "confirmed" cases), but means (pursuant to the MS reports) that the case may became a "confirmed" ELD case, but is not (yet). Therefore it is at present included in the total number of ELD cases but not in the total number of "confirmed" ELD cases. Regarding the numbers under "pending", no distinction was made between environmental damage and imminent threat.

[51] "Dismissed" means that the procedure started under national ELD law but was later dismissed e.g. because of absence of verified significance or Annex III activity.

Austria	0	no info	**0**	3	1	**4**
Belgium	1	0	**1**	0	0	**1**
Bulgaria	0	4	**4**	1	0	**5**
Cyprus	1	0	**1**	0	1	**2**
Czech Republic	0	0	**0**	0	15	**15**
Denmark	0	0	**0**	0	0	**0**
Estonia	2	2	**4**	4	8	**16**
Finland	2	no info	**2**	0	0	**2**
France	0	0	**0**	0	0	**0**
Germany	60	no info	**60**	0 (estimation)	no info	**60**
Greece	40	11	**51**	1	0	**52**
Hungary	563	no info	**563**	10 (estimation)	no info	**573**
Ireland	0	0	**0**	4	6	**10**
Italy	17	(up to) 133	**(up to) 150**	approx. 1000	approx. 850	**(150[52]) Approx. 2,000**
Latvia	13	no info	**13**	0	3	**16**
Lithuania	4	no info	**4**	0	no info	**4**
Luxembourg	0	0	**0**	0	no info	**0**
Malta	0	no info	**0**	1	1	**2**
The Netherlands	0	no info	**0**	0	0	**0**
Poland	506 (maximum)	no info[53]	**506**	8 (minimum)	no clear info	**514**
Portugal	2	6	**8**	0	no info	**8**
Romania	4[54]	1	**5**	0	no info	**5**
Slovenia	0	no info	**0**	0	no info	**0**
Slovakia	0	no info	**0**	0	no info	**0**
Spain	11	no info	**11**	1	no info	**12**
Sweden	4	0	**4**	1	0	**5**
UK	13	7	**20**	0	several cases[55]	**20**
In total	**1243**	**164**	**1407[56]**	**(34[57]) 1034**	**(35[58])**	**(1476[59])**

[52] Without Italian pending and dismissed cases.

[53] Poland clarified by written comment of August 2015 that they did not provide information on cases of imminent threat as such information was not obligatory according to Annex VI ELD. Poland has information on cases of imminent threat.

[54] According to clarification by Romania in September 2015.

[55] Not counted.

					885	**3326**

Please note that cases are only counted once in the above table, even if they concerned more than one damage category (biodiversity/water/land). Several Member States pointed out that the environmental damage posed also a risk for another environmental medium and constituted thereby a case of imminent threat as well (most often soil pollution constituted an imminent threat to water). The risk was usually neutralized in the course of the remediation measures. Also these cases were counted once only.

Further to be born in mind is that Member States usually considered those incidents in their reports which were handled under the national ELD transposing legislation. Several Member States transposed the Directive quite some time after the ELD transposition deadline had expired on the 30th of April 2007 and consequently did not consider environmental damage that occurred between the date of application of the ELD and the entry into force of the national transposing legislation.

The numbers of cases treated under national ELD regime varies substantially between the Member States. Especially Hungary and Poland have a very high number of confirmed environmental damage incidents. In contrast, several Member States did not report a single confirmed damage case, among them medium and large Member States. In the box below, two examples are given to display the diverting national approaches regarding reporting of incidents. The reasons for the disparities which will be discussed further below in the chapter on the effectiveness of the ELD could be linked with the following factors in particular:

- the framework character of the Directive and the many options which Member States use to a varying degree,
- the uneven interpretation of definitions and concepts, such as in particular the 'significance threshold' (see below box 3), and
- the entitlement for MS to adopt or maintain more stringent measures, again used to a varying degree (for example operator definition, scope of strict liability).[60]

The difference in the stringency of the regime and in the interpretation of the terms can lead to considerably different results if it is combined with the continued use of existing national legislative frameworks instead of the ELD transposing legislation.

Moreover, the evaluation studies pointed to the following factors greatly influencing the number of ELD cases (if available/existent or not):

- publicly accessible registers of ELD cases,

[56] Including the maximum of 133 imminent threat cases of Italy.

[57] Without Italy.

[58] Without Italy.

[59] Without Italian pending and dismissed cases.

[60] The Annexes to the ELD Effectiveness Study and the Implementation Study/legal part provide a more detailed impression of where the individual Member States have maintained or adopted more stringent measures.

- access of interested parties to submit comments and to cooperate with competent authorities,
- a secondary obligation of competent authorities to carry out preventive and remedial action if operators fail to do so,
- the repeal of overlapping national legislation, and
- the knowledge of the ELD by operators.

However, despite the fact that more frequent application of the Directive demonstrates the need to use it as an effective enforcement tool to remedy environmental damage in order to ensure the effectiveness of EU environmental legislation and better environmental protection, as it was highlighted by several Member States in the reports as well as by stakeholders from all sectors, one of the main achievements of the ELD is the preventive effect. The strict liability regime gives an incentive to implement better risk management and to take (further) precautionary measures and actions aiming at preventing gradual pollution growing into significant environmental damage. However, as mentioned before, there is no full set of data available on how often preventive measures pursuant to Article 5 ELD were taken by operators. The main reasons for the lack of data is that the operators must only report preventive measures to the competent authorities when the imminent threat of environmental damage is not dispelled despite the preventive actions taken immediately (Article 5(2) ELD) and because there is no duty of the Member States to collect and report information about incidents of imminent threat. However, some Member States have transposed Article 5(2) ELD in a more stringent manner, obliging reporting of any imminent threat. Further, several Member States have established in their transposing legislation registration and publication requirements of ELD incidents.

Box 3: ELD case examples showing different approaches towards significance threshold

Case example 1: Sinking of a ship in the Upper *Tisza* Region (Hungary)

A 1.5 ton motorboat half sunk at the camping site and gas oil leaked from its tank into the river *Tisza*. The competent authorities considered this case as a relevant environmental damage falling under the national ELD transposition law.

Case example 2: Fire at *ChemiePack* on the 5th of January 2011 in *Moerdijk* (Netherlands)[61]

Polluted fire extinction water at the company *ChemiePack* (presumably an Annex III(7)(a) activity) and stored chemicals penetrated the soil and polluted the surface waters and water beds of the surrounding ditches and those of *De Roode Vaart* and the Northern Dock and the groundwater. The cleaning up measures taken amounted to costs of 65.4 million EUR. The Dutch competent authorities applied national (especially water and soil) protection law rather than the ELD transposition law and therefore did not report it as an ELD case to the national reporting point (thus for example not applying the baseline remediation and the public participation requirements of the Directive). Consequently, it was not counted as an environmental damage incident in the Dutch report pursuant to Article 18(1) ELD, but the fire and its impact was indeed mentioned there.

Source: Information drawn and verified from national reports and presentations

[61] The Dutch competent authorities have applied other (pre-existing) legislation to this case.

Type of environmental damage/imminent threat according to the three damage categories

The Member States were to report the cases of environmental damage handled under national ELD transposing legislation according to the damage categories 'protected species and natural habitats', 'water' and 'land'. In many cases, a single damaging event concerned more than one environmental damage category. That means that the total number of affected environmental media exceeds the total number of cases.

Overall, land damage incidents dominate with about 51.5% of all reported cases. Water damage incidents account for around 28.5% and biodiversity damage incidents for around 20% of all reported cases.

Table 2: Confirmed cases of environmental damage or imminent threat pursuant to damage category

Member State	Protected species and natural habitats	Water	Land
Austria	2	2	0
Belgium	0	1	0
Bulgaria	2	4	3
Cyprus	1	1	0
Czech Republic	0	0	0
Denmark	0	0	0
Estonia	2	0	2
Finland	1	1	0
France	0	0	0
Germany	27	42	10
Greece	7	29	47
Hungary	124	244	243
Ireland	8	2	0
Italy	6	8	7
Latvia	7	4	5
Lithuania	0	1	4
Luxembourg	0	0	0
Malta	2	0	0
The Netherlands	0	0	0
Poland	92	49	392
Portugal	0	6	7
Romania	0	1	4
Slovenia	0	0	0
Slovakia	0	0	0
Spain	0	11	11
Sweden	2	5	1
UK	7	2	11
In total	**290**	**413**	**747**

Protected species and natural habitats

Protected species and natural habitats were damaged or under imminent threat to get damaged 290 times. However, it should be noted that Hungary and Poland count for more than two thirds of all biodiversity cases (216 of 290 incidents, followed by Germany with 27 incidents). Biodiversity cases are with around one fifth of all damage cases the least numerous. This is not surprising as this damage category was since its introduction at EU-level one of the most challenging novelties brought by the ELD. It still stands out for the EU-added value of the Directive, together with complementary and compensatory remediation as well as public participation and access to justice. Some Member States apply damage to protected species and natural habitats to the same or even to a higher extent as other damage categories, other Member States have experienced much less biodiversity cases. Three of the four pending cases in Ireland concern damage to protected habitats and species; in almost half of the German cases reported a damage of biodiversity was involved. In contrast for example, none of the eight cases reported by Portugal included such a damage or imminent threat thereof. Besides Portugal, eleven other Member States have not recorded any biodiversity incidents.

Water

413 instances of water damage or imminent threat thereof were reported by Member States, making this category of damage less numerous than land damage but more numerous than biodiversity damage. However, Hungary alone counts for 59% (244 incidences) and Germany, Greece and Poland for 29% (120 incidents) and the remaining 12% (49 water cases) are spread between fourteen Member States. Eight Member States notified no water damage cases. In a considerable number of cases, damage to land was also accompanied by damage to water or imminent threat thereof.

Land

Land damage and imminent threat thereof are more than half of all incidences reported by the Member States; in 747 instances[62] soil has been damaged or threatened to be damaged. This result does not come unexpected because this damage category requires a lower remediation standard and demands less remedial action (as compared with water and biodiversity damage: there is no requirement for economic valuation and for complementary and compensatory remediation for soil damage). These reasons may contribute to the higher number of cases. However, the result is on the other hand not coherent with the fact that land damage under the ELD sets a significantly higher damage threshold than under pre-existing national legislation as it requires 'significant risk of human health' being significantly affected but not also a similar risk to the environment.

The ELD Effectiveness Study does not recommend establishing EU-wide limit values for land damage as Member States currently use quite varying protection levels and number and types of substances upon which such levels have been established. A harmonised, EU-wide limit without replacing national regulations may lead to a very complex situation across the EU, sitting on top of varying national regulations. Replacement of national regulations on the other hand seems to be very difficult, as the failed adoption of the former proposed Soil Framework Directive has shown. However, as mentioned above, the ELD would probably be

[62] When the full potential of cases in Italy is disregarded.

simpler for operators and national authorities in application if streamlined with national law, as land damage under the ELD is only triggered in case of 'significant risk of human health being adversely affected' and cannot alternatively also be triggered in case of 'significant risk of the environment being adversely affected', like in the majority of Member States.

Other environmental media

Some Member States include damage to air (e.g. Italy, Hungary) or damage to protected landscapes (e.g. Lithuania, Estonia). Other countries broadened the scope of biodiversity damage by including damage to flora and fauna that depend on an aquatic environment (Ireland and UK). However, just a few cases regarding these additionally protected environmental media have been reported by the Member States. Hungary reported 18 cases of air contamination; Italy stated that two instances of damage to the atmosphere occurred. The numbers are based on the scope of damage in accordance with the respective national laws transposing the ELD.

Classification of damaging activities:

Annex VI of the ELD requires Member States to provide an activity classification code for the liable persons. Annex VI does not require the use of a specific code but clarifies explicitly that the NACE[63] code according to Council Regulation (EEC) No 3037/90 of 9 October 1990 on the statistical classification of economic activities in the European Community[64] can be used. However, in the guideline prepared at the 11th ELD government expert group meeting in view of the national reporting exercise, it was emphasized that a classification of the activities pursuant to Annex III to the ELD would be very useful in order to evaluate better the effectiveness of the ELD at EU level.

The classification done by the Member States is unfortunately not uniform, and hence not comparable. Fifteen Member States classified the liable activities according to Annex III to the ELD. Eight Member States used the NACE code of 1970 in either one of its revisions 1, 1.1 or 2, and four Member States used (also) a national code which would be equivalent to the NACE code while one MS described the activities in general terms without referring to a standardised code or to Annex III of the ELD. Some MS provided more than one classification in regard of damaging activities, some none. More detailed information on the economic classification systems used by the Member States can be found below under '*Member States using only a NACE code notification or no classification system*'.

Table 3: Classification system used by MS regarding confirmed or pending cases of environmental damage or imminent threat

Member State	Annex III	NACE code	National NACE code equivalent	No classification system
Austria	x			
Belgium	x			
Bulgaria	x[65]			

[63] Nomenclature of Economic Activities.

[64] OJ L 293, 24.10.1990, p. 1.

[65] The classification was provided by Bulgaria upon written request in February 2015.

Cyprus	x			
Czech Republic				
Denmark				
Estonia	x		x	
Finland	x			
France				
Germany				x
Greece	x[66]		x	
Hungary			x	
Ireland	x[67]	x		
Italy	x			
Latvia	x[68]	x		
Lithuania	x	x		
Luxembourg				
Malta		x		
The Netherlands				
Poland			x	
Portugal	x			
Romania	x	x		
Slovenia				
Slovakia				
Spain	x	x		
Sweden		x		
UK	x[69]	x		
In total	**15**	**8**	**4**	**1**

Member States using Annex III classification

Austria, Belgium, Bulgaria, Cyprus, Estonia, Finland, Greece, Ireland, Italy, Latvia, Lithuania, Portugal, Romania and Spain specified the liable activities according to Annex III in their reports and provided some indication as to whether biodiversity cases were treated under fault-based liability in accordance with Article 3(1)(b) ELD.

The by far most frequently mentioned activity are "waste management operations" (Annex III(2) ELD) and "manufacture, use, storage, processing, filling, release into the environment and onsite transport of dangerous substances" according to Annex III(7) ELD with 44 and respectively 35 incidents caused. The "operation of IPPC installations" (Annex III(1) ELD) and "transport by road, rail, inland waterways, sea or air of dangerous or polluting goods"

[66] Greece provided upon written request complete information on damaging activities according to Annex III and Article 3(1)(b) ELD in March 2015.

[67] Ireland provided upon written request complete information on damaging activities according to Annex III and Article 3(1)(b) ELD in March 2015.

[68] Latvia provided upon written request complete information on damaging activities according to Annex III and Article 3(1)(b) ELD in March 2015.

[69] According to supplementary communication of March 2015, without however further differentiation.

(Annex III(8) ELD) follow suit with 18 and respectively 15 incidents. Between five and eight incidents could be attributed to the following water-related Annex III activities: discharges of substances into groundwater subject to authorisation according to Council Directive 80/68/EEC[70] (Annex III(4) ELD); discharges or injections of pollutants into surface water or groundwater which require a permit, authorisation or registration in pursuance of Directive 2000/60/EC[71] (Annex III(5) ELD); water abstraction and impoundment of water subject to prior authorisation in pursuance of Directive 2000/60/EC (Annex III(6) ELD.

Fault- or negligence-based liability pursuant to Article 3(1)(b) ELD for damages of species and natural habitats was established in 31 cases and is thus the activity with the third highest frequency in causing environmental damage.

In some instances, the occupational activity responsible for the damage or for the imminent threat could be subsumed under more than one Annex III category. For example, in the Finnish *Talivaara* mine case, mining operations and metal industry was involved which falling under point 1, 3 and 5 of Annex III. In Italy, in total 5 cases concerned the activities mentioned in point 4, 5 and 6 of Annex III to the ELD. This should be taken into account when reading table 4 on the detailed Annex III-activities.

Table 4: Number of activities under Annex III and Article 3(1)(b) liable for remediation or prevention of environmental damage

Member State	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Article 3(1)(b)
Austria						2	1								1
Belgium			0[72]												
Bulgaria	4														
Cyprus															1
Estonia						1	2								1
Finland	1		1		1										2
Greece	6	32					16								7
Ireland		2	1												7
Italy	3	8		5	5	5	1								4
Latvia								9							7
Lithuania							3								1
Portugal	2	1					5								
Romania		1						4							
Spain	2						7	2							
In total	**18**	**44**	**2**	**5**	**6**	**8**	**35**	**15**	**-**	**-**	**-**	**-**	**-**	**-**	**31**

It can be concluded that all numbers were used except for the activities mentioned at the end of Annex III. While number III(9) ELD ("operation of installations subject to authorisation in pursuance of Council Directive 84/360/EEC") became obsolete as it was integrated into the

[70] Council Directive 80/68/EEC on the protection of groundwater against pollution caused by certain dangerous substances, OJ L 20, 26.1.1980, p. 43.

[71] See footnote 23 above.

[72] Responsible person not identified.

IED activity, now III(1), the two GMO-related activities listed in Annex III.10 and III.11 as well as "transboundary shipment of waste" (III(12) ELD), "management of extractive waste" (III(13) ELD) and operation of CCS-storage sites (III(14) ELD) have not been notified by those MS having provided data under Annex III. This may not necessarily mean that there was absolutely no case under these numbers as altogether only 167 cases of the total of 1,243 cases were classified according to Annex III and Article 3(1)(b) ELD, but it appears to at least reflect with a high likelihood a clear trend. On the other hand, it is known for example that MS had water related activities involved in environmental damage despite the receipt of a very low number of such notified activities.

Member States using only a NACE code notification or no classification system

The most relevant data for those Member States having notified activities either on the basis of the NACE code or a national equivalent to the NACE code or having not used a classification system within their notification is briefly summarised as follows:

The classification done in the Polish report shows a considerable high number of incidents resulting from retail sale of automotive fuel (NACE code 50.5; 68 cases); wholesale of fuels (NACE code 46.71; 17 cases); manufacture of chemical products (NACE code 20.; 45 cases); land transport and pipelines transport (NACE code 45.; 61 cases, from which 33 concerned transport on roads); collection of waste (NACE code 38.1; 28 cases); electric distribution (NACE code 35.1; 36 cases); waste water treatment (NACE code 38.2; 11 cases). 64 times the perpetrator could not been identified.

Other Member States using the NACE code to classify the activities mentioned among others, road construction; waste collection, treatment and disposal activities; wholesale of petroleum and petroleum products; freight transport by road; fuel distribution and fuel storage; manufacture of bio fuels; trade with fuels; food processing industry; and manufacture of chemicals.

A rough analysis of the data provided by Hungary shows that in many cases (around 150) no classification was possible due to the fact that the perpetrator was unknown or a private individual. The following TEAOR'08 codes (which are equivalent to the NACE rev. 2 code) were mentioned frequently: 35.13- distribution of electricity (mentioned 85 times); 37.00 – sewerage (mentioned 26 times); 24. – manufacture of basic metals (mentioned 20 times; 11 of them concerned the production of aluminium); 38.11 – collection of non-hazardous waste (mentioned 13 times); 19.20 – manufacture of refined petroleum products (mentioned 14 times); 20. – manufacture of chemicals and chemical products (mentioned 9 times); 49.41 – freight transport by road (mentioned 12 times).

Only Germany did not use a classification system for the liable activities nor categorize them according to Annex III ELD. Instead it described the activities responsible for the environmental damages. The analysis of the liable activities as outlined by Germany shows that most instances (18) were caused by biogas installations; around 14 cases were connected with some kind of manufacture, use or storage of dangerous substances; a lower number concerned the transportation of dangerous or polluting goods and discharges of pollutants into waters.

<u>Standard of remediation:</u>

The Directive provides for three different categories of remediation which complement each other, depending on the individual case: primary remediation, complementary remediation

and compensatory remediation (explanation see above under 'Baseline'). As complementary remediation, where the same damaged natural resources and services cannot be simply re-introduced or re-produced, and compensatory remediation for interim losses between damage and full restoration, belong to the EU-added value of the Directive, the application of these high remediation standards is core to the quality of the ELD implementation.

Member States were not required under the reporting obligation of the ELD to precisely report on the application of the three remediation categories and only very few have indeed included some indications. Therefore, the available data and information is haphazard and scarce, but the following conclusions can be drawn from the information sources to this evaluation. First, that there was much less application of 'complementary' and 'compensatory' remediation than of 'primary' remediation; and, second, that remediation is increasing while the absolute number of complementary and compensatory remediation cases appear to remain still very low. This finding does not indicate a highly qualitative implementation due to the low number of complementary and compensatory remediation cases.

Judicial review:

Only in few instances the confirmed ELD damage cases went into judicial review,[73] with one notable exception (Poland: 44). The total judicial review cases in the EU without Poland would according to the notified data amount to about 20 cases.

Table 5: Judicial review cases

Member State	Judicial Review	Italy	0
Austria	2	Latvia	1
Belgium	0	Lithuania	0
Bulgaria	1	Luxembourg	0
Cyprus	0	Malta	1
Czech Republic	0	The Netherlands	0
Denmark	0	Poland	44
Estonia	0[74]	Portugal	0
Finland	1	Romania	0
France	0	Slovenia	0
Germany	0[75]	Slovakia	0
Greece	1	Spain	1-3
Hungary	5 (minimum)	Sweden	1
Ireland	0	UK	1[76]

Requests for action from citizens and NGOs according to Article 12 ELD:

[73] According to Article 13(1) ELD the enabled persons under Article 12(1) ELD have access to justice, i.e. the right to appeal before a court or another independent and impartial public body against the decision taken by the competent authority.

[74] Estonia clarified by written comment of September 2015 that it had no instance of judicial review, just appeals before the Environmental Board.

[75] Pursuant to a clarifying comment of August 2015, there have been judicial reviews before courts as well in Germany, but no review has confirmed a damage case.

[76] Added due to written information from the United Kingdom of September 2015.

Only a small number of requests for action[77] (above 30) was reported by the Member States - with the exception of Italy, which reported 93 such requests. The low number is not further surprising because the Member States communicated only a few cases in total. However, for Member States which have a higher number of cases, also a higher number of citizen's requests could have been expected can be presumed (as for example known for Poland, without a specification in the Polish report[78]).

Table 6: Requests for action under Article 12(1)

Member State	Request for action	Italy	93
Austria	4	Latvia	0
Belgium	0	Lithuania	0[79]
Bulgaria[80]	0	Luxembourg[81]	0
Cyprus	0	Malta	1
Czech Republic	0[82]	The Netherlands	0
Denmark	0	Poland	0
Estonia	2	Portugal	0[83]
Finland	1	Romania	0
France	0	Slovenia	0[84]
Germany	20[85]	Slovakia	0
Greece	2	Spain	5[86]
Hungary	0	Sweden	2
Ireland	9[87]	UK	6

[77] According to Article 12(1) ELD natural or legal persons affected or likely to be affected by environmental damage or having a sufficient interest in environmental decision making relating to the damage or alleging the impairment of a right, including environmental NGOs meeting any requirements under national law are entitled to request the competent authority to take action under the Directive.

[78] For example at the 10th ELD government experts meeting of 7th November 2011 Poland reported about 149 cases in 2009 and 210 cases in 2010 "*in which the proceedings were not initiated, the proceedings were dismissed or the obligation to take prevention or remedying measures was not imposed*".

[79] Upon written request, Lithuania provided in April 2015 that their competent authorities receive in general a large number of observations or requests for action with regard to instances of environmental damage from natural or legal persons, affected or likely to be affected by environmental damage, or having a sufficient interest in environmental decision making. A large part of investigations concerning environmental damage would be initiated on the basis of such observations or requests. However, as regards the four notified cases of environmental damage, which qualified as significant damage under the ELD, that proceedings were initiated on the basis of information by the liable person (2x), by the police and by the municipality.

[80] Notified upon written request in February 2015.

[81] Data provided on written request in March 2015.

[82] The absolute majority of cases was initiated *ex officio* by the competent authority (Czech Environmental Inspectorate); the public was involved only in a few cases.

[83] Data provided by Portugal upon written request in February 2015.

[84] Data provided on written request in March 2015.

[85] At least 20 requests have been submitted but not all have led to confirmed damage cases.

[86] This number covers request of actions by third parties and operators.

[87] Data provided on written request in March 2015.

Duration of remedial action:

The information on the duration and the average time of remediation is not fully representative as not all Member States provided complete and comparable data. On the basis of the available information gained from MS, it would seem that the average time from the initiation of the remediation process (as far as this date could be distinguished from the date only of detection or notification of the damage) until full remediation is about 12 months. This is based on a total of 484 cases across 15 MS that indicated the duration of remedial action. Given the high number of cases where the duration of remedial action is provided for by Hungary (153) and Poland (246), the average duration would increase to about 14 months if those two countries are excluded.

The shortest duration of reported remediation was in several cases only one day and the longest duration lasted in some cases nearly for the whole reporting period (not counting even the many cases where remediation could not be completed until the end of the reporting period). The disparate duration of ELD remediation is not surprising, as primary remediation[88] can be sometimes fixed in simple damage instances within relatively short time while in complex or large damage instances this could take longer than three, four or five years, with even some cases taking the whole duration of the six years-reporting period (large scale remediation cases are known to last sometimes for decades).

Table 7: Duration of remedial action

Country	Average in months	Lithuania	10
Bulgaria	7	Malta	1
Cyprus	12	Poland	10
Estonia	9	Portugal	18
Germany	6	Romania	9
Greece	12	Spain	10
Hungary	16	Sweden	7
Latvia	4	UK	4

Nota bene: this average is for some MS quite biased where a high percentage of remediation procedures could not be terminated until the end of the reporting period (for example 75% of the Lithuanian cases).

Costs of remedial action:

12 MS reported on the costs of their cases, resulting in a total of 140 cases with information on the costs of remedial action. This means that the Commission obtained data about costs of environmental restoration on roughly 10% of all reported cases. This would seem representative by number but of these 140 cases 98 were reported by only one Member State (Hungary). The costs of remedial action would be on average at around €350,000 when the very few large scale damage cases are deducted (e.g. *Kolontár*/Hungary, *Moerdijk*/Netherlands). If furthermore all cases exceeding more than €1 million were disregarded (one Swedish case, one Greek case and one Spanish case), the average cost of remedial action would be around €42,000. This corresponds with a representative and

[88] This is remediation, which achieves complete restoration of the damaged natural resources so that complementary remediation (creation of equivalent resources) is not necessary (see the explanation in the chapter above on the functioning of the ELD).

accurate estimate (arithmetic mean value) for example available for Greece with €60,000 per ELD case.

The provided figures seem to be reliable and to correspond also with similar data end experience of environmental damage in other areas. The range of costs is between €600 and several million of remediation costs for one case, showing also that several Member States do not regard only 'severe' instances of environmental damage to be covered by the ELD, but the arithmetic average turns as presented above around €42,000 per case if the few cases with excessively high costs are disregarded. Some Member States provide however the impression that they apply the Directive only on instances entailing excessive damage. This finding would again underline the need for a reasonable and coherent interpretation and application of the significance threshold.

The average remediation costs per MS are presented in the chapter on efficiency further below. Immediately below are shown the total costs of remedial action in the EU within the reporting period, calculated for three different scenarios.

Table 8: Costs of remedial action

	Total costs of remedial action	Number of cases with indication of costs	Average costs in Euro
All reported cases (including Kolontár/Hungary, Moerdijk/Netherlands)	179,533,079	142	1,264,317
All reported cases excluding Kolontár/Hungary, Moerdijk/Netherlands	49,533,079	140	353,807
All cases below €1 million	5,821,238	137	41,490

6. ANSWERS TO THE EVALUATION QUESTIONS

6.1. Relevance

Are the objectives of the Directive still relevant (i.e. do they still match current needs)?

In the light of the recently published European Environment State and Outlook 2015 Report (SOER 2015), the objectives of the Directive remain highly relevant. The SOER 2015 points out that despite environmental improvements of recent decades, challenges that Europe faces with respect to protecting, conserving and enhancing the natural resources today are considerable. A key area according to this is "*protecting the natural capital that supports economic prosperity and human well-being*".[89]

[89] Relevant quotes for biodiversity damage and water damage are for example: "*A high proportion of protected species (60%) and habitat types (77%) are considered to be in unfavourable conservation status, and Europe is not on track to meet its overall target of halting biodiversity loss by 2020, even though some more specific targets are being met.*" "*Overall, more than half of the river and lake water bodies in Europe are reported to hold less than good ecological status or potential. Ecological status is a criterion for the quality of the structure and functioning of surface water ecosystems.*"

The objectives of the Directive are still relevant and match the current needs. Environmental damage is occurring as a fact of life across the EU and will ever continue so, even if the ELD has contributed to a decrease of environmental damage through better precaution and prevention of damage, as stakeholders and Member States witnessed.

Are the key problems and concerns about preventing and remedying environmental damage still properly addressed by the ELD legislation?

The key problems and concerns about preventing and remedying environmental damage appear to be in principle properly addressed by the national legislation transposing the ELD. However, as the implementation and evaluation studies have shown, deficits in the implementation of the Directive remain considerable due to lacking awareness of the Directive with practitioners and stakeholders, misunderstandings or unclarity, insufficient resources and expertise and partly inexistent registration of cases and missing accessibility of data on ELD cases (depending on the MS). Further, it appears that in some cases preventive action instead of primary remediation is used due to a wrong understanding of the difference. This together with the under-use of and complementary and compensatory remediation measures is a factor hindering the achievement of halting biodiversity loss by 2020 and cleaner freshwater resources in the EU.

How relevant is the Directive to achieving high level of environmental protection and preventing/remedying environmental damage in the EU?

A look at the contribution of other instruments which include provisions on environmental restoration of damage may be helpful in order to see how relevant the ELD is with regard to achieving a high level of environmental protection in preventing and remedying of environmental damage. Other relevant EU legislation is setting sometimes a pre-emptive frame of obligations; e.g. the programme of measures in the Water Framework Directive which requires, for example, basic measures to prevent and/or reduce the impact of accidental pollution incidents.[90] Similar pre-emptive provisions exist in Article 6 of the Habitats Directive. In contrast, the ELD prevents damage from occurring when it is already imminent and making it good once it occurred.

Therefore, the Directive contributes to achieving a high level of environmental protection and preventing/remedying environmental damage in the EU. However, as the evaluation has revealed, the potential to achieve the objective is hampered by underdeveloped capacities and expertise, insufficient communication between the main stakeholders (operators, competent authorities, insurers, environmental NGOs), key concepts remaining unclear to practitioners and stakeholders ('significance threshold', 'preventive action', 'favourable conservation status') and lacking EU register of ELD cases, and similar practical measures and tools.

6.2. Effectiveness

What progress have Member States made over time towards achieving the objectives set out in the Directive? Comments on possible measurement tool and benchmark as well as the related fundamental complexity (is more or less damage indicating effectiveness?)

[90] See Article 11(3)(l): "*any measures required to prevent significant losses of pollutants from technical installations, and to prevent and/or to reduce the impact of accidental pollution incidents for example as a result of floods, including through systems to detect or give warning of such events including, in the case of accidents which could not reasonably have been foreseen, all appropriate measures to reduce the risk to aquatic ecosystems*."

Progress made towards achieving the two main objectives under the ELD, prevention and remediation of environmental damage, needs to be assessed against the background of divergent ways of ELD application by MS, in particular regarding frequency and intensity. Those Member States which apply the ELD more often or regularly, make use of it at a fairly constant level.

The pure number of environmental damage instances on which the ELD legislation was applied (number of notified preventive cases and remedial cases, indicated under implementation) should not serve as the only single indicator or benchmark for the effectiveness of the Directive, as a higher number may often but not exclusively mean that the Directive is better implemented. It certainly demonstrates where the Directive has been correctly applied, in particular where the requirements of its Annex II regarding primary, complementary and compensatory remediation have been applied accordingly, that damaged natural resources have been restored accordingly. Thus, a low number of cases may not necessarily mean that the Directive has not worked well or not at all as several national government experts and stakeholders from the industrial and insurance sector assure. The low number may on the contrary prove that the Directive works, it may indicate that it has a deterrent effect, i.e. an incentive for operators to take (better) precautionary measures, such as upgrading financial security and better risk management, underlined by stakeholder accounts of gradually decreasing instances of environmental damage instances over the last decade as compared to the previous decade before the ELD took effect.

On the critical side vis-à-vis these arguments is to be raised that apart from the number of preventive actions taken in case of imminent threat of environmental damage (only a very low number has however been notified), the amount or weight of better precaution due to the establishment of the ELD is not known and it is probably also very difficult to estimate it. In particular where eleven MS have notified not even one ELD case in the period between 2007 and 2013 and have neither provided supplementary information on how they treated instances of environmental damage, this may mean that the Directive has not been applied there or is not working there. However, as the situation varies significantly between the individual Member States, it appears also difficult to find out general reasons for a diverging situation. This is a very important issue to be further investigated on the basis of evidence provided by data which is at present available to a very limited and uneven extent.[91]

From the implementation and evaluation studies in particular can be drawn that the large disparities in terms of number of ELD cases result from the framework character of the Directive and the many options it offers to MS, in particular as regards the 'significance threshold', but also the optional defences and other options and exceptions. In addition, the uneven interpretation of definitions and concepts, the entitlement for MS to adopt or maintain more stringent measures and the continued use of existing national legislative frameworks play a role.

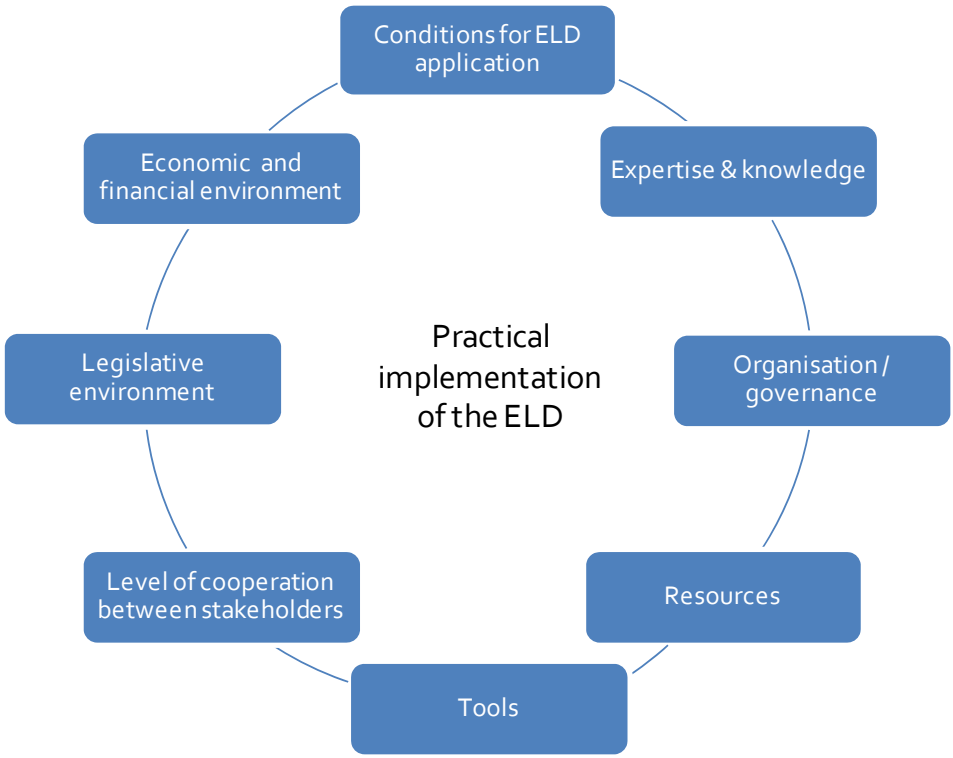
Moreover, as the evaluation studies, in particular the study on analysis of integrating the ELD into national legal frameworks, suggested that the following factors greatly influence the extent of practical application (number of ELD cases): publicly accessible registers of ELD cases; access of interested parties to submit comments and to cooperate with competent authorities; a secondary obligation of competent authorities to carry out preventive and

[91] An EU-wide ELD case register and a clear set of indicators for purposes of future regulatory monitoring would be necessary to remedy the uneven and partly limited application.

remedial action if operators fail to do so; the repeal of overlapping national legislation; and the knowledge of the ELD by operators.

Beyond the mere intrinsic factors it is noteworthy that – like any intervention – the ELD is implemented in a complex environment including multiple external factors affecting the effectiveness of the Directive. For the ELD, the external factors have been examined by the ELD Implementation Study (see also below in the Annex on ELD studies). That study investigated the following external factors: conditions for ELD application, expertise and knowledge, organisation and governance, resources, tools, level of cooperation between stakeholders, legislative environment, economic and financial environment. That study concluded that the conditions for ELD application, expertise and knowledge and the legislative environment would be the main factors.

Figure 4: Sources of obstacles and challenges to implementing the ELD regime[92]



Legend for the term 'Conditions' used in the ELD Implementation Study: Complexity of the national transposing legislation; 'Difficulty to demonstrate that the significance threshold of the ELD is met; Difficulty resulting from the broad but non-exhaustive scope of the ELD; Need to demonstrate the liability of an operator; Inclusion of financial obligations for operators'

Does the Directive lead to a level playing field in terms of preventing and remedying environmental damage across the EU?

[92] Figure taken from ELD Implementation Study, p. 120

According to the theory, the ELD should reduce possible locational advantages in MS with low environmental standards and thus contribute thereby to a competitive level playing field, if enforced strictly. In the light of experience regarding the development of a level playing field, the ELD has certainly led to a more aligned legislative framework for environmental damage in the EU. This is demonstrated by the sheer existence of the MS laws transposing the ELD, taking account of all ELD requirements (for instance as regards environmental remediation standards, biodiversity damage, public participation and access to justice). On the other hand, the implementation and evaluation studies and other evidence found still "*a patchwork of environmental remediation*" in the EU, partly also due to the varying application of the ELD legislation in many MS. As shown further above, a damage instance which triggers the ELD legislation on one Member State is not treated as ELD case in another Member State. This could be explained by the continued application of pre-existing national laws, whose application can be invoked if the damage is not considered to be 'significant'.

Is the scope of the Directive correct with regards to strict liability? Is the current scope working effectively pursuant to gained experience?

The effectiveness of the ELD depends to a great extent on its scope, in particular on the strict liability standard. The Directive makes operators strictly liable who carry out dangerous activities listed in Annex III, i.e. if it can be established that they have caused the environmental damage without it being necessary to proof fault. In the process of the investigation of the causes of weak implementation (ELD Implementation Study 2012), the importance of the scope of strict liability became obvious, as particularly witnessed by the results of the ELD Effectiveness Study and the Biodiversity Damage Study.

From the examination resulted, on the one hand, that a broadening of the strict liability standard to cover all economic activities (not only dangerous activities listed in Annex III ELD) will encompass more environmental damage being treated under the ELD. This will thus increase the level of environmental protection and the effectiveness of the Directive in particular with respect to biodiversity damage by replacing completely the fault-based liability standard. On the other hand, the ELD Effectiveness Study emphasized also that the significant draw-backs in terms of additional financial burdens on operators and an increase in insurance premiums or else financial security payments would need to be considered**.** Specific data are not available. It can be concluded that the principle decision (in line with the theory) to reserve strict liability to dangerous occupational activities while other occupational activities should remain being subject to a fault-based liability standard could be verified.

Is extending strict liability beyond the current list in Annex III for preventing and remediating environmental damage by including certain activities (e.g. pipeline transport of dangerous substances, mining activities, shale gas operations) in the light of gathered experience (e.g. Coussouls de Crau-case in France) necessary or even beyond listed activities (as in certain MS)?

It needed to be investigated whether the scope of strict liability as delineated in Annex III of the Directive is right by looking into practical experience showing a need to fill gaps in this list: For pipeline transport of dangerous substances outside of industrial establishments the *Coussouls de Crau* event in France[93] has shown such a possible need. Further, in view of the

[93] On 7 August 2009 a breach in a 40-inch underground crude oil pipeline operated by the South European Pipeline Company SPSE led to a spill of crude oil of more than 4,000 m³ into the *Coussouls de Crau* nature reserve at *Terme Blanc* in southern France. The spill caused significant environment damage to the nature reserve, which is part of the Natura 2000 network. The contaminated zone belonged to a Special Protection Area (FR9310064 "*Crau*") under the Birds Directive and a Special Conservation Area (FR9301595 "*Crau Centrale – Crau*

objective to halt biodiversity loss, an extension of strict liability by activities concerning the introduction of invasive alien species could potentially assist this aim and prevent harm to human health due to some invasive alien species being vectors of diseases of directly causing health problems such as asthma, dermatitis and allergies. However, activities concerning invasive alien species fall often outside of occupational activities and the practical experience has in addition not shown sufficient evidence and finally human health damage remains as traditional damage also outside of the scope of the environmental damage.

An extension of Annex III to cover shale gas/oil extraction or hydraulic fracturing was also considered, but as related activities are already covered by the current ELD scope under Annex III[94] and as MS are currently called to fill potential gaps[95] under subsidiarity action[96], other options will be examined (e.g. guidance) to address identified uncertainties[97]. An extension to mining activities in general, beyond Annex III.13[98] (see for example the big accidents in *Doñana*/Spain in 1998 or in *Baia Mare*/Romania in 2000) would require additional financial security coverage by a sector which is according to the ELD Effectiveness Study considered to being already sufficiently regulated.

Therefore, with the possible exception of pipeline transport of dangerous substances outside of industrial establishments the case for an inclusion of another Annex III activity is not compelling enough. However, CEFIC (the European Chemical Industry Council) raised some arguments against such extension: the majority of pipeline incidents (ruptures) would be caused by third parties and despite the availability of the third party defence under the ELD, this would be inconvenient and could be costly and may "*incorrectly internalize socio-economic costs at the level of pipeline operators*", taking account also of the high number of parties involved (pipeline operator, pipeline owner, materials owners using the same pipeline, land owners).[99]

Within biodiversity damage: Which conclusions can be drawn from a wider biodiversity scope covering also nationally protected species and habitats and a narrower biodiversity scope restricted to the Union scope (current split is half/half by MS)? Is it relevant with regard to effectiveness?

Sèche") under the Habitats Directive. The French ELD legislation could however not be applied as pipeline transport outside of industrial establishments are not covered by Annex III, in particular not by Annex III.7 ELD.

[94] In particular water abstraction activities listed in Annex III.3. – 6., use, storage, release into the environment and on-site transport of dangerous substances (including hydrocarbons such as methane) in Annex III.7.(a) and extractive waste management activities in Annex III.13.

[95] For example risks of induced seismicity that may result in environmental damage; injection of fracturing substances that may not be listed under the CLP Regulation; accidental release into the environment of substances mobilised from the underground that may not be listed under the CLP Regulation.

[96] Commission Recommendation 2014/17/EU on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high-volume hydraulic fracturing, OJ L 39, 8.2.2014, p. 39 (point 12 on environmental liability and financial guarantee).

[97] A review of the effectiveness of Recommendation 2014/70/EU is on-going. Building on the results of such review, the Commission will decide whether further action is needed.

[98] "*The management of extractive waste pursuant to Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries.*"

[99] CEFIC Position Paper on: Key review points of the Environmental Liability Directive. October 2014.

The study looking into biodiversity damage recommended an extension of strict liability to cover all occupational activities which cause damage to protected species and natural habitats (instead of just the hazardous activities listed in Annex III). However, in general, the double liability standard of the ELD with strict liability for hazardous activities and fault-based liability for other activities[100] appears to be right from an economic point of efficiency, as strict liability is more efficient in case of hazardous activities and a fault regime can suffice for situations not involving dangerous activities.[101] Therefore, suggestions to extend the strict liability standard to all activities, in particular under biodiversity damage are not consistent with efficiency considerations. Furthermore, the additional financial burden of such an extension of the scope of strict liability on operators through a potential increase in insurance premiums or other financial securities should be taken into account.[102] Therefore, an extended biodiversity damage scope does not appear to be the most effective result.

Is the Scope of the Directive correct with regard to environmental damage? Has the current scope worked out to be right in meeting practical demands? Is an extension necessary/appropriate at EU level as in some MS? E.g. to include damage to air (as Hungary) or to protected cultural resources or to protected landscapes (some MS)?

All categories of the scope as outlined in the liability scope-chapter above can be questioned. However, most often only the material scope is discussed (i.e. what kind of damage should be covered). Other questions are rarely addressed; in the 3rd ELD Stakeholder Workshop for example also the territorial scope was discussed in the context of extra-EU territorial issues (pollution from outside affecting the EU and vice versa).

The initial decision to exclude for example health and property damage may not have been a good choice in terms of consistency with other regimes, in particular national liability systems, but it is stringent to exclude such categories of third-party damage because the ELD is aiming at remedying the pure ecological damage. Within the environment, the evaluation of the scope of the Directive indicated that extension to damage to air (which is sometimes covered at national level[103] and was often raised within studies and meetings as an issue) may promote the polluter pays principle better and result in streamlining and harmonisation with national legislation. However, an extension towards inclusion of air may not only be technically challenging due to the nature of air pollution which may represent diffuse pollution[104], i.e. difficult to attribute to identifiable individual polluters, but may also have detrimental implications on insurance and other financial security instruments.

It was also not considered appropriate to include cultural buildings, monuments, landscapes and seascapes as this would not lead to further simplification, streamlining and harmonisation due to the broad differences between these assets and the environmental damage under the ELD.

[100] See the explanation in the chapter on the functioning of the Directive above.

[101] Kristel De Smedt, Environmental Liability in a Federal System. A Law and Economics Analysis. Metro, 2007, p. 61.

[102] Such an approach would be for example supported by the *Ad-Hoc Industry Natural Damage Management Group* and by *Insurance Europe* who thinks that extending strict liability to cover all activities may not only confuse operators but also have the potential to affect premium levels and insurance capacity and hence may lead insurers to limit their coverage to a more limited scope of activities in order to preserve sufficient insurance capacity.

[103] For example in Hungarian and Italian legislation.

[104] As for instance pointed out at the 2nd ELD Stakeholder Conference.

To what extent is the significance threshold hampering the effectiveness of the Directive? In particular the significance threshold for imminent threat: can it hamper the Directive's trigger and thus effectiveness?

The uneven application of the Directive in different Member States appears to be largely due to the different interpretation and implementation of the significance threshold of environmental damage. In addition, it should be noted that authorities, operators and insurers expressed the need for more clarity in this regard. It cannot be denied that the definition of the significance threshold can potentially hamper the effectiveness of the Directive and that it leads to an uneven implementation. The concern is particularly high with regard to the notion of 'imminent threat of damage' which triggers the requirement to prevent damage from occurring. Where MS require in a case of imminent threat of damage that it needs to be decided first whether the damage will be significant, it may be often too late to apply the Directive. Therefore an approach requiring a 'reasonable belief' instead of certainty that the damage may be significant, appears practical and increases the effectiveness of the Directive. This problem has been in particular addressed by the Biodiversity Damage Study.

It is however useful to better clarify the notion of the significance threshold, or to be more precise about the three significance thresholds for biodiversity damage, water damage and land damage (see above chapter 2.2.4. on material scope); in particular, where there are wide differences due to the lack of a common understanding and uniform application.

What is the relationship between the significance threshold for biodiversity damage, land damage and water damage? Are the significance thresholds appropriate? Which conclusions can be drawn from the divergent application of the significance thresholds for the effectiveness of the Directive?

While the ELD provides a list of helpful criteria in its Annex I for the determination of the significance of the biodiversity damage, such further criteria are lacking in the Directive for the determination of water damage and land damage. This may be worth an exercise within the relevant terms framing the definition of water damage under the Water Framework Directive (WFD) and Marine Strategy Framework Directive (MSFD). Research in the evaluation of the ELD explored the difference in the effectiveness between 'waters' or 'water bodies' as reference point for water damage. The Legal Analysis and the ELD Effectiveness studies pointed to the potential difference in application, as 'water bodies' often differ in size between Member States while 'waters' allows a more targeted use of the Directive in relation to its objective. The practice in Member States seems to be rather split in this respect.

The current trigger seem to be higher for land damage pursuant to the wording of the Directive, but the numbers of relatively more notified land damage instances does not verify this assumption. There is no quick explanation for this result, it may be linked to the fact that authorities may be most familiar or find it simpler to use land decontamination standards they are used to than the remediation standards required by the ELD for biodiversity and water damage.

The three categorical significance thresholds have to be determined on their own but should ensure a comparable level of application. Regarding land damage, the starting point for the determination of the significance of it is 'significant risk of human health' under the current ELD. Hence, there would not be much to be further specified as regards damage to land within the current legislation. Alternatively, the definition could be extended to include also

'significant risk to the environment', thus aligning it with most national systems, and lowering the relatively higher threshold compared with biodiversity damage and water damage. Apart from this, a more precise determination of land damage would need to refer to set limit values for certain pollutants in certain soil types etc., an exercise which may be very complex at EU level. While the task would be in principle feasible, the effort (costs) to be invested in the development of highly complex determination criteria for the significance threshold of land damage, varying from many different situations, regions and Member States appears to be disproportionate to the gain as an individual assessment may in the end be necessary even within a complex framework of determination criteria.

It should be emphasized that even in the case of further determining and/or clarifying significance criteria, an individual assessment of the significance of the damage is always necessary. The complexity of it depends on various factors on the site, determined by the size and complexity (scope) of the damage, the type and size of the damaged natural resources, their regeneration capacity etc. but also on the availability of good data for the determination of the baseline condition and/or of risk analysis made before. Despite the progress made at EU level and in particular in certain MS in the last years[105], there seems to be overall a great further potential for the development of sectorial and individual risk analyses and data bases for the determination of the baseline condition.

Summing up, the divergent application of the significance thresholds might hamper the level playing field for industries in the EU, hamper the development of adequate financial security instruments and markets and hamper overall the effectiveness of the Directive. Further clarification as regards the significance threshold could help all practitioners and stakeholders in the application and enhance the effectiveness of the Directive.

6.3. Efficiency

What are the costs and benefits (monetary and non-monetary) associated with compliance with the Directive in the Member States and in the EU?

Compliance costs of the ELD are pursuant to its main objective in the first place related to costs for measures to prevent and remedy environmental damage taken by the liable operators (internalisation of external effects). The total costs of the 137 cases where MS reported costs, amounted to €5,821,238 if five major losses are excluded (which amounted alone to a total of €173,711,841), as indicated above. These costs can be widened to costs of potential liable operators for taking precautionary measures in order to prevent any future environmental damage, most notably costs for taking out financial security in order to be able to bear potential liabilities related to the ELD.

Further costs can be related to competent authorities for the setting up of the system, i.e. one-off costs at the beginning as well as some costs for the maintenance of the system and compliance promotion, such as awareness raising, information of stakeholders, training of officials, developing and providing of guidance and/or of supportive and capacity building tools for operators and officials (risk analysis tools, damage cost estimation tools etc.).

[105] In this context mention could be made for example of the internet tools developed in Spain (MORA methodology and software tool, four sectoral environmental risk analyses etc.) for free for operators and other ELD users, or in Germany (ZÜRS database used by insurance) helping in the individual significance determination.

Information on compliance costs is so far only fragmentary. Remediation (and preventive) costs and administrative costs should be distinguished to highlight the basic rationale of the Directive - the internalisation of external costs through the application of the polluter-pays principle.

Remediation (and prevention) costs:

These are the costs for the prevention of damage and the restoration of the damaged natural resources to be borne by the liable person pursuant to the polluter-pays principle. The costs are defined broadly in the Directive[106] and should thus not fall on the public purse (internalised costs according to the polluter-pays principle). But where not otherwise possible (liable operator not identifiable and competent authority has stepped in either on the basis of a national obligation or due to a political decision) such costs sometimes are also borne by the public[107].

According to the 2013 Member State reports, the remediation costs turn on the average for one environmental liability case around €42,000, if the cases exceeding €1 million[108] are disregarded (see above chapter on 'costs' within the section on 'implementation').[109] As pointed out, these costs are not additional costs but a different incidence of who pays.

A recent survey of EU industry on the experience gained in the implementation of the ELD revealed that most of those operators who had made experience in prevention or remediation of environmental damage found that the overall process was efficient and cost effective and that the operators' costs were generally proportional to the societal benefits.[110]

Administrative costs for public authorities:

Administrative costs under the ELD are only those who are not borne by the liable operators, i.e. cannot be recovered from them. They relate for example to the manpower, equipment and other administrative costs which are – apart from the initial set-up costs at the beginning of the implementation – those continuous costs which cannot be recovered from liable operators (system maintenance and compliance promotion as outlined above).

Only a few Member States provided information and data on administrative costs: By way of examples, the Flemish Region of Belgium indicated €55,000/year (gross) of annual administrative costs, Bulgaria €135,613 per year (265,975 Bulgarian Lev) and Spain overall €20,000 per year in staff costs, and between €684,000 and €2 million of administrative costs of the autonomous communities and cities in Spain.

[106] "*… 'costs' means costs which are justified by the need to ensure the proper and effective implementation of this Directive including the costs of assessing environmental damage, an imminent threat of such damage, alternatives for action as well as the administrative, legal, and enforcement costs, the costs of data collection and other general costs, monitoring and supervision costs.*" (Article 2(16) ELD).

[107] Community-pays principle.

[108] Altogether two cases exceeded the threshold of €10 million (and were not clearly communicated as ELD case): One Hungarian case and one Dutch case '(each one turning around €65 million). Otherwise only three cases ranged between €1 million and €10 million and were calculated (a Spanish, Greek and Swedish case).

[109] These are the costs of environmental damage. The ELD ensures that these costs are borne by the polluter and not by society. If successfully implemented, the ELD in fact relieves public budgets and society from incurring these costs; it further contributes to reducing damage and hence remediation costs whenever it succeeds in stimulating a preventive approach.

[110] Ad-Hoc Industry Natural Resource Management Group, Third survey of EU industry experience relative to the ongoing implementation of the European Union Environmental Liability Directive (ELD), June 2015. Brussels.

The environmental benefits[111] should according to the applicable economic valuing and equivalency analysis correspond to the remedial and prevention costs. They include prevention of environmental damage, restoration of the damaged natural resources (biodiversity, water and land) to their situation before the occurrence and the internalisation of the costs by the liable polluter.

Are there significant cost differences between Member States, and if yes, what is causing them?

As for remediation costs, the figures are to a much higher extent available than for pure administrative costs of the authorities. However, the average costs per ELD case in EURO vary considerably between the Member States, as the below table shows.

Table 9: Average remediation costs per Member State in EURO

Belgium	Bulgaria	Estonia	Greece	Hungary	Latvia
111,052	20,958	11,922	60,000[112]	3,559[113]	37,919

Lithuania	Malta	Romania	Spain	Sweden	UK
369,375	42,000	295,171[114]	615,250	1,070,341	361,007

As for administrative costs, no comparable figures exist. Belgium indicated that they have not seen additional administrative costs at federal State level and Hungary communicated that no additional administrative costs were incurred by the public administration. Greece reported about one newly created authority at central level as well as fourteen supporting Committees, for the purpose of the implementation of environmental liability. Ireland indicated running costs of one person per year. Italy indicated in qualitative terms a "*high amount of necessary human and technical resources*". The United Kingdom reported an "*educated guess*" in the region of 15 full time equivalent staff years in relation to the preparation of the transposing legislation, supporting guidance, staff training and communication activities while ongoing implementation costs are relatively modest.

It can be concluded that where there is some indication of administrative cost differences, the information is by far neither systematic nor comparable and the causes for the differences are also not clear. This question would hence need further research into data in order to draw reliable conclusions.

Are external costs being efficiently internalised?

As much as the Directive is effectively applied, external costs are efficiently internalised. Factors which potentially limit efficient internalisation of costs can for example consist in

[111] As environmental liability under the ELD only encompasses the pure ecological damage, there are no other benefits than environmental ones, for instance no compensation payments to victims or NGOs for traditional damage (health damage, property damage, economic loss).

[112] As confirmed by Greece in September 2015.

[113] Without counting the alumina accident at *Kolontár*.

[114] Corrected figure from Romania as per September 2015.

exceptions and defences or in insufficient financial security. In reality, a real problem emerges when it is not possible to identify the liable polluter and/or the polluter becomes insolvent or bankrupt, which could limit significantly the internalisation of the external costs as well, which happens in practice according to reports from a MS group[115].

Methodologically, neither benchmarks nor measurement tools have been developed (and agreed) as regards the assessment and measurement of cost efficient internalisation of external environmental damage costs. However, industry, insurance and government experts often reported on positive trends in successfully stepping up precautionary and preventive approaches leading to less environmental damage. This may be regarded at least partially as indicative to cost efficient internalisation.

Taking account of the objectives and benefits of the Directive: is there evidence that it has caused unnecessary administrative burden? Can any costs be identified that are out of proportion with the benefits achieved?

In the context of the ELD, no information or evidence has reached the Commission on the particular theme of 'unnecessary administrative burden'. Neither could any costs be identified which were out of proportion to the benefits achieved. To bar disproportionate costs, the ELD entitles the competent authorities to decide that no further remedial measures should be taken if the cost of the remedial measures to reach the baseline condition would be disproportionate to the environmental benefits[116].

What good practices in terms of cost-effective implementation of the Directive in Member States can be identified?

In general, the implementation should gradually become more routine and cost-effective where a working system has been adapted to the environmental liability rules, so that the competent authorities have time to acquire some practical experience and know what to do. Therefore, awareness-raising, information, guidance and training are important. For example, the Spanish government developed some electronic tools which provide cost-free support to operators as regards risk assessment and financial security determination, such as sectoral environmental risk analysis, MORA[117], VANE[118] and IDM[119]. However, to identify cost-effective implementation, also examples of cost-ineffective implementation would need to be known or gathered. The knowledge in this field is lacking for all relevant categories and

[115] NEPA-BRIG (Network of Environmental Protection Agencies – Better Regulation Interest Group).

[116] "*…, the competent authority is entitled to decide that no further remedial measures should be taken if: (a) the remedial measures already taken secure that there is no longer any significant risk of adversely affecting human health, water or protected species and natural habitats, and (b) the cost of the remedial measures that should be taken to reach baseline condition or similar level would be disproportionate to the environmental benefits to be obtained.*" (Annex II.1.3.3. ELD).

[117] MORA is a free monetization tool for environmental damage (primary, complementary, compensatory remediation) enabling the determination of the extent of financial guarantees, on the basis of a resource to resource equivalency approach.

[118] VANE is a decision making support tool providing guidance on the economic valuation of natural resources and ecosystem services. This tool was developed already prior to the Spanish ELD transposition.

[119] IDM is an environmental damage index simplifying the process of financial security which allows the estimation of an order of magnitude associated to each risk scenario, based on primary recovery costs of natural resources that can potentially be damaged, and provides the operator with a free software tool for the prioritisation of risk minimisation measures.

before some more practical experience is gathered and compared to a higher extent, it seems difficult to draw conclusions.

In general, it can be only observed that good practice in terms of cost-effective implementation of the Directive is always given where the required preventive actions were taken prior to the threat of environmental damage becoming imminent[120].

Can any measures to reduce possible administrative burdens on businesses (including SMEs and micro-enterprises) be identified while maintaining the integrity and purpose of the Directive?

Measures to reduce the administrative burden on businesses (including SMEs and micro-enterprises) while maintaining the integrity and purpose of the Directive can be identified for example where the Directive's implementation has received the necessary support in order to kick-off and to maintain an effectively working strict liability scheme. National guidance documents (existing in nine Member States), digital tools for operators to determine better the potential risk and to calculate the damage (Spain, France, provided for free) as well as promotion of awareness, information and training at national level (in many Member States), records and registries of ELD cases, etc. pay off in the medium and long term in terms of avoiding additional costs.

Environmental damage costs for liable operators can be also prevented, reduced and better handled through financial security instruments that would be matching offer and supply side (see next).

Financial security: Is sufficient financial security for ELD liabilities of Annex III operators available in all MS?

In terms of the question whether sufficient financial security is available in the EU to cover ELD liabilities, the situation has changed over the last years, between the 2010 ELD report and now. The developments reported by the insurance sector appear to be overall encouraging, at least with regard to the offer of products available on the market to cover ELD liabilities. *Insurance Europe* reported[121] that in most markets, cover is available for all ELD risks, i.e. including for complementary and compensatory remediation (in particular long-standing markets with growing capacity) and where insurance pools exist (France, Spain, Italy). Insurance in those Member States could offer even more capacity, but the demand would be significantly lower. The low demand may be due to the following factors:

- low reporting of incidents,
- sub-optimal implementation of the ELD,
- lower demand and lower offer in newer or emerging markets.

While many markets can offer products on a multinational basis, some markets are still limited to domestic capacity. *Insurance Europe* considers that the small number of reported ELD claims may be due to a variety of reasons, such as late transposition resulting in little claims being filed, meaning that sufficient statistical data cannot be gathered and analysed by

[120] See as one of many examples for instance the case presentation on an imminent threat of water damage in Scotland, Kim Bradley at the 3rd ELD Stakeholder Workshop on 26th November 2014:http://ec.europa.eu/environment/legal/liability/eld_workshop_26_11_2014.htm

[121] Survey of environmental liability insurance developments, June 2014.

insurers. Further, the case database may be incomplete due to lack of reporting by national authorities, and due to an incorporation of ELD risks into other covers, environmental damage may be classified under other fields (e.g. general liability). ELD incidents in some markets may be mislabelled due to classification under national pre-existing legislation (e.g. pollution of waterways or soil).

The Member States provided in their 2013 ELD application reports different feedback on financial security. While a few, rather smaller, MS found sufficient financial security for Annex III operators still difficult, others indicated difficulties on the way forward to ensuring proper financial security instruments and markets, but several provided positive feedback on current trends.

Should there be more harmonisation of the financial security system at EU level?

The Commission had to examine the need for a harmonised mandatory financial security system at EU level in its 2010 ELD report. Bulgaria, Portugal, Spain, Greece, Hungary, Slovakia, Czech Republic and Romania had decided to set up mandatory financial security schemes at national level, while the other Member States preferred a voluntary markets approach. The limited practical application had delayed the development of financial security instruments and markets. Insurance (General Third Party Liability or Environmental Impairment Liability policies) had proven to be the most popular instrument, followed by bank guarantees and other market based instruments, such as funds or bonds. Due to the limited practical experience in the application of the ELD at that time and the divergent implementation rules, the Commission could not draw reliable conclusions on the need for a harmonised system of mandatory financial security at EU level. The Commission therefore announced that it will "*re-examine the option of mandatory financial security possibly even before the review of the Directive planned for 2014 in conjunction with the Commission report under Article 18(2) ELD*".

In the light of recent developments showing a steady upward trend in the offer of insurance nearly across the whole EU and the existing differences in the legal frameworks and in the implementation of the ELD, the case for the introduction of a harmonised financial security (insurance) instrument at the EU-level is still weak and the relevant stakeholders seem to be largely opposed. Operators responding to a recent industry survey generally did not support the implementation of mandatory financial security. They had reservations and encouraged that the current structure be given more time.[122] It is widely believed that tailor-made solutions at national level are at present the better option. However, recently a few Member States have (re-)considered establishing mandatory financial security at national level, notably Hungary, Romania and Lithuania.

The question of the sufficiency of ceilings in financial security emerges only in the context of mandatory system and remains hence in the national domain.

Potential for harmonisation of financial security instruments or mechanisms, such as: - Obligation for competent authorities to assess the sufficiency of financial capacity of operators?

[122] Ad-Hoc Industry Natural Resource Management Group, Third survey of EU industry experience relative to the ongoing implementation of the European Union Environmental Liability Directive (ELD). June 2015, Brussels.

- Obligation for operators to carry out risk assessments?
- Gradual phasing in of mandatory financial security at EU level for the most risky activities?

While full harmonisation of the markets and instruments does not appear feasible or even beneficial, some elements potentially leading to economies of scale and a better level playing field could likely be reached through better risk assessments by operators and assessment of the financial viability of operators by authorities in the context of granting or updating permits, licences or authorisations (modelled for example after the Offshore Safety Directive 2013/30/EU[123] or following existing national examples as for example in Ireland) in order to prevent that the general tax payer is burdened.

Such an approach can be either complemented or even replaced by a self-executing obligation for operators to carry out better risk analysis or risk assessments following certain elementary requirements or performance standards. Further stepping up risk analysis on the basis of a set of agreed/compulsory basic elements could contribute to a more level playing field and reduce environmental damage. Operators should in this case work closely with the financial security providers on the one hand and with the competent authorities on the other hand.

An alternative option would be gradual phasing in of mandatory financial security at EU level for the most riskiest activities (as indicated in Article 14(2) ELD and applied by some MS, for instance by Spain), as for example for establishments falling under the Seveso III Directive[124] (it could cover only the riskiest establishments, called 'upper tier establishments' or also the 'lower tier establishments'). Such an option could improve the cover of financial security where the demand is not following suit the offer, but the same concerns as mentioned above would need to be considered.

Would an ELD Fund or Industry Risk Sharing Facility be appropriate? Taking into account persistent problems with (a) large scale damage and (b) closed operations where operators are not identifiable/held liable

Problems of large scale accidents and insolvent operators who cannot bear the costs of remediation have been recently brought to the attention of the Commission also by an environmental protection network of Member States (NEPA)[125]. Despite the undeniable progress in the development of markets and instruments in recent years, the specific problems with large scale accidents, occurring on an average around two or three times in ten years in the EU[126], and, more generally, the insolvency or bankruptcy of liable operators who cannot bear the costs of remediation, persist.

With respect to the sub-question raised in the last ELD report on the "*sufficiency of actual financial ceilings set for established financial security instruments with regard to potential*

[123] Cf. supra footnote 36.

[124] Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC, OJ L 197, 24.7.2012, p. 1-37.

[125] Cf. supra footnote 115.

[126] For example the disastrous accident of 4th October 2010 in *Kolontár*/Hungary or the *Moerdijk* accident of 5th January 2011 in the Netherlands.

large scale accidents", experts provided that in general enough financial security to cover massive incidents would be available, in particular where permitting, inspection and enforcement systems work well and financial security markets and instruments find enough opportunities to develop. This may not be the case under all circumstances. However, precise data were not provided, except for Member States which have set up general ceilings within established mandatory financial security systems.[127]

With regard to large scale losses due to major accidents, the Commission launched also a study to explore the feasibility of creating a fund to cover environmental liability and losses occurring from industrial accidents in 2012[128]. The study was aiming at three functions (pre-financing tool for immediate access to funding and relief, second tier security after private insurance, unspent resources to invest in safety and prevention). While some benefits could be identified, there was negative feedback from industry and insurance stakeholders to the creation of a fund or risk-pooling scheme for industrial accidents involving pollution, mainly due to concerns under the polluter-pays principle[129] (cf. in the Annex on ELD studies).

Are the optional defences (permit defence and state-of-the-art defence) contributing to efficiency and/or affecting the effectiveness of the Directive?

Key business stakeholders consider the maintenance of the two optional defences (permit defence and state-of-the-art defence[130]) politically indispensable for the co-operation of industry[131]. Of the 27 MS considered by this report, twelve MS incorporated both defences fully and unconditionally in their transposing legislation, four MS partly, two MS in modified or mitigated form; five MS have incorporated either one of the two optional defences and seven MS have neither one of the defences transposed. Data on the use of the two optional defences are rather sketchy, but it can be assumed that these defences were used in the EU to a yet limited extent.

Strict liability is for hazardous activities economically more efficient than fault liability. The effectiveness of a strict liability regime can be reduced through exceptions and defences, in particular if they are too many. This is so because a strict liability regime should normally provide optimal incentives for individuals to take precautions towards preventing environmental damage. Such strict liability rule does furthermore not have so high

[127] For example, Spain introduced a ceiling to the liability cover their operators of a maximum of € 20 million.

[128] Study to explore the feasibility of creating a fund to cover environmental liability and losses occurring from industrial accidents, Final report prepared for European Commission, DG ENV.

[129] Among arguments on the design of the fund (threshold, management etc.) and other issues, concerns were mainly raised with regard to the potential to hinder the development of the environmental insurance market (competition with similar products offered by private insurance schemes), and that a fund could undermine the polluter-pays principle ('moral hazard').

[130] Member States can decide whether to incorporate these two defences into their transposing legislation or not: the permit defence allows an operator who invokes it successfully to exonerate himself from environmental liability if he demonstrates that he was not at fault and that he acted in conformity with the authorisation and all conditions based thereof when causing a damage; the development risk defence allows the operator to free himself of liability if he demonstrates that he was not at fault and that the risk was not known according to the state of scientific knowledge at the time when the emission was released or the activity took place leading to the damage.

[131] Communications/letters from the Ad-Hoc Natural Resource Management Industry Group, CEFIC and Insurance Europe.

information costs as a negligence rule and from a compensation point of view it ensures full compensation of damage. The latter might not be the case for negligence[132].

Criticism from an economic efficiency oriented point of view has expressed that the 'restricted scope' of the ELD, in particular the availability of the permit and the state-of-the-art defence undermine the strong incentive for liable operators to invest in risk minimising technologies and to take precautionary measures.[133] From a legal point it was moreover criticised that these defences take back with one hand what the other hand had established (strict liability), i.e. create a sort of (mitigated) fault-based standard.

Is streamlining, harmonisation, simplification of the optional defences indicated from the practical experience? If harmonisation, which one should be made mandatory: delete them – include as mitigating factors – include as exemptions – narrow defences?

The empirical assessment with regard to the impact of the availability of such defences on the number of ELD cases (not entirely identical with the efficiency and probably more indicative to the effectiveness of the ELD) is not very conclusive: While some MS with the highest number of cases indeed do not allow for the defences to be invoked by strictly liable operators[134], other MS with a higher number of ELD cases have incorporated them[135] and some who did not allow both defences (i.e. made the operators strictly liable without offering the defences) have nonetheless no or a small number of cases[136].

The ELD Effectiveness Study suggests that only a deletion would mainstream the current patchwork situation with regard to the optional defences (as Article 16(1) ELD reflecting Article 193 TFEU would allow MS not using them anyway). However, the negative feedback from main stakeholders should be considered appropriately. This would indicate that deletion of the defences is not a viable option.

6.4. Coherence

To what extent is the Directive satisfactorily integrated and coherent with other parts of EU environmental law/policy, including Environmental Impact Assessment Directive, Industrial Emissions Directive?

Coherence between the ELD and other parts of EU environmental law as well as with the relevant international conventions listed in Annexes IV and V ELD is relevant as the Directive is a cross-cutting instrument. In general, the coherence is given and it is satisfactorily integrated in the EU *acquis*, supplementing other environmental legislation. Some issues, such as the coherence between the ELD and the directives treated below, as well as between the ELD and some international maritime conventions mentioned below, have however been raised by stakeholders and have been addressed by the evaluation studies.

[132] Under negligence, the polluter does not have to compensate (remedy) if he fulfilled the due care standard.

[133] This is not based on individual experience with the ELD but rather drawing from general experience on the relationship between strict liability enforcement and exceptions, as reflected in the economic theory of the law looking into the efficiency of a liability system (cf. *Kristel de Smedt*, Environmental Liability in a Federal System).

[134] Germany, Hungary, Poland.

[135] Greece, Latvia, Spain.

[136] Austria, Belgium (partly), Bulgaria, Ireland, Slovenia.

It can be concluded that no relevant incoherence had been detected in particular regarding the relationship between the ELD and the Environmental Impact Assessment Directive[137], the Industrial Emission Directive[138], the waste management directives and other environmental directives, with the exception of the Habitats Directive[139] and the Water Framework Directive[140].

Is there scope for policy integration with other policy objectives?

There is scope for policy integration with other policy objectives. As there is an important scope for policy integration with the Habitats Directive (halting biodiversity loss), the interface between both instruments were assessed in detail, not least due to the requirements pursuant to the ELD[141] and the conclusions from the 2010 ELD report[142] (see in more detail further below under the next question).[143]

The coherence with the Water Framework Directive (WFD) concerning water damage is another important point. Some MS apply a broader approach referring to 'waters' (derived from the definition of 'water damage' in the ELD), thus allowing determination of the significance of the damage according to the individual incidents or emissions without reference to the bigger geographical reference of 'water body'. Other MS apply a narrower approach referring to 'water bodies' (definition deriving from the water status and water management requirements under the WFD). 'Water bodies' are however normally in size much larger as referential point than 'waters'. That means that if the whole 'water body' is used as referential point, it is less likely that a 'significant damage' will be determined that if only 'water' as referential point is used. The criteria for significance are embodied in the assessment of water status in accordance with the WFD, hence a reference to 'waters' different from 'water bodies' may present difficulties in being coherent with the WFD. It can be concluded that the current legislation (ELD and WFD) with regard to the use of 'water bodies' as referential point ensures coherence.

Are there overlaps, gaps and/or inconsistencies that significantly hamper the achievements of the objectives? In particular, to what extent are there inconsistencies or incoherent requirements between the Directive and the Habitats Directive? Significance threshold and favourable conservation status, in particular: to what extent is the geographical reference in the determination of favourable conservation status in the Directive coherent with the Habitats Directive and the objective of the ELD to prevent and remedy biodiversity damage?

[137] Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, OJ L 26, 28.1.2012, p.1.

[138] Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control), OJ L 334, 17.12.2010, p. 17.

[139] See footnote 22 above.

[140] See footnote 23 above.

[141] "*The report, … shall include a review of: … (c) the application of this Directive in relation to protected species and natural habitats*" (Article 18(3)(c) ELD).

[142] "*… the uneven extension of the scope to cover damage to species and natural habitats protected under domestic legislation*" (p. 11).

[143] While not part of this evaluation, reference should be made nevertheless to other relevant ongoing developments with potential links to this REFIT evaluation, such as the ongoing REFIT evaluation of EU nature legislation, Regulation EU No 1143/2014 on the prevention and management of the introduction and spread of invasive alien species, OJ L 317, 4.11.2014, p. 35 which also implements the polluter-pays principle, and to policy initiatives and documents under preparation such as the development of national restoration prioritisation framework and options for a potential EU No Net Loss initiative.

The Biodiversity Damage Study[144] looked into the potential for increasing the level playing field through a harmonised scope of 'protected species and natural habitats', as half of the MS have an extended scope and the other half has a scope limited to the EU scope (both in line with the option provided in Article 2(3)(c) of the Directive[145]). A binding extension of the scope to include purely nationally protected natural habitats and species may however be legally difficult due to national competence and may not entail better harmonisation as the current national scopes regarding protected species and natural habitats differ sometimes widely.

Coherence issues between both directives relate to the notions of 'significant damage' and of 'favourable conservation status'. Some Member States consider the ELD regime only applicable in case of 'severe' biodiversity damage and others apply it for significant damage. While the Habitats Directive and the ELD share the same goal to ensure the maintenance and restoration of protected species and natural habitats at a favourable conservation status by complementary means, the threshold for defining significant damage under the ELD and under Article 6(2) of the Habitats Directive have been interpreted differently, leading to differences in the application between Member States. While Article 6(2) of the Habitats Directive requires Member States to avoid habitat deterioration and significant species disturbance within SACs[146] (i.e. requires just habitat deterioration, not 'significant' habitat deterioration, not to speak of 'severe' damage), the ELD requires 'significant damage'. The need for a more consistent application and better clarification of the term and threshold of 'significant damage' was also pointed out by several stakeholders (including for instance Insurance Europe) and was mentioned often in the ELD trainings (mainly by competent authorities) as a core issue.

The geographical reference of the 'favourable conservation status' in Article 2(4) of the ELD (referring to "*as the case may be, the European territory of the Member States to which the treaty applies or the territory of a Member State or the natural range*") has shown difficulties in practical application. It is however often handled in a pragmatic way, and like this pragmatic approach it should be clarified that a site-related approach is required for effective implementation, as pointed out by the Biodiversity Damage Study.

Further, the concept of 'preventive measures' is according to the Biodiversity Damage Study often not applied correctly if action to prevent biodiversity damage from becoming significant is dependent on the wrong understanding that preventive action can only be taken if significance of the future damage is certain. Such an understanding could *in extremis* avoid the application of the ELD forever. Many Member States therefore use a more reasonable approach requiring for example "*reasonable grounds to believe that imminent threat will become environmental damage*".

Is the Directive coherent with respect to the application of the International Conventions listed in Annex IV (mainly IMO Conventions) and Annex V (International Conventions on third party liability for nuclear damage): What are the differences? Advantages and disadvantages compared with ELD?

[144] Milieu Ltd., IUCN, Experience gained in the application of ELD biodiversity damage. Final report for the European Commission, DG Environment. Brussels, February 2014.

[145] "*… 'protected species and natural habitats' means: (a) …; and (c) where a Member State so decides, any habitat or species, not listed in those Annexes which the Member State designates for equivalent purposes as those laid down in these two Directives*".

[146] Special Area of Conservation as defined in Article 4 of the Habitats Directive.

Another area of potential incoherence was investigated due to the requirement in the ELD to look into the application of the exceptions of Directive with respect to the international conventions listed in Annex IV (mainly IMO Conventions) and Annex V (international conventions on third party liability for nuclear damage)[147]. There is broadly coherence but an issue remains with regard to the environmental remediation standards. The answer to the above question is developed along this and the next question.

While the ELD provides for a high level of remediation standards, including primary, complementary and compensatory remediation of ecological damage, the IMO and related conventions[148] include less elaborate terms, such as "*reasonable measures … to prevent or minimize pollution damage*" and "*compensation for impairment of the environment … limited to costs of reasonable measures of reinstatement*". On the other hand, the conventions include features which make their system attractive, such as strict liability for pollution damage[149] without a significance threshold, channelling of liability to the ship-owner, mandatory financial security for specific types of pollution damage (e.g. damage caused by persistent oil carried in tankers, or by dangerous chemicals carried in bulk or packaged form),[150] and a right of direct recourse against the insurer. The most advanced system of liability has been created for the oil pollution context, where there are three-tiers of liability for compensation for damages resulting from the carriage of oil by sea in tankers. The first tier is the shipowner's liability (covered by mandatory insurance) in accordance with the 1992 CLC Convention. The second tier is a compensation fund – the IOPC Fund – covering pollution damage that exceeds the shipowner's liability. Finally, there is a third tier – the International Supplementary Fund created in 2003 – covering pollution damage that exceeds the threshold of the IOPC Fund (total amount reaching approximately 1 billion US dollars). This system has a world-wide scope of application with 130 Contracting Parties to the 1992 CLC Convention, 111 Contracting Parties to the 1992 IOPC Fund Convention and 31 Contracting Parties to the 2003 Supplementary Fund Protocol. In this context, consideration should be also given to the fact that the existing international conventions explicitly prohibit any additional compensation claims for damages covered thereby to be made other than in accordance with their own provisions.

If the prevention/remedial standards in International Instruments are lower: Is the difference minor or else justifiable or should there be adaptation and which one?

The remaining issue consists therefore only in the fact that the maritime conventions provide at present only for primary and complementary remediation of damage to the environment, as well as preventive measures, while the definition of relevant damage is narrower than in the

[147] "*The report … shall include a review of: (a) the application of Article 4(2) and (4) in relation to the exclusion of pollution covered by the international instruments listed in Annexes IV and V from the scope of this Directive, and Article 4(3) in relation to the right of an operator to limit his liability in accordance with the international conventions referred to in Article 4(3).*" (Article 18(3)(a) ELD).

[148] International Convention of 27 November 1992 on Civil Liability for Oil Pollution Damage (1992 Civil Liability Convention or CLC); International Convention of 27 November 1992 on the Establishment of an International Fund for Compensation for Oil Pollution Damage (1992 Fund Convention); International Convention of 23 March 2001 on Civil Liability for Bunker Oil Pollution Damage (Bunker Oil Convention); International Convention of 23 March 2001 on Civil Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS Convention); Convention of 10 October 1989 on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (Dangerous Goods Convention).

[149] Cf. supra footnote on 'pollution damage' and its relationship to 'traditional' and 'environmental' damage under the ELD.

[150] These mandatory financial security requirements for specific types of damage are in addition to the requirement for shipowners registered in EU Member States or entering an EU port to have insurance for general maritime claims, in accordance with Directive 2009/20/EC on the insurance of shipowners for maritime claims, OJ L 131, 28.5.2009, p. 128.

ELD. This issue could however be addressed by non-legislative means, in particular through working towards a common understanding closing the gap between the conventions and the ELD in that regard. For instance, the IOPC Funds have revised their 'Claims Manual' in 2008 to include under 'environmental damage' measures to re-establish a biological community in areas affected by an oil spill in order to enhance the natural recovery, as well as the cost of post-spill studies (see Claims Manual 2008, Section 3.6), and similar developments are envisaged under other conventions, e.g. the HNS Convention. These developments are encouraging with a view to bridging the current gap as regards the level of the remediation standards between the conventions and the ELD.

The International Oil Pollution Compensation Funds (IOPC Funds) provided a report on the costs of preventive measures and impairment of the environment following all oil pollution incidents from tankers between 2002 and 2013 covering 14 incidents across the world since 2002 with payments about £18.7 million in compensation for clean-up and preventive measures.[151] Supplementing the report of the IOPC Funds, the International Group of P & I Clubs, in cooperation with the International Tanker Owners Pollution Federation (ITOPF), reported comprehensive data on around 120 incidents involving pollution from tankers in EU waters within the reporting period 30 April 2007 to 30 April 2013. Overall, it seems that containment and clean-up measures at sea and at the shoreline covered also environmental remediation activities to a certain extent. None of the incidents in Europe have exceeded the limitation amounts for compensation under the international conventions.

Similar to the conventions listed in Annex IV, the nuclear conventions in Annex V are focused on compensation for victims of nuclear incidents with a limited cover of pure ecological damage. While there are some differences between the Paris Convention and the Vienna Convention in the limitation of the amounts set for the liability of nuclear operators and the level of financial security required (leading to some differences between EU MS, depending on which convention they have ratified) they both do not establish a regime to prevent or remedy environmental damage and the definition of 'nuclear damage' remains unclear. However, if the ELD was applicable to some radio-active incidents[152] occurred within the reporting period, the potential outcome would not have been different as in the absence of significant environmental damage the ELD would not have been applied.

As the ELD Effectiveness Study pointed out, it is impossible to come to a conclusion regarding the effectiveness of the conventions listed in Annex V because no nuclear incidents have fallen under their scope and in addition, the 2004 Protocol to the Paris Convention has not yet entered into force. Moreover, account should be taken of the consideration that environmental nuclear liability falls under the remit of the *Euratom* Treaty rather than of the TFEU for the reasons that nuclear liability and not environmental protection is the dominant objective, that application of the TFEU could create controversial consequences to the field of nuclear liability and the *Euratom* Treaty should be considered as *lex generalis* in relation with environmental nuclear liability.

After weighing advantages against disadvantages, the answer to the questions on the coherence of the ELD with the international conventions in Annex IV and V and as to

[151] This is excluding compensation paid for the accident of the oil tanker 'Prestige', where proceedings are still ongoing at present and for which payments of approximately £120 million have been made in total so far.

[152] *Sellafield* radioactive bags April 2010, *Tricastin* nuclear leak July 2008, *Ascó NPP* leak November 2007.

whether the eventual difference in remediation standards between these regimes is minor or else justifiable, is that the exemptions in Article 4 regarding the international instruments should not be lifted for the time being, but work should continue to close the gaps in terms of the environmental remediation standards by way of guidance and gradual adaptation of practical application to the ELD standards in the work within the relevant international instruments.

Finally, as regards the HNS Convention as amended by the 2010 Protocol,[153] which has no ratifications yet, the possibility of its deletion from the list of IMO Conventions in Annex IV should be further examined, unless clear evidence of the Member States' joint commitment to conclude this international convention arises. The Commission has put forward a proposal to allow its ratification by Member States in the interest of the Union,[154] which is presently under discussion in Council. The ELD currently applies to environmental damage related to the carriage of HNS by sea in all Member States; yet, there is no available data on the application of the Directive in any such incidents.

Is the Directive coherent with respect to environmental damage caused by genetically modified organisms (GMOs), particularly in the light of experience gained within relevant international for a and Conventions?[155]

There were no incidents of environmental damage caused by GMOs in the EU within the reporting period.

Article 27 of the Cartagena Protocol mandated the Conference of the Parties serving as the Meeting of the Parties (COP/MOP) to start a process for the elaboration of appropriate rules and procedures on liability and redress at its first meeting. The negotiations of the European Union were conducted solely on the legal basis of the Environmental Liability Directive with regard to administrative liability.

The "Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety" was formally adopted by the final plenary of COP/MOP5 on 15 October 2010. The adopted Supplementary Protocol is fully consistent with the *acquis*, and no further action at Union level was necessary to formally conclude the agreement. 24 Member States and the European Union signed the Supplementary Protocol by the deadline of 6 March 2012 and since then the European Union and a growing number of Member States have already accepted, approved or acceded to the Protocol. The Protocol will enter into force on the 19th day after the date of deposit of the 40th instrument of ratification, acceptance, approval or accession (Article 18).

It can hence be concluded that the ELD remains the legal basis for the European Union to implement the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to

[153] See footnote 148.

[154] COM(2015) 304final, adopted on 22.6.2015.

[155] According to Article 18(3)(b) ELD, the report shall include a review of "*the application of this Directive to environmental damage caused by genetically modified organisms (GMOs), particularly in the light of experience gained within relevant international fora and Conventions, such as the Convention on Biological Diversity and the Cartagena Protocol on Biosafety, as well as the results of any incidents of environmental damage caused by GMOs*".

the Cartagena Protocol on Biosafety and that no reason for any modification to the ELD on the ground of experience with its application to environmental damage caused by genetically modified organisms has been identified.

Are other instruments eligible for incorporation into Annexes IV or V? E.g. OPOL scheme, Offshore Protocol under the Barcelona Convention?

As the ELD also required a review of the potential need for incorporation of other instruments into Annexes IV or V[156], and after having considered the potential candidates (Offshore Protocol to the Barcelona Convention for the Protection of the Marine Environment and Coastal Region of the Mediterranean, the Protocol of Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters and the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety), the evaluation in the ELD Effectiveness Study has not shown a need to extend Annex IV or V of the ELD.

Recently, the Shipowners Associations and the IOPC Funds brought to the attention of the Commission that the Ship Wrecks Convention and the 2003 Supplementary Funds Convention may be instruments potentially to be incorporated into Annex IV of the ELD. This suggestion could be further considered in any future revision of the ELD.

6.5. Complementarity

To what extent does the ELD support and usefully supplement other instruments or policies?

In the case of the ELD, it is mainly biodiversity policy and water policy which is complemented. The ELD supports the objectives of the Habitats Directive and Birds Directive as well as of the Water Framework Directive and the Marine Strategy Framework Directive as an ex-post instrument after damage has occurred but also as an additional incentive to prevent any damage through full compliance with the requirements of those related directives.

In the marine area, the complementarity of the ELD with the OSD (Offshore Safety Directive) as regards damage to biodiversity and to water through offshore of oil and gas activities is especially important. The OSD depends on the ELD with respect to liability and remediation of environmental damage but channels strict liability to the licensee in modification to the ELD where the basic rule is the channelling of strict liability to the operator.[157]

However, in turn it needs to be said that the success of the ELD is therefore to a certain extent dependent on the functioning of the aforementioned directives. If problems or challenges persist with those Directives, the ELD will be most likely affected and may not always overcome these issues.

[156] "*The report … shall include a review of: (d) the instruments that may be eligible for incorporation into Annexes III, IV and V.*" (Article 18(3)(d) ELD).

[157] Article 7 OSD reads: "*Without prejudice to the existing scope of liability relating to the prevention and remediation of environmental damage pursuant to Directive 2004/35/EC, Member States shall ensure that the licensee is financially liable for the prevention and remediation of environmental damage as defined in that Directive, caused by offshore oil and gas operations carried out by, or on behalf of, the licensee or the operator.*"

As to land damage, the ELD is one of the few policies tackling the ecological value of soil. Though the IED has also introduced a layer of soil protection for certain installations in Europa, there is no more common legislation complementing the ELD on the protection of soil resources. Thus, by demanding remedial action, the ELD contributes to a minimum level of good environmental status in this field.

Complementarity is not only depending on other EU policies but also framed by implementation in a complex environment (see above figure 1 on the intervention logic, in particular 'other EU policies' and 'external factors').

6.6. EU-added value

What has been the EU added value and what do you think would happen if EU action were repealed?

The main EU-added value consists in the preventative nature of the ELD, remediation of environmental damage to the baseline condition (*restitutio in integrum*), in particular through primary, complementary and compensatory remediation of damaged natural resources through the use of economic valuation methods; the inclusion of biodiversity damage in the scope of environmental damage; and public participation and access to justice in environmental liability.

The abovementioned features have been reached so far to a varying degree. While overall the Directive has gained more practical application resulting in better environmental protection, some features appear to remain particularly under-used as especially the complementary and compensatory remediation methods, which could potentially ensure better environmental outcomes than currently exist. From the practical experience it was also often mentioned that the Directive boosted a precautionary approach (contributed to the deterrent effect) which had in particular also an enhancing effect on the offer of environmental liability insurance with the result that less environmental damage instances are occurring.

As shown further above on effectiveness, it is summed up here that the Directive has been overall effective with however the fact of the quite varying degree across the EU. The ELD has been effective in some Member States but less so in others (eleven Member States have not reported any ELD case for the period between May 2007 and April 2013).

If the Directive was not in place, what would be the response needed to implement the international obligations under the Nagoya – Kuala Lumpur Supplementary Protocol and would a new implementing instrument need to be developed and adopted at EU level in order to comply with the N-KL SP?

There would be an unwanted effect with special regard to the international obligations under the Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress which is implemented by the EU and its Member States through the ELD. The negative result would be that a new implementing instrument would be needed to be developed and adopted at EU level in order to comply with the requirements under this Supplementary Protocol.

Do the issues addressed by the Directive continue to require action at EU level?

The question can be addressed by various ways, and to begin with by asking what would happen if the Directive were repealed? If EU action were repealed, it may perhaps not change much as by now all MS have transposed the ELD into domestic legislation and started to

become acquainted, hence the large majority would presumably continue as before. In addition, it would be difficult to anticipate future developments at MS level. Depending on the individual position of each MS, Member States could act as they deem appropriate and may lower or abolish the prevention and remediation requirements or replace the polluter-pays principle by another principle of cost allocation (beneficiary-pays principle, community-pays principle, ability-to-pay principle). Furthermore, in the absence of dedicated EU legislation on soil, without the ELD would be even less obligation in Europe to cope with environmental damages affecting soil resources.

The issues addressed by the Directive continue therefore to require action at EU level because in particular transboundary damage needs to be addressed not only in relation to the tranfrontier transport of genetically modified organisms (Nagoya - Kuala Lumpur Supplementary Protocol), but also for other categories of transboundary environmental damage, such as transboundary water damage where the ELD was a relevant justification for the EU and its Member States not to accede to the Kiev Protocol.[158]

What has been the practical significance of the Directive as compared to (pre-)existing national legislation?

The advantages in terms of practical significance of the Directive as compared to (pre-) existing national legislation consist of more and better restoration of damaged natural resources, in particular regarding protected natural habitats and species through the methods and means in its Annex II (primary, complementary, compensatory remediation). This effect could be significantly further enhanced through practical support and capacity building measures, in particular through targeted ELD trainings for practitioners and stakeholders. The lack of expertise, data and information can be remedied through the gradual establishment of an EU-wide ELD expert network or ELD damage assessment centre, through interpretative guidance and through and EU-wide ELD data registry. Further, a strict enforcement is key in order to benefit fully from the functioning of strict liability, i.e. harvesting fully the efficiency gains, including tackling appropriately the remaining issues as regards financial security (increasing the demand gradually in order to meeting the already existing insurance offer, developing and offering appropriate instruments for large scale damage and in case of non-identification or non-existence of a solvent liable operator). Finally, public participation and access to justice, which were mostly absent in pre-existing national legislation contributed under the ELD to better addressing environmental damage and its remediation.

If strictly enforced and systematically applied without making too much use of exceptions and defences, the ELD thus has the potential to bring up the level of environmental protection from the past (national pre-ELD laws) characterised largely by fault-based liability, incomplete consideration of the polluter-pays principle and lack of biodiversity damage remediation, to a more coherent and efficient strict liability system in the whole EU. The varying level of quality in the application of ELD remediation as regards for instance the inclusion of compensatory remediation for interim losses, could be further improved to a common high level through more exchange of information among stakeholders and EU-wide transparent ELD data.

[158] Protocol of Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters.

7. CONCLUSIONS

The ELD gradually developed in the reporting period between 30 April 2007 and 30 April 2013 with around 1,245 instances of environmental damage on which it was applied and an even higher number of potential cases in the EU (in particular indicated by Italy). Most of the recent stakeholder reports, surveys or position papers on the ELD appreciated the Directive and the implementation besides various critical remarks. As one example for this feedback, an EU NGO summed it up as follows: "*We are strongly convinced that the Environmental Liability Directive is a valuable instrument in order to stop environmental degradation and improve the protection of Europe's natural resources - this by creating clear responsibilities for polluters and establishing a very strict remediation system which aims at very comprehensive environmental restoration.*"[159] Hence, the ELD delivered a predictable legislative framework across the whole EU for the prevention and remediation of environmental damage.

However, the difficulties to acquire substantial and representative data in relation to the evaluation criteria hampered the establishment of an evaluation up to the desired standards under the new REFIT programme of the Commission. The conclusions reflect that partial lack of data. Nevertheless, the evaluation showed that

- the Directive's objective *remains relevant* but its ability in in achieving a high level of environmental protection and in preventing and remedying environmental damage in the EU is hampered by significant lack of clarity and uniform application of key concepts, and underdeveloped capacities and expertise,
- many Member States have made progress towards *effectively achieving the two main objectives* of preventing and remedying environmental damage within the reporting period, but studies have concluded also a 'patchwork of environmental remediation', expressed also in a number of cases with a few Member States with high record of cases and eleven Member States having notified no ELD instance,
- the latter may result from insufficient enforcement of the ELD (in some cases due to preference for other pre-existing legislation),
- the amount of better precaution is said by many stakeholders to have risen due to the ELD, but it is difficult to estimate,
- currently there is not sufficient evidence which would justify the amendment of the scope of strict liability (no proof of fault) and of the scope of environmental damage (biodiversity, water, land). Further evidence gathering and monitoring would be needed to also look at the wider liability regimes in place and address particular aspects (e.g. the transport of dangerous substances in pipelines, cf. *Coussouls de Crau* case),
- the *effectiveness is hampered* by diverging interpretations of the significance threshold, affecting in particular the trigger for preventive action, and hence a lower number of ELD cases,
- other reasons for lower application consist in the fact that some Member States use the flexibility under the framework character of the Directive to make more use of exceptions and limiting options and define broad concepts and definitions in a restricted way, such as in particular the 'significance threshold' and rely more on their national legislation,
- opportunities for better application of the ELD are provided through
    - publicly accessible registers of ELD cases,

[159] Justice and Environment, Position paper on the Environmental Liability Directive, June 2015.

    - access of interested parties to submit comments and to cooperate with competent authorities,
    - a secondary obligation of competent authorities to carry out preventive and remedial action if operators fail to do so,
    - the repeal of overlapping national legislation, and
    - the knowledge of the ELD by operators.
- precise data on administrative costs for public authorities are limited and quite divergent, and for business not available at all, which indicates the need for further research in future,
- some data on remediation costs are available showing that the average costs of remediation turn around €42,500 if the few large scale accidents are not considered in the calculation, but average costs per Member State vary as well between €3,559 (Hungary) and €1,070,341 (Sweden) (again by excluding five bigger cases),
- preventive and remedial costs were effectively internalised in line with the polluter-pays principle where the ELD rules were applied and the (solvent/sufficiently insured) liable operator could be identified,
- sufficient insurance cover is available in most markets, including for complementary and compensatory remediation, but demand is in general low due to lack in reported incidents, sub-optimal enforcement and slower developments in emerging markets,
- the case of harmonised mandatory financial security at EU level is still weak in the face of the abovementioned recent upward trend in insurance cover for ELD liabilities in the EU; it is useful to consider further some options to improve financial security such as better examination of the financial viability of operators by competent authorities, promotion of better risk analysis of operators, and a gradual approach in introducing financial security starting by the most riskiest activities, and taking into account the advantages of tailor-made solutions at national level,
- major accidents and else large scale losses as well as insolvency/bankruptcy remain a problem for financial security in the EU, which could be targeted by appropriate solutions including well-designed and tailor-made industry funds or risk-sharing facilities but without jeopardizing the polluter-pays principle (i.e. ensuring that 'good' players do not foot the bill for 'bad' players), and without hindering the development of insurance markets,
- the two optional defences in the ELD (permit defence, state-of-the-art defence) may undermine the strong incentive of strict liability to invest in risk minimising technologies and to undertake additional precautionary efforts, but sufficient empirical evidence was not available and main stakeholders expressed a clear opinion in favour to keeping them,
- the ELD is, in principle, *coherent with the other parts of EU environmental law* (EIA, IED etc.), but
- some *particular coherence* issues need to be further considered, preferably by way of interpretation and guidance as regards the relationship between the ELD and the Habitats Directive, concerning in particular
    - the relationship between the significance threshold in the ELD and habitat deterioration and significant species disturbance pursuant to Article 6(2) Habitats Directive; and
    - the geographical reference of 'favourable conservation status' according to Article 2(4) ELD with the similar concept in the Habitats Directive, taking account of the need for a, site-related reference
- the exemptions to the ELD in favour of some international conventions in the field of maritime transport and nuclear activities should be maintained for the time being because

IMO Conventions have, despite lower environmental remediation standards than the ELD a range of other advantages (no significance threshold, mandatory financial security, right of direct recourse against the insurer, three tier financial security for oil pollution damage, world-wide scope) and because nuclear liability should remain under the *Euratom* Treaty rather than under the TFEU to avoid controversial consequences,

- there were no incidents of environmental damage caused by genetically modified organisms in the EU and that the Directive fully implements the Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety,
- there is no need to extend Annex IV or V of the ELD (exceptions to the scope of the ELD in the aforementioned fields of (mostly) maritime transport and nuclear activities after having assessed all potential candidates,
- the ELD works *complementary* to main pieces of EU environmental legislation to which it is directly or indirectly linked, in particular to the Habitats and Birds Directive, the Water Framework Directive and the Marine Strategy Framework Directive and the Offshore Safety Directive (besides the Industrial Emissions Directive, CCS Directive, Waste Framework Directive, Landfill Directive etc.),
- the specific *EU-added value* of the ELD is linked with transboundary damage (transboundary water damage, biodiversity damage), and that
- the situation regarding environmental protection *without the existence of the ELD* would be worse with particular regard to prevention of damage, remediation of damage to the baseline condition, biodiversity damage, the remediation standards (primary, complementary and compensatory) and public participation and access to justice.

Despite the added value and the positive developments, there are clear needs for actions to address the observed implementation deficits and major discrepancies in order to make the Directive more effective and efficient and to enhance the coherence with other EU environmental legislation.

The main challenges are:

1. Low availability of data on ELD cases[160], including in particular data on the application of complementary and compensatory remediation, acting in addition to the fact that eleven Member States notified not a single ELD incident and some Member States apparently choose not to place any incidents under the ELD,
2. Low awareness of the Directive by main stakeholders and practitioners,
3. Ambiguities around key concepts and definitions, such as the 'significance threshold', 'preventive action', 'favourable conservation status',
4. Exceptions and defences to the scope of environmental damage and strict liability, which may reduce effectiveness and efficiency accordingly,
5. Insolvency of operators in cases of costly environmental remediation.

As many stakeholders and government experts have emphasized, a stable legislative framework for the Directive's further implementation seems to be at present indispensable. Based on the findings of this evaluation, the Commission would suggest the actions listed in the recommendations part of the report COM(2016) 204.

[160] Public databases of ELD cases enhance the awareness about possibilities to notify damage instances to competent authorities, create trust into the liability regime and a greater sense of responsibility of competent authorities, allow for a better database to analyse risks and calculate insurance and allow easy comparison of implementation of the ELD.

ANNEXES

ANNEX 1: PROCEDURAL INFORMATION

The evaluation was carried out under the lead of DG Environment and started in 2012. It was planned to be completed after having assessed the external evaluation studies and the national ELD reports of the Member States in late 2013, beginning of 2014. Member States were due to report by 30 April 2013 but the last reports were submitted in December 2013. The external studies were finished in February and approved in March 2014. Due to the change in the Commission in 2014 and the necessary adaptations to the further developments in REFIT evaluations, the evaluation involving twelve Commission services[161] participated in the steering group meeting two times in 2013 and 2015.

The main evidence used in the evaluation consists in information and data provided by the 27 Member States' reports on the application of the Environmental Liability Directive and in the three evaluation studies on the effectiveness of the Directive, on biodiversity damage in particular and on the national legal frameworks. These three studies of 2013/2014 plus the two previous studies on implementation and on the feasibility of a fund of 2012/2013 are summarised in an annex to this evaluation. Beyond the national reports and the studies, evidence has been gathered also in several meetings with ELD government experts and conferences with ELD stakeholders. Finally, some stakeholders have provided extra written input on specific themes in view of this evaluation.

An agreed interpretation guidance paper was prepared between the Commission and the government experts to ensure comparability and completeness of the information. The submitted information however varied to a great degree. All relevant studies included stakeholder and experts' participation, several workshops formed an integral part of them and the quality of the outcome was assessed before approving them.

However, the lack of robust information on certain key data, such as on administrative costs, on the use of national legislation on environmental damage incidents, on the application of complementary and compensatory remediation compared to primary remediation, etc. impeded the achievement of the standard aspired for REFIT evaluations.

[161] DG AGRI, DG CLIMA, DG ECHO, DG ENER, DG ENVI, DG FISMA, DG GROW, DG MARE, DG MOVE, DG SANTE, SG, LS.

ANNEX 2: ELD STUDIES

1. Financial security studies of 2008 and 2009

In view of the Commission report 2010, the Commission had launched studies in 2007 and 2008 to investigate the principal questions regarding the effectiveness of the Directive in terms of remediation of environmental damage and available financial security at reasonable costs and on the conditions of insurance and other types for financial security for the activities falling under the scope of strict liability, listed in Annex III of the ELD.

The study of 2008 described the situation in the EU concerning the implementation of the Directive at that time and found with regard to the insurance and re-insurance market in the EU that insurance is the most popular instrument to cover environmental liability, followed by bank guarantees and market based instruments and that insurance pools are present in some Member States. The preferred option to cover liabilities under the ELD would be provided by Environmental Impairment Liability policies or new specialised stand-alone products, while extensions to General Third Party Liability policies would follow path (this situation might have slightly changed). At that time products offering full cover of ELD liabilities were generally not available (changed in the meantime). Unlike for sudden and accidental pollution, cover for gradual pollution was only offered by few and cover for compensatory remediation and even biodiversity damage was at the time hard to get. Given the limitations of the insurance market of the time, alternative risk transfer arrangements, together with self-insurance, formed an interesting alternative. Reimbursement ceilings ranged from less than €1 million to a maximum of €50 million, depending on covered risks and premiums.

Operators had according to the study not yet adapted their insurance policies to cover the extended liability induced by the ELD with many not aware of the existence of the ELD (indicating a need to communicate the ELD more). Those companies which were aware of their environmental liabilities tended to cover their risks through a mix of environmental insurance. Main limitations resulted from limited experience, a gap of data and risk assessment models and the fact that brokers were not always aware of the ELD. Also the experience in the application of market based instruments was very limited. The results of the research on the (small) experience with mandatory financial security under the ELD were still limited and rather mixed.

The study recommended to further update and analyse the progress in the implementation of the Directive, to disseminate information on insurance products, to facilitate and promote the dialogue between different stakeholders, to compile recent events under the ELD and to develop a case database and to work further on guidance how to asses risks and estimate environmental damages. Some of the findings and of the recommendations are nowadays outdated, some of them may appear still relevant.

The study of 2009 updated the developments in implementing the ELD and regarding financial security. It described the latter developments as generally positive ("*a growing and competitive market that provides good cover for most liabilities under the ELD*") and found that the lacking interest from operators is a bigger obstacle to further developments than high premiums or the uninsurability of certain liabilities. The study brought in addition to the results of the previous study a more detailed analysis with respect to alternative financial security instruments, and with regard to the issues of gradual approach, ceiling for financial guarantees and the exclusion of low-risk activities. The study looked also into the

developments in the US for comparison and it delivered an ELD case database on the basis of ELD case templates.

The study concluded that further research into the options of a gradual approach, ceilings for financial security and the exclusion of low-risk activities and their impact on ELD implementation might be needed. The study suggested increasing the communication among stakeholders and addressing the lacking awareness of the ELD with competent authorities and operators. They recommended in addition to further populating the ELD case database as accurate ELD case information will play an important role in the efficient ELD implementation. Finally, the study proposed a European effort in the development of guidelines and models for ELD-relevant assessments and calculations in order to facilitate an efficient implementation of the Directive.

2. Implementation studies 2012/2013

Five studies in the years between 2012 and 2014, were triggered mainly by the conclusions in the Commission report on the ELD of 2010 with a focus to explore better implementation and to tackle the specific question of the feasibility of a fund, as well as by the requirement to prepare the evaluation of the Directive in view of the Commission report on the ELD scheduled for 2014.

2.1. Study 'Implementation challenges and obstacles of the Environmental Liability Directive (ELD)' (Implementation Study)

The study was a direct effect of the ELD report 2010 which found limited implementation of the Directive and recommended measures to improve it. At the time there was some uncertainty about the reasons for the late transposition and weak implementation and the need felt to explore it more in order to identify better the measures and instruments to be taken to boost the implementation. The study included a legal analysis and an empirical research. The legal analysis investigated how the ELD was integrated into the existing legal frameworks of 16 Member States[162], analysing existing national legislation and the national transposing legislation. The empirical part was carried through exchanges and interviews with practitioners and experts in the Member States to identify the strengths, obstacles and challenges related to the application of the ELD in seven Member States[163].

The objective of the legal analysis was to determine the effectiveness of the transposing legislation, and to identify if possible the obstacles and challenges to making it more effective. In this context the relationship between the ELD transposing legislation and the existing legislation was capital. The issue of the determination of the 'significance threshold' deserved thereby increased attention.

The analysis mainly found that the Directive has not resulted in a level playing field but a patchwork of liability systems for preventing and remedying environmental damage across the EU consisting for instance in differently interpreted minimum standards of the Directive by Member States and significant variations in transposing legislation, not to speak of important variations regarding implementation and enforcement. The study distinguished two main types of variations: procedural[164] and substantive[165].

[162] Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Poland, Portugal, Romania, Spain, Sweden, and the United Kingdom.

[163] Denmark, France, Germany, Hungary, Poland, Spain, and the United Kingdom.

[164] Differences in administrative and judicial systems; Transposition of the ELD as stand-alone legislation or by incorporating its provisions into pre-existing legislation; Transposition of the ELD into the legal system of Member States, Degree of complexity of the transposing

The study emphasized the supplementary role of the ELD in setting minimum standards with a view to a high level of environmental protection in the EU, as required by the Treaty, and to harmonise environmental legislation and to fill gaps in existing legislation. The latter is in particular true for biodiversity damage, where Member States largely had no or only very weak legislation in a few cases to prevent and remedy damage to biodiversity prior to the ELD.

The Implementation Study also pointed out that the problem is exacerbated by the misinterpretation of the 'significance threshold' which often was used to apply the ELD only to the most 'severe' damage cases, instead of applying correctly the criteria for the determination of significant damage to protected species and natural habitats as set out by Annex I ELD. The misperception of the significant biodiversity damage was found by the study particularly crucial because of the key purpose of the ELD to assist in halting the loss of biodiversity in the ELD.

The study further tried to find out from the legal analysis on a preliminary basis the reasons explaining the significant differences in the number of ELD cases between the Member States and concluded that some Member States had pre-existing wide ranging environmental liability provisions, others not; some are enforcing the legislation stricter than others; some have more invested than others in environmental management systems of operators; the differences in the designation of Natura 2000 sites; the lack of knowledge of the ELD among operators (particularly of SMEs) but also of public authorities and environmental NGOs; failure to rightly draw the difference between the ELD and other legislation; and a failure of operators to have insurance or other form of financial security.

The empirical part of the study focused on the practical application of the ELD in the seven selected Member States and was based on data collected from ELD practitioners in these Member States through interviews and a workshop. The findings revealed discrepancies in the implementation across the seven MS (Denmark, France, Germany, Hungary, Poland, Spain and the UK) with some MS without or only rare cases of environmental damage where the ELD has been applied and others with more cases or even a high number of cases. Before figuring out the reasons for the discrepancy, the more fundamental question was what this number would mean, what it stands for. While it could be an indicator for an under-use of the Directive, other viewed this not as a negative finding but rather as an indication that the prevention of environmental damage has been effective and, consequently, that the ELD is serving one of its main objectives. This may be a relevant argument, it is for the time being however difficult to verify or falsify it (but may be worth to work on an instrument how it can be verified in future).

As for the reasons of the low number of cases, practitioners mentioned the following: the impossibility to apply the ELD due the significance threshold; due to the cases falling outside of the scope of Annex III; due to pre-existing legislative frameworks which were used instead

legislation; Designation of one or more competent authorities; Number of jurisdictions in Member States; Publication of guidance and other documentation; Publication of implementation and enforcement data.

[165] Optional provisions in the ELD that specifically envisage differences in national ELD regimes; Provisions in the ELD that specifically provide for the application of existing national law in Member States; Specific authorisation in the ELD for Member States to adopt more stringent provisions; Adoption of less stringent provisions; The application of national law concepts including the standard of liability, the level of causation, and secondary liability; Imprecise language in the ELD; Adaptation of the language transposing the ELD; Provisions in national legislation to rectify conflicts in the ELD; Provisions in national legislation to fill gaps in the ELD; Extension to include a civil liability system.

of the ELD; due to practical reasons such as lacking experience, lacking expertise, lacking proactive implementation, robustness of traditional legislation.

The empirical investigation had as a major objective to find out the main strengths and weaknesses of the ELD. As main strengths of the ELD, practitioners mentioned mostly the effectiveness of the ELD and the procedures established under it; the prevention of environmental damage; the remediation of environmental damage; the involvement of stakeholders. As challenges or obstacles to good implementation was mentioned the complexity of the national transposing legislation; the difficulty to demonstrate that the significance threshold was met; the common misperception regarding the 'severity threshold' for biodiversity damage; the perceived inappropriate scope of Annex III (too broad, too narrow, inappropriate); the inclusion of financial obligations for operators; lack of expertise and knowledge of the ELD; lack of data to determine environmental damage or imminent threat thereof; lacking resources in some Member States; lacking tools (guidance documents); level of co-operation between stakeholders; the co-existence of different ELD regimes in the same MS; the level of adequacy of the pre-existing legal framework; discrepancies between the ELD and pre-existing legal frameworks; possible overlaps between the ELD and pre-existing legislative frameworks; the lack of co-ordination between several related directives; and the economic and financial environment (current economic climate).

The Implementation Study recommended identifying best practice through the following measures: organisation of workshops and conferences to increase awareness of stakeholders; supporting competent authorities through a dedicated team providing external support or the establishment of networks between stakeholders; development of various tools (notification and registration of ELD cases, promotion of purchase of insurance policies by operators).

The study recommended fixing the following issues in order to foster greater ELD implementation: widely varying liability systems; clashes between self-executing provisions and determination of environmental damage; difficulties in enforcement; relationship between the ELD and the IPPC-Directive/IED; implementation of the correct threshold for biodiversity damage; relationship between the ELD and the Birds and Habitats Directives.

Finally, the study identified for each category of challenges and obstacles potential actions which could strengthen the implementation and enforcement of the ELD: drafting technical guidance to support competent authorities in determining significant environmental damage; developing actions to improve expertise and knowledge of all stakeholders; promoting the development of databases for the collection of data on the quality of environmental sectors; improving governance through the establishment of coordination bodies and providing resources for investigation assessments and specific tools to support the ELD; ensuring greater coordination between the ELD and other related directives.

2.2. 'Study to explore the feasibility of creating a fund to cover environmental liability and losses occurring from industrial accidents' (Fund Study)

The immediate reason for this study was the Hungarian accident in *Kolontár* in October 2010, but it is a fact that major accidents involving large scale losses appear from time to time and that the financial resources of the operator are often insufficient to cover the environmental (and other) damages. The study was based on an Hungarian proposal for an industry fund or risk sharing facility which integrated three main functions: pre-financing tool to give immediate access to funding and relief to communities; second tier of financial security after the private insurance has been exhausted; support to companies (in particular to SMEs) to invest in safety and prevention through unspent resources. The Hungarian proposal suggested that the fund be triggered only above a ceiling of €100 million.

Relevant stakeholders were consulted and a workshop was held to determine if and how operators and the financial security sector could be engaged in the development and what could be the major features of such an instrument. There was however quite a broad negative feedback from stakeholders which mainly raised concerns that the fund would not include a risk assessment and pointed to the potential to hinder the development of an otherwise increasing environmental insurance market, as well as to the implications of the interaction between existing national funds and a new EU fund. Even more important concerns were raised with respect to the potential of the fund to contradict the polluter-pays principle (operators who did not engage in any wrongdoing would have to pay part of the costs of the more careless operators) and the related moral hazard connected with the creation of the EU fund (due to their knowledge that their financial liability is capped). In addition, the operation of a fund in Member States with widely differing economies, industries, legal liability regimes, history of environmental claims and approaches to such risks raised substantial concerns.

But also due to some practical concerns regarding the purpose and design elements of the fund or risk-sharing facility, acceptance of stakeholders was very limited if not negative. First, it would be necessary to clarify better the purpose of the fund (to compensate victims of a major accident or to remediate environmental damage, or to provide emergency funding as pre-financing tool or to use it for clean-up of orphan sites etc.). Further, it became clear that questions relating to the size, threshold, tiers of compensation and sectors to be covered needed further investigation as well as issues relating to the calculation of the fund, the interaction with other financial security instruments, the method of collection and management of the fund, the scope and sectors of operators.

While several positive aspects of such an instrument are undeniable (e.g. to cover immediate response measures and to reduce the consequences and thus total cost of remediation measures), the overwhelming response by stakeholders was rather negative due to the potential for moral hazard, conflict with the polluter-pays principle, competition with similar products or schemes and practical reasons such a the feasibility of establishing such a facility at EU level with such an amount. Further, the study concluded that several points would need to be considered in more detail, such as the links of the fund with EU law (e.g. Solidarity Fund, Seveso III Directive, Mining Waste Directive, IED and other directives), similar national funds (e.g. in Finland) or pooling mechanisms (in Spain, France and Italy) and various initiatives for mandatory financial security requirements at MS level. In addition, the design, management and implementation would need to be given careful consideration.

3. Evaluation studies 2013/2014

3.1. 'Study on analysis of integrating the ELD into 11 national legal frameworks' (Legal Analysis Study)

This study built on the previous Implementation Study by complementing the detailed legal analysis for the remaining eleven Member States and thus completing it for 27 Member States. The study however comprised also an extensive general part on the existing national environmental liability legislation, the legislation transposing the ELD into the national legislation and a comparison of the relative stringencies in existing and transposing legislation. All Member State summaries were reviewed for accuracy by legal experts of the 27 Member States participating in the study.

The Legal Analysis Study confirmed once more that the transposition of the ELD into national law of the Member States did not result in a level playing field, but into a patchwork of liability systems for preventing and remedying environmental damage across the EU.

Variations resulted mainly from the transposition of the ELD into a wide range of liability legislation due to the options offered by the ELD itself and due to its 'framework' character, just setting minimum standards, as well as from different interpretations of the standards and requirements of the ELD, thus resulting in different levels of application ranging from zero cases to more than 500 ELD cases in one Member State.

As main factors for the significant variance in the number of cases between Member States, the study revealed the following: register of ELD incidents and notification system; publication of data of ELD incidents by governmental authorities; access for interested parties, including environmental NGOs to submit comments/observations on potential ELD incidents; subsidiary obligation for competent authorities to carry out preventive or remedial action if the liable operator cannot be identified or fails to prevent or remedy the damage; repeal of pre-existing national legislation which would have overlapped and/or hindered the application of the ELD transposing legislation; different levels of knowledge of the ELD by operators (the level of awareness is inevitably lower for SMEs, except perhaps where mandatory financial security had been established); and the state of development of environmental law in individual Member States (competent authorities in MS with well-developed systems tend more to enforce existing environmental legislation in lieu of the ELD transposing legislation than in other MS).

The Legal Analysis Study summarised findings with respect to the harmonisation or fragmentation (MS with an Environmental Code tend to result in the most harmonised environmental legislation, MS with fragmented environmental legislation have the greatest potential for overlaps between existing and transposing legislation), to the holistic or environmental media-specific approach (the ELD is rather environmental media-specific in contrast to many holistic pre-existing national laws), to biodiversity damage (pre-existing laws did not provide for complementary and compensatory environmental remediation of damage, and virtually all imposed primary remediation only when there has been an unlawful act), to compensatory damage (pre-existing legislation in some MS provided for monetary compensation in contrast to the ELD) to liable persons (strict liability under the ELD for activities listed in Annex III, while many MS imposed strict liability on all operators), to the standard of liability (strict standard in most MS, double standard – strict and fault-based – under the ELD).

Other differences between the transposing and the existing national legislation concern the scope of liability, permit and state-of-the-art defences (very rare in existing environmental legislation), other defences and exceptions (also rare in national legislation, only for *de minimimis* contamination), limitation of liability to specified operations or to professional activities (as well rare in national legislation), limitation period (extremely rare for prevention and remediation of environmental damage, not so for bodily injury and property damage).

Further, the study summarised on a complete set of assessed national legal frameworks for 27 Member States the procedural and substantive variations in the transposition of the ELD:

- Differences in administrative and judicial systems: It affects in particular the legal mechanisms for challenging orders to prevent and remedy environmental damage.
- Transposition of the ELD into national law: Where Member States had Environmental Codes, this facilitated the integration of the ELD into the national law; Member States with framework environmental legislation made partly detailed revisions, partly subsidiary legislation to the framework legislation; Member States with separate legislation for land contamination, water management or nature protection used individual different approaches of transposition, ranging from enactment of primary or secondary

legislation, stand-alone instruments to amendments of existing legislation (in a few cases of many legal acts).

- Degrees of complexity of transposing legislation: Some Member States enacted complex and lengthy legislation to transpose the ELD, others made largely a 'copy-out' of the ELD or enacted very short transposing legislation.
- Designation of competent authorities: Some Member States designated only one competent authority at national level, others a few competent authorities, others between 10 and 20 and still others designated a hundred or several hundred competent authorities, which is often the consequence of a federal system or of devolved administration. In particular where there are more competent authorities, such are often divided according to their competencies for nature, water or land.
- Publications of guidance and other documentation: Some Member States have published guidance and other Member States have included some content partly covered in guidance in their transposing legislation itself (e.g. details concerning prevention and remediation of environmental damage, including quantification of such damage), such information is absent in other Member States.
- Some Member States publish actively data on the implementation and enforcement of the transposing legislation, others not.
- Optional provisions in the ELD: The optional provisions in the ELD (for instance regarding the two optional defences and the extension of the scope of biodiversity damage) have resulted in variations in the transposing legislation.
- Provisions in the ELD that provide for the application of national law: Where the ELD provides that MS may apply existing national law, this leads as well to differences as for example as regards the definition of operator, multi-party liability (joint and several vs. shared liability), the scope of enabled NGOs.
- Entitlement for Member States to maintain or adopt more stringent measures: The legal basis of the ELD entitles MS according to Article 193 TFEU, as reiterated in Article 16 ELD to adopt or maintain more stringent provisions which again is a source of substantial differences in liability systems, with narrower or broader regimes applying to environmental damage (e.g. adding of persons with secondary responsibility in some Member States, wider definition of operators, more stringent temporal scope etc.).
- Application of national law concepts: The different national law concepts, for example in relation to the level of proof needed for operators to be liable, the degree of causation that must be shown, or the inclusion of additional persons who are secondary liable, add further to the variation in the legislation transposing the Directive.
- Imprecise language in the ELD: The study lists examples of imprecise language in the Directive with an effect on implementation and enforcement, such as around the concept of defences (defences to costs vs. defences to liability, scope of water damage regarding the use of 'waters' vs. 'water bodies', the duty vs. the entitlement of competent authorities to require operators to carry out preventive and remedial measures etc.).
- Adaptation of the language transposing the ELD: The study found among other things out that several crucial terms of the Directive are not consistently used in the different language versions of the Directive as such. This applies for instance to the term 'significant' which is used in all three definitions of environmental damage and in other instances in the same manner in the English version of the ELD, but often is used in quite

different ways in several other language versions, and even consistently different in some language versions (for example 'grave' in the French version of Directive 2004/35/EC).

- Provisions in national legislation to rectify conflicts in the ELD: The study further indicates that the self-executing provisions of the Directive, i.e. the duty of an operator to discern environmental damage he has caused and to take the necessary preventive and remedial action, may be difficult to implement, in particular with regard imminent threat of damage. A few MS have transposed the ELD to facilitate the enforcement of the ELD, others have not done so.
- Provisions in national legislation to fill gaps in the ELD: Some MS have filled gaps by including specific provisions in the transposing legislation, others have not. This may cover penalties for breaching the transposing legislation, the right of access to third-party land to remedy environmental damage, and the creation of registers or other databases of ELD incidents.

The detailed legal analysis of the existing national legal frameworks and the integration and main features of the transposing legislation in the 27 Member States of the EU who were due to the reporting obligation under Article 18 ELD (all current MS except Croatia), provides a wealth of useful information which will for some time remain a very valuable source for many relevant ELD related questions needing further research. The country-specific chapters follow the same systematic structure consisting of the following titles:

1. Existing national environmental legislation
2. Existing regimes for preventing and remediating environmental damage
3. Integration of the ELD into existing national legislation
4. Effective date of national legislation
5. Competent authority
6. Operators and other liable persons
7. Annex III legislation
8. Standard of liability for non-Annex III activities
9. Exceptions
10. Joint and several or proportionality liability
11. Limitation period
12. Defences
13. Scope of environmental damage
14. Thresholds
15. Standard of remediation
16. Format of determination of environmental damage
17. Powers and duties of competent authority
18. Duties of responsible operators
19. Access to third-party land to comply with the ELD
20. Interested parties
21. Public access to information regarding environmental damage and related measures

22. Charges on land/financial security after environmental damage

23. Offences and sanctions

24. Registers of data bases of incidents

25. Cross border damage in another MS

26. Financial security

27. Establishment of a fund

28. Reports

29. Information to be made public

30. Provisions concerning genetically modified organisms

31. Key features and differences in legislation transposing the ELD and existing legislation

On a more principal level, the most important conclusions to be drawn from the comprehensive Legal Analysis Study appears to be the one on the recurrent general factors contributing to or being responsible for good implementation of the ELD (as mentioned at the beginning of this summary), which are: publicly accessible register of ELD incidents; access for interested parties (NGOs) to submit observations on potential ELD incidents; subsidiary obligation for competent authorities to carry out preventive or remedial action if the liable operator cannot be identified or fails to do so; repeal of overlapping or contradictory pre-existing national legislation; insufficient knowledge of the ELD by operators.

3.2. Study on 'Experience gained in the application of ELD biodiversity damage' (Biodiversity Damage Study)

The Biodiversity Damage Study has been commissioned in view of the ELD evaluation and report. The purpose was to contribute to the assessment necessary on the basis of Article 18(3)(c) ELD ("*The report, referred to in paragraph 2, shall include a review of:… (c) the application of this Directive in relation to protected species and natural habitats*") and on the basis of the Commission ELD report 2010 ("*With regard to the general review of the ELD foreseen for 2013/2014, the evaluation on … the uneven extension of the scope to cover damage to species and natural habitats protected under domestic legislation*").

The objective of the study was to examine the implementation of the ELD in relation to protected species and natural habitats. The study included an assessment of the practical implementation and an analysis of key legal concepts of the ELD in relation to the Habitats Directive, as the latter directive pursues the same objective as the ELD in halting biodiversity loss in the European Union. The study described implementation challenges on the basis of an analysis of ten Member States' environmental liability regimes[166]. The review was based on standardised templates and was complemented by targeted interviews. The study in its second part was dedicated to the development of a European Biodiversity Register for the ELD, providing an overview of the relevant information sources at EU-level as well as on national level for all Member States, thus helping to establish the necessary information input in particular for risk analysis, the establishment of the baseline condition for biodiversity damage and an environmental damage assessment. This second part was however not directly linked with the evaluation purpose.

[166] Bulgaria, Denmark, Estonia, France, Germany, Italy, Poland, Slovenia, Spain and the United Kingdom.

The study identified the following main issues deserving a closer look in the evaluation and requiring possible measures to improve the implementation: Different Member States apply a different interpretation of 'significant biodiversity damage', some understand the concept rather as severe damage (if not as catastrophic events), while others consider significant any biodiversity damage beyond negative variations in accordance with Annex I of the ELD. The different interpretation of 'significant' is expressed in quite different numbers of notified biodiversity damage incidents under the ELD and has, according to the study, in addition led to a lack of harmonisation or coordination with the Habitats Directive, in particular with its Article 6(2). The shortcoming coordination between both directives would be further aggravated by a widely lacking procedural coordination in the application of both directives, which are otherwise meant to complement each other. In order to achieve the common objective of conservation of the protected European nature, clarification of 'significant' biodiversity damage pursuant to Article 2(1)(a) ELD and better alignment in the interpretation and application between Article 2(1)(a), (3) and (4) of the ELD with Article 6(2) Habitats Directive would be necessary.

Another potential major problem revealed by the Biodiversity Damage Study is the apparent uncertainty in some Member States about the correct interpretation of the concept of preventive measures in conjunction with the significance threshold requirement. The main question is whether measures taken to prevent damage to become significant damage are triggering the ELD application or not. In this context also the difference between preventive action and emergency remedial action would require further clarification. From the examination of the implementation of the ELD biodiversity damage resulted also the finding of the study that the concept of favourable conservation status (of species and natural habitats) is posing potential problems where it is related to the assessment at the level of the European territory or the territory of a Member State or the natural range of a species or natural habitat, instead of relating it to the site which has been subject to the damage.

The study indicates also to further potential issues where the implementation of the ELD biodiversity damage is distorted or hindered and where measures are indicated to intervene in the interest of an implementation pursuant to the goals of the Directive, such as the following: contemplating an extension of strict liability concerning occupational activities for biodiversity damage beyond the activities listed in Annex III ELD; clarification of the establishment of the causal link; establishment of monitoring obligations for operators or competent authorities to enable them to have access to the information required for the notification obligations; necessity to further assess the need for mandatory or voluntary financial security systems; need to promote exchange of good practices and raising awareness about the tools for the implementation of the ELD.

3.3. 'Study on ELD Effectiveness: Scope and Exceptions' (ELD Effectiveness Study)

This study represents the core research on the way of the ELD evaluation. It covers six main chapters: Analysis of the scope of strict liability, analysis of the scope of environmental damage, analysis of appropriateness of significance thresholds for land and water damage, analysis of the application of the permit and state-of-the-art defences, analysis of the application of the international conventions and instruments listed in Annexes IV and V of the ELD, and analysis of the possible incorporation of other international instruments into Annexes IV or V.

The study points out at its beginning that it "*focuses on the simplification, streamlining and harmonisation of the complexities of the ELD, taking into account the mandatory criteria for Commission evaluations (relevance, effectiveness, efficiency, EU-added value, and*

coherence). Based on the analysis, the study suggests options that the European Commission may wish to consider as a priority in a possible future revision of the ELD."

The study is based on a legal analysis of the ELD as well as on an empirical analysis of its implementation. The legal analysis comprised the ELD itself, other related EU legislation, ELD transposing legislation as well as existing national legislation in the Member States, international conventions and relevant environmental law of non-EU States, taking account of the relevant literature. The empirical part is based on a literature review, an expert/stakeholder consultation and includes also case overviews of the six major issues mentioned above. It takes particular account of the previous Implementation Study and of the Legal Analysis Study results, as well as of the ELD training material and of the ELD stakeholder conference.

Analysis of the scope of strict liability: The study pointed out that an extension of strict liability for all activities would further the objective of reducing the loss of biodiversity in the EU in the case of biodiversity damage and could make the ELD more effective also in case of water and land damage as it would promote the polluter-pays principle. Alternatively, the study suggested considering the extension of Annex III to include additional activities on the basis of the experience gained in the application with the Directive. This would concern in the first place an extension by pipeline transport of dangerous substances resulting from the dissatisfying experience with the oil spill from a pipeline in *Coussouls de Crau*, France, in 2009 into a Natura 2000 site. In the second place, the study mentioned also to add mining activities to Annex III due to the *Talvivaara* mine accident in Finland in 2012, and possibly also activities concerning invasive alien species due to their contribution to halting the loss of biodiversity in the EU. It did not recommend extension by shale gas activities due to the Commission Recommendation that "*Member States should apply the provisions on environmental liability to all activities taking place at an installation site including those that currently do not fall under the scope of the ELD*[167]." The latter activity would however be covered by the existing ELD under Annex III.7.(a) anyway.

Analysis of the scope of environmental damage: The study finds that unlike in most Member States' legislation where there is no differentiation between damage to water, land and biodiversity but a single liability system for the prevention and remediation of the risk of, or actual, damage to human health and the environment, the ELD divides environmental damage into the three categories of land, water and biodiversity damage. According to the study, the categorisation of environmental liability in the ELD has led to a complex liability system which could be simplified and streamlined in order to make the ELD more effective. As a consequence, an integrated environmental damage scope could cover in particular damage to air. Although air cannot be remediated in the same way as land or water by removing pollutants, measures could be carried out to prevent harm to human health from airborne pollutants. The study concludes however that including fauna and flora which is not yet protected by legislation as well as an extension for landscapes, seascapes, cultural buildings and ancient monuments would cause problems in determining significance thresholds.

Analysis of the appropriateness of the significance thresholds for land and water damage: The study made several suggestions for the consideration of the Commission to reconsider the significance threshold of environmental damage. The most important and general is based on the appraisal that the lengthy assessments to determine significance render the application in particular of preventive action in case of imminent threat of damage problematic (it is less problematic for actual damage, as the determination of significant actual damage applies to long-term measures). The study advocates therefore for lower significance thresholds in case

[167] Cf. supra footnote 96.

of imminent threat of damage because – as practical experience has shown – it is often impossible to know immediately or within short time for the operator or the competent authority whether the possible damage may be significant. Other points raised by the study concern the lacking specification of the degree of harm to human health that exceeds the threshold for land damage; the relationship between land damage and groundwater damage (the latter damage category falls under water damage of the ELD but is in all existing national legislation covered by land damage); raising the remediation standard for land to a comparable standard with water and biodiversity; the appropriateness of the key role played by water management plans in the determination of water status and thus in the determination of water damage; the unclarity regarding the basic entity for the determination of water damage (is it based on 'waters' as indicated in the ELD or on 'water bodies' as indicated by the referred Water Framework Directive?).

Analysis of the application of the permit and the state-of-the-art defences: The study analysed whether a level playing field is necessary because 15 Member States incorporated the two optional defences in their legislation (so that they can be invoked by operators who then can exonerate themselves of their liability to costs) and the other half of Member States have either no defence incorporated or, in a few cases, allow one of the two optional defences or include them as mitigating factors in the assessment. According to the Member States reports the permit defence has been used only once and no report mentioned the application of the state-of-the-art defence. The study contemplated more general that making both defences mandatory or turning them into exceptions would lower the high level of protection of the environment according to Article 191(2) TFEU (and could be always strengthened by using the environmental protection clause in Article 193 TFEU). The opposite option to delete both defences would accord with Article 191(2) TFEU and would be also effective from the law and economics approach. The study refers also to a particular criticism against retaining the defences which is that these defences would favour large companies and disfavour SMEs, hence the study suggests that the Commission may wish to consider as a priority in a possible future revision of the ELD the deletion of the permit and state-of-the-art defences.

Analysis of the application of the international conventions and instruments listed in Annexes IV and V of the ELD: Apart from a possible need for clarification if the marine and nuclear conventions listed in Annexes IV and V ELD are entirely excluding the application of the Directive or only to the extent that environmental damage is not covered by the convention, the study lists several reasons why deletion of the exclusions should be considered (compensation regime vs. environmental remediation, no complementary and compensatory remediation, limitation of liability under the conventions etc.). The study points however also to the polarised opinions in this field and to the complex issues surrounding the relationship between the IMO Conventions and the ELD. It concludes that any potential revisions to their exclusion from the ELD should be carefully considered and only be made if the reasons for deleting them override the reasons for retaining the conventions. Furthermore, the study recommends to the Commission to consider in a future possible revision of the ELD deleting Article 4(3) concerning the limitation of liability for the LLMC and CLNI Conventions, as it argues that these conventions cover only claims for bodily injury, property damage and economic loss, but not environmental damage.

Analysis of the possible incorporation of other international instruments into Annex IV or V: The study considered the following three international instruments to be possibly included as exceptions in Annexes IV or V of the ELD, but dismissed this possibility because of various reasons, i.e. their different scope, their non-binding nature and the fact that two of them are not in force: the Offshore Protocol to the Barcelona Convention for the Protection of the Marine Environment and Coastal Region of the Mediterranean; the Protocol on Civil Liability

and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters; the Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety.

ANNEX 3: MEMBER STATES REPORTS

Austria

The ELD was transposed in Austria by both, the Federal Environmental Liability Act and the environmental liability acts of the provinces. In line with Article 12(5) of the ELD, Austria opted not to allow the conduct of environmental complaints in the case of an imminent threat of environmental damage.

Austria has not experienced any instances of environmental damage or of an immediate threat of such damage in respect of which preventive or remedial measures were taken in accordance with the provisions of the ELD. However, several environmental complaints were submitted by qualified entities. In the province of Lower Austria, two of these environmental complaints were initiated by approved environmental organisations, but no decision by an authority within the meaning of Article 12(4) of the ELD has yet been taken. Hence, it is not possible to determine whether or not these complaints have been successful. The alleged environmental damage was to protected species and natural habitats, as well as to water. In the first case, the damage was caused by an operator engaging in occupational activities not listed in Annex III of the ELD, whereas in the second case, the activity fell within the scope of Annex III(7) of the ELD. Two more environmental complaints were lodged in the province of Styria concerning water damage and damage to protected species and natural habitats. While one case has been dismissed by the relevant authority due to the lack of any environmental damage, the other case is still pending. In both cases, the damage was caused by an operators involved in water abstraction and impoundment of water.

With regard to financial security, Austria reported that the Austrian Association of Insurance Companies has created a non-binding recommendation, which includes specimen conditions for environmental remedial costs insurance in Austria. Thus, operators have the possibility to be insured against risks of environmental damage covered by the ELD. Operators can also cover compensatory remediation but this is limited to a percentage of the costs of primary and supplementary remediation.

To increase the overall effectiveness of the ELD, the Federal Ministry for Agriculture and Forestry, the Environment and Water management promoted information and links to the Federal Government’s legal information system and implementation acts on its website. In addition, it provided all relevant authorities with practical information through seminars, practical guides and educational events. Austria strongly opposed the adoption of the Directive, as it disapproved the fact that the nuclear sector of the energy industry should be excluded from liability under the ELD, while other forms of energy protection were included. In the light of this, Austria urges the Commission to take Austria’s concerns into account during the review under Article 18 of the ELD.

Belgium

Federal government report

The federal government of Belgium reported no cases of environmental damage which fall under the ELD. However, there were a number of cases of environmental damage falling under the federal Law transposing the ELD concerning the protection of the marine

environment. While no proceedings have been instituted by liable parties, two legal actions initiated by the federal State are currently ongoing.

The federal government amended its Law of 31 December 1963 on civil protection to bring the civil security services' activities within the scope of the ELD. These services act only in emergencies and take the necessary measures to prevent further environmental damage. Remedial measures are outside of the scope of the civil security services. Since the transposition of the ELD, four major operations involving the civil protection service in relation to an imminent threat of environmental damage have occurred. They included two train crashes, one crashed aircraft and oil pollution by a vessel. Due to the effective preventive action of the Civil Protection Service, the cases did not result in damage within the scope of the ELD. Legal proceedings in respect of liability and damage compensation were initiated in the case of oil pollution and in one of the train crashes but both are still pending.

Brussels Region

The Brussels region reported no confirmed environmental damage cases in the sense of the Directive. It faced a 'cross-region' incident concerning a waste water treatment plant, which has caused water damage. The company stopped its water treatment and the water quality immediately raised after the incident to normal standards, preventing any real damage. Therefore, no remedial action was necessary. While proceedings were started, the outcome is not known yet.

Flemish Region

The Flemish region reported one instance of environmental damage covered by the provisions of the ELD. The type of environmental damage was water damage, as a serious oxygen deficit resulted in the death of fish. As the source of pollution was in Wallonia, the Department of the Environment, Nature and Energy of the Flemish Government could not identify the perpetrator and consequently, it could not enforce special measures. However, the pollution has stopped and there was no immediate need to take additional remedial measures, as the concentration of oxygen has returned to normal levels. Efforts to find the perpetrator are being made through the appropriate criminal law channels.

Walloon Region

The Walloon region identified no cases of confirmed environmental damage under the ELD since the entry into force of the Directive's transposing legislation. Nevertheless, environmental damage has occurred within the scope of the Habitats and Birds Directives and Wallonia's soil pollution legislation, which has a lower intervention threshold than the ELD. Currently, one case of environmental damage is being investigated in cooperation with the authorities in Flanders to identify the liable operator (this is the same case mentioned above, the Flemish '*Bovenschelde*' case).

Wallonia conducted several stakeholder meetings and training sessions for competent authorities. It identified two beneficial effects of the ELD. Firstly, after a risk analysis, most operators will progressively modify their industrial process and their internal procedures to avoid incidents. Secondly, when prevention has failed, the ELD provides for remediation to a standard that has not existed previously. Wallonia highlighted the problem that there are no mechanisms in place to remedy damage on a scale such that neither an operator nor an insurance company could bear the scope of remediation necessary. A further difficulty was to

determine whether an incident of environmental damage has reached ELD thresholds. Wallonia expects this level of uncertainty to decrease with the experience gathered.

Bulgaria

Bulgaria has adopted and implemented three legislations to transpose the ELD, which are the Prevention and Remediation of Environmental Damage Act (PREDA), Regulation No 1 of 2008 on types of preventive and remedial measures under PREDA and the minimum cost of such measures, and the Regulation concerning the public register of operators who carry out the activities referred to in Annex 1 to Article 3(1) of PREDA adopted in 2008. Over the years, Bulgaria has also amended several of its existing laws and continuously informed the European Commission on the implementation of the Directive.

Bulgaria has found no instances of environmental damage within the meaning of the ELD for the reporting period. However, it reported four instances of imminent threat, which fell under the Directive. Of these, four imminent threats of environmental damage concerned waters, three concerned soil, and two related to protected species and natural habitats. The identified liable legal entity was the chemical industry and one incident resulted in resort to judicial review proceedings. In the latter incident, measures are yet to be implemented, whereas preventive measures were taken in the other three cases and the source of imminent threat was eliminated.

To encourage the use of financial security instruments in the field of the ELD, Bulgaria's competent authorities have provided clarifications on an on-going basis to operators whose activities are within the scope of the national legislation transposing the Directive. Bulgaria reports 14 insurance policies that were taken out during the period by operators in the field, which represents an increase in operators' interest in such insurance policies. Bulgaria created a register of operators falling within the scope of the ELD and it has promoted and practiced the exchange of relevant information and access to information. Its competent authorities meet on an annual basis to increase the awareness of practical experience gained.

Bulgaria concludes that its practical experience with the ELD is limited but that interested parties have shown an increased awareness of the legislation. Operators have been active in the provision of methodological assistance concerning the timely implementation of the provisions, including the use of financial security instruments. Therefore, the Directive has been properly applied through national legislation.

Cyprus

Cyprus reports that there have been no severe accidents falling within the remit of the ELD. This is largely due to the small size of the island, the small size of the companies, and the dominance of the service sector and of activities, which by nature are unlikely to result in major large-scale environmental accidents. However, Cyprus mentions two instances, which showed the need to enact the law. The first instance concerned environmental damage to protected species and habitats, as well as potential (coastal) water damage. The damage was caused by the installation of drainage pipes discharging into the sea. Upon discovery, the Department of Environment and the district administration ordered the responsible company to implement remediation measures and the coastal area was restored. The second instance was a forest fire causing significant environmental damage to protected species and habitats. However, as the fire took place before the entry into force of the ELD legislation, the latter was not applicable and in addition, liability for the damage could not be established. As a

remediation measure, the Forestry Department proceeded with the reforestation of the destroyed forest area. No incident has resulted in resort to judicial review proceedings so far.

Regarding financial security mechanisms, the national law of Cyprus allows for non-compulsory insurance or other financial security. While consultations have been carried out with the financial security sector in the context of transposing the ELD, no market has been created for such financial products, as the market is too small for such policies and they would be too costly in the light of the current economic crises. Cyprus argues that its SMEs are sufficiently dealt with through the permits issued under existing environmental legislation and bank guarantees. As only one company offers insurance packages for environmental damage so far, there is no competition in the insurance market and operator needs are not sufficiently covered. Hence, many liabilities remain uninsurable and most large companies are not insured for cases of large scale incidents of environmental damage. Cyprus concludes that the voluntary financial security has not been successful to date and that there is no interest in insurance packages for environmental liability. Depending on the size and nature of activities, damage may effectively be addressed through other legislation or, in cases of serious damage resort to court remains an option under criminal law.

Cyprus has not established criteria or thresholds for assessing the significance of damage, as it allows significance to be determined on a case-by-case basis, depending on the type of incidence, the magnitude and the affected environment. It defines significant damage to include the large scale destruction of forests by fires, destruction of the Natura 2000 habitats and protected species, pollution that could affect the good status of water bodies and bathing waters, and large-scale interventions on the coastline.

Cyprus considers the ELD as beneficial, as it increases the options available for addressing environmental damage and may in some cases encourage operators to apply precautionary measures or conduct voluntary remediation. Due to its limited availability of cases, Cyprus finds it difficult to address the possible challenges of the ELD's implementation. It foresees, however, that the main problems will be difficulties in establishing causality between environmental damage and the liable operators or in cases of gradual and diffuse pollution the determination of the actual time period when the damage occurred. Furthermore, Cyprus notes that despite efforts so far, awareness of main stakeholder groups and competent authorities remains relatively low. It suggests guidelines and training sessions at EU level regarding the evaluation of environmental damage and its significance, and it encourages the exchange of experience with other Member States with regard to thresholds and particular methodologies, as well as the promotion of insurance products.

Czech Republic

The Czech Republic transposed the ELD into the Act No. 167/2008 Coll. on prevention and remedying environmental damage, the so called "Environmental Liability Act" (EIA). The EIA defines the basic terms and mandates what is considered as damage to the environment. It provides for mandatory financial security and environmental damage risk assessment for operators to be implemented from January 2013 onwards. The environmental damage risk assessment for operators of the occupational activities and the financial security provisions have been implemented in detail into the Government Order No. 295/2011 Coll. of 14 September 2011. The requirements of the assessment were specified in the methodical guidelines published by the Ministry of Environment of the Czech Republic.

Furthermore, the Czech Republic established that if the assessment demonstrates that the potential environmental damage exceeds CZK 20 million, the respective operator would have the obligation to establish adequate financial security.

The Czech Republic has found no instances of environmental damage falling under the scope of the Directive after its transposition into Czech law.

Denmark

Denmark has not reported any instance of environmental damage covered by the ELD's provisions.

Estonia

Estonia transposed the Directive through the Environmental Liability Act, which came into force on December 16th 2007. Since then, initial application practice has been developed and cases have arisen due to the detection of damage or the threat of damage to the environment. The Environmental Board as competent authority has initiated 16 proceedings concerning the detection of environmental damage or the threat thereof on the basis of the Environmental Liability Act. Four cases were recorded between 2010 and 2013 incurring environmental liability under the ELD, of which environmental damage was identified in two cases and a threat of environmental damage in two others. The activities causing the damage in the cases were for the most part listed in Annex III, including manufacture, use and storage of both water and hazardous substances, preparations and related substances but there were also cases which were not covered by the list in Annex III and cases in which the derogations provided for in the ELD applied. The damage or threat of damage concerned the soil, groundwater and protected species and habitats.

In accordance with the Environmental Liability Act, the Environmental Board has created a functional procedural system for dealing with environmental damage, which assesses risks annually in cooperation with the other relevant authorities. Both external experts and the environmental Board's own experts are encouraged to assist on assessing and establishing the existence of damage and cooperation with other relevant authorities, such as the Ministry of the Environment, the Environment Inspectorate and the Health Board is developed. The Environmental Board's homepage provides information on environmental damage and the threat of damage by means of a register of environmental liability cases. Estonia plans to further develop and merge the register of environmental liability cases with the environmental information system currently in use to improve monitoring data and other important information and activities. Furthermore, Estonia has organized several information days for different target groups to raise awareness among operators and the general public concerning environmental liability and it plans to continue to do so in the future.

Estonia has a system of optional financial guarantees in operation, which is why issues regarding economic measures are not regulated in the Environmental Liability Act. Currently, insurers, while offering a variety of insurance products do not provide liability insurance to compensate for damage caused to the environment, as current practice is still insufficient and does not allow for relevant insurance products to be developed. Estonia argues that relevant practice is needed, which would allow the costs of the damage prevention and remediation to be predicted with an accuracy that enables insurers to determine the details of their service on that basis.

With regard to permit protection, Estonia, by virtue of its discretionary power provided for in the ELD, has decided to use national conservation measures relating to permits and the level of science/technology. Despite this exemption, the responsible legal entity causing the damage is not released from bearing the costs of measures to prevent the damage, the obligation to provide information and the obligation to co-operate.

Estonia concludes that despite the small number of cases, the ELD and the Environmental Liability Act can be regarded as effective. As difficulties in implementing the ELD Estonia identified undefined legal terms, such as 'substantial damage', as well as the definition of 'baseline situation' and 'natural recovery'. Finally, it encourages cooperation between competent authorities and businesses as to avert environmental damage to occur.

Finland

Finland commissioned a report from the Finnish Environment Institute in 2012 concerning environmental accidents and damage to nature in Finland to comply with the reporting requirement of the ELD. The Finnish Environment Institute gathered information on the implementation of the ELD from relevant authorities, its environmental accident helpline and several other data systems. Based on the report, the Ministry of Environment identified two primary incidents of environmental damage between 2006 and 2013 invoking the ELD. The type of environmental damage included damage to protected species and natural habitats and water damage. The activity causing the damage has been classified as mining operations and metal industry. Resort to judicial review proceedings occurred in one case, requiring that remedial measures under the ELD be imposed on the operator due to the emissions it had caused contrary to the environmental permit requirements. However, remedial measures have not been started in either case.

Finland could not estimate the costs incurred with remediation and prevention measures because of to the small number of incidents and incompleteness of remedial measures. Due to the Act on Environmental Damage Insurance from 1998, it is already mandatory for private bodies whose operations entail a significant risk of environmental damage or whose operations generally cause harm to the environment to be ensured against the risk of legally defined environmental damage. However, this insurance only covers part of the damage falling within the scope of the ELD. The Ministry of Environment has created a report on the development of the mandatory environmental liability insurance scheme in 2011.

France

France transposed the ELD provisions in 2008 and 2009. In addition, following the serious accident caused by a break in a liquid hydrocarbon pipeline in 2009, the French authorities decided to go beyond the ELD's obligations by expanding the strict liability scheme to the transportation of natural gas pipelines, liquid or liquefied hydrocarbons or chemical products.

France did not report any environmental damage cases falling under the provisions of the ELD since its transposition. France explains this absence of cases by pointing to the efficiency of pre-existing national systems and its qualitative and quantitative inspection activities (24,000 in 2012). These have resulted in the issuance of 2600 warnings, 400 administrative sanctions and the drafting of 1040 infringements statements in 2012.

These monitoring efforts are conducted jointly by the Ministry of Ecology, Sustainable Development and Energy, the National Office for water and aquatic environments and the National Office for Hunting and Wildlife. They are supported by the national police, who

find nearly 25% of the registered criminal offenses. To improve coordination between the activities of different control officers, France developed the OPAL Convergence tool, which, through improved data collection significantly enhanced the management and efficiency of the control plans.

The French authorities have carried out various actions to promote the awareness of the Directive and its mechanisms. Several documents and summaries were produced by the relevant Ministry to inform operators and a guide has been drafted jointly by the relevant departments of the government as well as by civil society, scientific experts, lawyers and environmental protection associations to raise awareness of all administrative services and the public concerned. To allow for the easiest possible application of the provisions of the Directive on compensation for environmental damage, the French authorities developed a tool on equivalence methods. The software, developed by the University of Montpellier in collaboration with the Functional and Evolutionary Ecology Centre is available for free and allows relevant players to calculate the damage and benefits of restoration in cases of environmental damage.

Major operators are well informed of liability regimes to which they are subject and they integrate environmental responsibility into their risk management strategy, including through specific insurance contracts. Due to the framework for environmental liability insurance (CARE) developed by the co-reinsurance pool Assurpol and the presence of other reinsurance companies, the availability of insurance schemes continues to grow in France. Since 2005, more and more companies offer specific contracts covering the environmental responsibility and this competitive environment has contributed to lower premiums, thereby facilitating the incentive for small and medium enterprises to acquire environmental insurance.

France concludes that the absence of cases falling under the ELD does not imply inadequate or incomplete implementation of the Directive. On the contrary, it argues that the small number of cases only shows the preventive effect of the Directive.

Germany

Germany reports a total of 60 cases falling under the ELD's provisions. Most cases involved environmental damage to water (42), following by damage to protected species and natural habitats (27) and to land (10).[168] Germany did not use a classification system for the liable activities nor categorize them according to Annex III ELD. Instead it described the activities responsible for the environmental damages or threats. The analysis of the liable activities as outlined by Germany shows that most instances (18) were caused by biogas installations; around 14 cases were connected with some kind of manufacture, use or storage of dangerous substances; a lower number concerned the transportation of dangerous or polluting goods and discharges of pollutants into waters. For 33 cases, Germany provided information on the duration of remediation measures. The average duration of remediation action would be around 5.5 months with the shortest case lasting a few days. In 39 cases, remedial action was completed, whereas in 22 cases it was not yet completed at the time of reporting.

Greece

The ELD was transposed into Greek law by means of Presidential Decree 148/2009, which was amended and supplemented with other legislations to cover issues concerning the

[168] The numbers exceed the total of 60 cases because incidents that concerned more than one category of damage are calculated for all respective categories. For example, 6 cases involved damage to soil and water, and 14 cases concerned damage to water and biodiversity.

administrative organisation and implementation of financial guarantees. The appointed competent agency for the implementation of environmental liability at the central level is the Independent Coordination Office for the Implementation of Environmental Liability (ICOIEL), supported by the Committee for the Implementation of Environmental Liability and several other agencies. At the regional level, relevant entities are the Decentralised Administrations and the Regional Committees for the Implementation of Environmental Liability.

Greek law requires mandatory financial security for the operators involved in activities listed in Annex III of the Presidential Decree 148/2009. A joint Ministerial Decision will determine the type and amount of the financial guarantee, depending inter alia on the type of activity, the severity of possible contamination and the degree of risk of occurrence of environmental damage. A draft of the Decision foresees that the activities listed in Annex III are to be covered by a compulsory insurance scheme based on three main categories of risk in proportion to the classification of activities. A part of those activities remains covered by a system of compulsory financial guarantee established before the enactment of the Presidential Decree.

Greece reported 52 cases that were handled according to the requirements of the ELD. Of these, nine cases are closed, meaning that preventive and remedial measures have been completed. The type of environmental damage most recorded is soil damage (41%) followed by an imminent threat of damage to water (25%), an imminent threat of damage to soil (15%), actual water damage (11%) and damage to natural habitats and protected species (8%). The damage or threat was mostly caused by the activities of the manufacturing sector (32), particularly by industries producing basic metals and industries manufacturing metal products (19), and waste management (9). Only one case involved the Greek judicial authorities where the operator appealed against a decision by the Secretary-General of the Decentralised Administration ordering the implementation of remedial measures. This case is still pending.

Greece finds that the implementation of the ELD positively affects both the administration and the operators towards taking appropriate preventive measures and addressing the damage caused to the environment. At the same time, it identified several challenges. Accordingly, operators sometimes fail to take preventive measures and do not comply with the administrative decisions. Administrative procedures for the determination of preventive and remedial measures are often limited due to a lack of funds at the regional level, the staffing of the competent authorities, and a lack of information in cases where the operator cannot be identified. Greece further highlights its lack of a legislative framework for soil and an inadequate application of the waste management and disposal procedures. To overcome these difficulties, Greece plans inter alia to issue a Ministerial Decision concerning the way in which the stakeholders will be informed about the implementation of the ELD, to mobilize its authorities to take and implement horizontal measures in high environmental risk management areas of particular national importance, to draft and prepare supporting base studies, to create an integrated database, to organise workshops and trainings to inform the competent authorities, and to cooperate with the Green Fund for the financing of activities towards accomplishing the objectives of the ELD in cases where the operator cannot be identified.

Hungary

To comply with the ELD, Hungary primarily amended its laws in force and drew up two new government decrees. As the majority of regulations in effect at the time already covered and in some cases exceeded the provisions of the Directive, most regulations only had to be supplemented. In availing itself of the freedom granted to MS in transposing the ELD, Hungary did not transpose Annex III, as this would have limited the scope of applicability of the liability system set forth by the Directive, whereas the intention of the legislator was the opposite.

Hungary reported a total of 573 cases involving the provisions of the ELD. 563 cases were confirmed environmental damage cases and it is estimated that around ten of these are pending cases. Most environmental damage or imminent threat of harm to the environment concerned water (244) followed by land (243), and protected species and natural habitats (124). In around 150 cases, Hungary could not classify the activity causing the damage due to the fact that the perpetrator was unknown or a private individual.

Hungary has drafted statutory provisions that include the obligation to sign an environmental protection insurance contract under conditions specified in other legislation. This government decree is still under preparation and negotiations to apply the legislation are ongoing. Hungary pointed to the difficulty that the financial sector refrains from introducing such new types of solution. This is also due to the EU rules on neutrality in market competition, which limit financial banking and insurance methods and institutional instruments. Nevertheless, the Hungarian Ministry of Environmental Protection endeavours to draw up such solutions and include them in Hungarian law.

Ireland

The ELD was transposed in Ireland by way of the European Communities Environmental Liabilities Regulations 2008. There have been no confirmed cases in Ireland under the ELD but four submissions are on-going and continue to be assessed by the Environmental Protection Agency (EPA), which is the competent authority in Ireland with regard to the ELD. The majority of submissions assessed included damage to protected species and natural habitats, water damage and imminent threats. The damages or threats were caused by turf cutting, road construction and waste collection, treatment and disposal activities, as well as materials recovery. Some of these cases have been notified to the EPA by way of submissions from interested parties. None of these submissions involved remedial action under the scope of the ELD. Other cases were screened but not subsequently determined as ELD cases and they have been dealt with under other appropriate national legislation.

Ireland opted not to make financial security mandatory when transposing the ELD and it opposes the imposition of a general mandatory levy on industry to cover environmental damage. It regulates risks to the environment through strict licensing and enforcement systems, and existing legislation on Integrated Pollution and Prevention Control and Waste includes financial provision requirements as part of license conditions. The EPA negotiates financial security agreements with individual IPPC and waste licensees, which can include insurance, parental company guarantees, and bonds/bank guarantees. Furthermore, the EPA has reviewed and revised its Guidance on Environmental Liability Risk Assessment, Residual Management Plans and Financial Provision which was published in July 2015.

In assessing the application of the Directive in relation to protected species and natural habitats, Ireland points to the uncertainty when applying the criteria to determine whether damage has had significant adverse effects on reaching or maintaining favourable conservation status. Another identified weakness was the difficulty to establish whether

particular instances of damage to the environment fall within the scope of the ELD. Ireland concluded that the ELD's strength is that it provides additional mechanisms, which could be used in particular cases of environmental damage to supplement other EU and national legislation to achieve the objectives of preventing and remediating environmental damage and apply the polluter pays principle. The ELD is particularly effective where a potential or imminent threat has been identified.

Italy

Italy transposed the ELD in 2006 by means the Legislative Decree No 152/2006 known as the Environmental Code. This framework governing environmental damage is more extensive than the EU framework. This is firstly because national law covers a broader range of natural resources protected by environmental damage prevention and remediation rules than provided for in the ELD in Article 2(7). Secondly, the concept of occupational activity is more detailed and comprehensive than that of the ELD, providing inter alia for a definition of operator. Furthermore, Italian provisions, as they address the cases of compensation for damage not attributable to operators, introduce a generic liability, which is not limited to operators alone but applies to anyone and fault based. Thirdly, Italian law defines environmental damage broader, thereby applying the polluter-pays principle to types of damage not covered by the definitions of the Directive. Fourthly, Italian national law has introduced provisions for compensation for environmental damage, which supplement those of the ELD. These complete the scope of the fault-based and negligence-based liability regime created by the Directive by extending the scope beyond instances of 'damage to protected species and natural habitats'. In sum, Italian law on environmental liability allows the Ministry to apply the polluter-pays principle to anyone causing significant and measureable, direct or indirect impairment of any natural resource or of its potential for use. Entitled third parties may also request the competent authorities (MEPLS) to take action.

MEPLS were informed on an average of about 800 potential instances of environmental damage per year between 2007 and 2012, leading to approximately 4900 cases in total. Of these, about half were subjected to technical assessments, leading to 15% of cases with an identified imminent threat of damage or actual environmental damage. The precise number of the remaining instances of damage cannot be estimated, as they are currently undergoing further technical verifications. Consequently, Italy found a total of 17 cases, which, according to the criteria of the report can be considered confirmed damage cases where the Ministry has identified an instance of environmental damage requiring remediation. Of these, 12 cases occurred due to the same activity, namely waste management operations or other activities included in Annex III of the ELD, resulting in damage to several natural resources and in five cases only one natural resource was damaged. None of the cases involved resort to judicial review. In most cases, the remediation process has been launched.

Italy criticised the narrow definition of environmental damage in the Directive, which prevents the application of the polluter-pays principle to most instances where under the previous national framework the MEPLS have been able to take appropriate action to remedy environmental damage. Italy's efforts to change this are reflected in its broader national framework for environmental damage. In evaluating the pros and cons of the technical requirements laid down in the ELD, Italy acknowledges the value of equivalence approaches from a theoretical point of view but it points to the limitation of the requirement, as they need training in their understanding and use, as well as the input of large amounts of data, which are often expensive to gather. For these reasons, Italy introduced in its national law the use of

other methods than the equivalence methods for a borderline case, particularly when recovery is too costly.

Regarding the application of remedial measures, Italy highlighted several institutional and financial obstacles. To boost financial feasibility of damage remediation measures, Italy introduced an additional mechanism in the form of a fund, which is dedicated for specific environmental actions serving complementary or compensatory remediation measures. It can be concluded that Italy has made considerable effort to implement the ELD and its report shows that overall limitations to implementation are mainly due to the specific characteristics and challenges of the ELD. To improve the latter's application, Italy considers setting up a National Register of environmental liability and damage cases, drawing up Guidelines aimed at supporting technical assessments, and analysing financial guarantee tools to facilitate the application of environmental damage remediation.

Latvia

Latvia's report listed 16 instances of environmental damage and liability under the ELD. Of these, seven concerned environmental damage caused to protected species and natural habitats, four related to water damage and five to land damage. Only one incident resulted in resort to judicial review proceedings. While the competent court dismissed the identified legal person's claim contesting the authority's decision, the natural monument could not be restored and losses were calculated at LVL 39 600. Latvia made no further comments on financial security or other issues related to the ELD.

Lithuania

Lithuania reported four confirmed cases of environmental damage within the scope of the ELD. All cases involved damage to land and in the majority of cases the damage was caused by activities listed in Annex III(7) (manufacture, use, storage, processing, filling, release into the environment and onsite transport of dangerous substances). No judicial review proceedings either by liable parties or qualified entities were initiated. In only one case, remedial actions have been completed, whereas in the other three cases, they are still pending.

Luxembourg

In Luxembourg, no cases of environmental damage invoking the ELD have been reported.

Malta

The ELD was transposed into national legislation by virtue of the Prevention and Remedying of Environmental Damage Regulations, which entered into force in 2008 under two acts: the Development Planning Act 1992 and the Environment Protection Act 2001. These two acts have been conflated into one, the Environment and Development Planning Act.

The responsible agency for the ELD is the Malta Environment and Planning Authority (MEPA). A number of cases within the context of the ELD have been identified. While there has been no fully fledged case, certain cases invoked parts of the Directive. Two cases specifically used specific provisions of the Directive. The first case concerned pollution from five batching plants due to the discharge of concrete by-product in a particular protected area. Upon discovery, the MEPA took the necessary remedial measures in the absence of any steps taken by the operators. MEPA filed a judicial protest against the five plants to recover the expenses incurred in the operation and bring the valley back to its pristine condition.

Proceedings are still ongoing in the First Hall of the Civil Court. As outcome of remediation process, the pollutant was removed and the affected area was left to regenerate through natural processes. In the second case, the damage to a site forming part of the Natura 2000 Network was damaged due to the laying of alien material for film production. No judicial review procedures were initiated and all alien material was manually removed. A scientific assessment concluded that no damage was inflicted on the affected area. Hence, the ELD mechanism was initiated due to possibility of an imminent potential threat. Malta provided no information on its financial security mechanisms or other issues related to the ELD.

Netherlands

The ELD provisions are transposed in the Netherlands through the Dutch Environmental Management Act. The Netherlands set up a point for reporting environmental damage in 2008, the competent authorities are consequently required to report cases of environmental damage as soon as the data are available. Authorities report to the Centre for Information on the Environment, which has a helpdesk to assist in matters concerning the functioning of environmental regulations, including regulations on environmental liability. Since 2008, the point has not received any reports of environmental damage but 36 questions or requests for information on environmental liability were recorded. To investigate whether there have possibly been cases of environmental damage the Netherlands conducted a quick scan. This investigation showed that in the Netherlands, no use is made of the relevant implementing regulations.

In asking relevant organisations and competent authorities, it was found that cases of environmental damage above the thresholds in the Directive have not occurred, except possibly in one case involving a major fire at the firm *ChemiePack*, which resulted in damage to the soil, surface water and groundwater due to pollution of the water used to put out the fire. The activity causing the damage is covered by Annex III (7) of the ELD, as dangerous substances were stored and packaged. However, the case as not been reported to the reporting point by the competent authorities. It was argued that the competent authorities acted on the basis of water and soil legislation, which overlap considerably with the legislation on environmental liability. The protection level is higher in Dutch soil regulations than in the laws implementing environmental liability. Therefore, while the objectives of the ELD were achieved as remediation measures were taken and the firm was held liable for the costs, the competent bodies used different legislations.

Poland

Poland reported a total of 515 cases involving the transposed provisions of the ELD. Of these, 392 involved environmental damage to land, 92 cases damage to biodiversity, and 49 cases damage to water. Regarding the classification of activities, the Polish report shows a considerable high number of incidents resulting from retail sale of automotive fuel (68 cases; NACE code 50.5). The second major cause of incidents was due to accidents related to land transport and pipelines transport with 61 cases, from which 33 concerned transports on roads (NACE code 45). 45 cases resulted from the manufacture of chemical products (NACE code 20) and 36 incidents were caused by electric distribution (NACE code 35). Finally, 28 cases related to the collection of waste (NACE code 38.1, 17 cases resulted from the wholesale of fuels (NACE code 46.71) and 11 cases concerned waste water treatment.

In 64 cases, the perpetrator could not be identified. The average duration of procedures constituted 9.5 months. However, of the 515 notified cases, only 239 could be used for the calculation of the average duration, as in many cases either the initial date was not known or

not indicated or the procedure was still ongoing at the end of the reporting period in 2013 or due to several typos. A close examination of the 239 notified instances revealed that 68 incidents took less than one month, whereas around 10 instances took more than three years (excluding longer procedures which were still ongoing). 506 cases have been confirmed as ELD cases whereas 171 cases are in progress and 8 are still pending in appeal. 44 cases resulted in resort to judicial review proceedings, of which 17 were ruled in favour of the party and 19 cases had unfavourable outcomes for the party. Poland did not provide information on cases of imminent threats to the environment because such information was not mandatory according to Annex VI ELD.

Portugal

Portugal transposed the ELD by means of Decree-Law No 147/2008 of 29 July 2008, as amended by the Decree-Law No. 245/2009 of 22 September 2009, Decree-Law No. 29-A/2011 of 1 March 2011 and Decree-Law No. 60/2012 of 14 March 2012 ("the EL Act"). The Portuguese Environment Agency is the competent authority for the purposes of the implementation of the ELD.

Portugal has identified two cases of environmental damage falling under the ELD. The first case was a leak of unleaded petrol from an underground tank into the subsoil at a filling station. The second case concerned the overflow of the content of a basin for collecting waste, causing spillage of a mixture of water and fuel oil. Following these leaks, preventive measures were taken by the operator with the decommissioning of the tank, soil testing and recovery of the product. There were no judicial review proceedings in either case and the remediation measures have been concluded in both cases. Portugal further reported six cases of an imminent threat of environmental damage, which particularly concerned water and land.

According to Portuguese law, operators who conduct the occupational activities listed in Annex III of the EL Act are obliged to furnish financial securities that allow them to assume the environmental liability inherent in the activities they carry out. As this obligation was enforced, operators and businesses informed the Portuguese Environment Agency of problems in relation to obtaining financial security instruments. These included the limited coverage and high costs of taking out insurance. Despite these difficulties, the obligation to obtain financial securities to cover environmental damage has helped to raise the awareness of various stakeholders of the EL regime.

The Portuguese Environment Agency has conducted several activities to promote the implementation of the EL regime, including the publication of guidelines to clarify concepts and criteria, the creation of a specific section for environmental liability regime on the Agency’s internet portal, the establishment of the Consultative Council for Environmental Liability constituting of the relevant ministries, representatives of business, industrial and agricultural associations, municipalities, representatives of the insurance and banking sectors, NGOs and civil defence, the signing of a protocol with the Portuguese Association of Oil Companies to establish and develop technical guidelines for the application of the environmental liability regime to the distribution and marketing of petroleum products, and the participation and organisation of explanatory meetings and seminars on the topic.

Portugal identified some limitations and constraints when implementing the ELD. It highlighted the underlying subjectivity with regards to the concepts of ‘baseline condition’, ‘imminent threat of environmental damage’ and ‘environmental damage’ due to the complexity of technical criteria for assessing cases. This resulted in increased difficulty when

applying the concepts to practical situations. As a consequence, Portugal set up the Standing Committee for Monitoring Environmental Liability, which incorporates competent bodies in the spheres of water, soil and protected species and natural habitats to provide technical support for assessing cases and to harmonise the operators' and authorities' approaches to those technical concepts.

Portugal concludes that the ELD contributes positively to increased awareness among operators of issues connected with the environmental risks involved in the pursuit of their activities and particularly of ways to reduce them. The obligation to obtain financial securities proved to be a significant instrument in raising the various stakeholders' awareness.

Romania

Romania reported five cases of environmental damage which fall under the ELD. Two of these cases concerned soil pollution by oil caused by railway accidents. One case concerned soil pollution by nitric acid caused by road accident; one case concerned pollution of the surface waters of a river with petroleum products and one case concerned imminent threat of damage, where hazardous and non-hazardous waste was improperly stored on land, risking soil and groundwater pollution. Appropriate measures, including the transportation to the relocation site were undertaken and no environmental damage was caused.

None of the cases involved resort to judicial review proceedings and the remedial measures have been concluded in all five cases.

Romania has not yet developed any financial security instrument according to the ELD. While the Ministry of Environment and Climate Change has started proceedings for awarding a public procurement contract for a study on the financial instruments needed to cover insurance for environmental damage, no one participated in the auction. Nevertheless, according to its national mining law, operators working in this field are obliged to have financial guarantees. The most difficult problem identified by Romania is the calculation of the financial guarantee and the development of the financial security instruments and markets as required by the ELD. These difficulties arise due to the lack of expertise in financial, economic and liability matters.

Slovakia

Slovakia transposed the ELD into national law by means of Act No 359/2007 on the prevention and remedying of environmental damage and amending certain acts in 2007. The central administrative body for the environmental liability regime is the Ministry of Environment of the Slovak Republic, which carries out the monitoring procedures, operates an information system, recovers costs arising for the state in connection with preventive and remedial measures, and coordinates tasks with other national and international bodies.

Slovakia has not recorded a case of environmental damage or direct threat thereof since 2007. To promote the implementation of the ELD, the Ministry of Environment has raised awareness among interested parties by means of trainings, conferences, documents, guidelines, information sheets, brochures and websites. The Slovak Environment Agency's Centre for the Assessment of Environmental Quality has created a methodology for differentiating Slovak territory in accordance with the potential risk of severe environmental damage. In this way, important basic graphic information on the spatial distribution of the highest-quality natural resources in Slovakia guides operators in determining the situation. In accordance with the Act, Slovakia set up an information system for the prevention and

remedying of environmental damage with the purpose of collecting data and providing information on environmental damage. Further, Slovakia established a register of notifications, an environmental damage register, an operators' register, and a register of legal proceedings.

Slovakia opted to introduce the mandatory financial security framework for operators, hence, the Act, which entered into force in 2012, provides for mandatory financial coverage for liability for environmental damage. The amount of financial coverage must correspond to the amount of forecast costs for remedial activity and the requirement is integrated in the permit procedure. The operator's compliance with these obligations is monitored by the state administration. Slovakia noted that SME enterprises constitute a gap in the implementation of the Act, as these entities are not able to carry out an environmental audit, risk assessment or cost estimate for remedial activity due to financial constraints.

Accordingly, it cannot be clearly stated whether financial coverage for individual operators will be sufficient, since the Act did not stipulate the amount of financial security, and no environmental damage has been recorded so far. Slovakia concludes that given the range of issues covered and its interconnectedness with a large quantity of specific legislation in the sector related to nature protection, water and soil, the implementation of the ELD is very challenging.

Slovenia

Slovenia reported no case of environmental damage meeting the requirements of the ELD.

The Ministry of Agriculture and Environment conducted two specialist studies on the use of financial security instruments for the implementation of the ELD. Recommendations from these studies included that mandatory liability insurance for the prevention and remedying of environmental damage is not yet appropriate in Slovenia. Instead, a strategy promoting the supply and use of financial security instruments by all stakeholders should be designed and implemented, the insurance sector should be encouraged to develop ELD products, and relevant entities preventing environmental damage should be informed about this issue. The feasibility of using an existing public fund for environmental protection, the Eco Fund, to cover the costs of measures to remedying environmental damage should be assessed when the obligation is passed on to the State.

Spain

The ELD was transposed into Spanish law through Law No 26/2007, which was partly implemented by the Royal Decree No 2090/2008. It provides a new administrative framework for remedying environmental damage.

Spain recorded 12 environmental liability cases involving damage to land, to water and to the coastline and bays. The damages were caused by ship building and repairs, transport via pipelines, manufacture of other chemical products and the textile industry. All operators involved in these damages were covered by Annex III of the Law No 26/2007 on environmental liability. Only one case resulted in an administrative appeal lodged in respect to the obligation to prevent, avoid or remedy the damage, which is still pending. Three cases have reached the courts and the legal proceedings are still ongoing. Due to remediation processes implemented to remedy environmental damage, the damaged natural resources have returned to their baseline condition.

In all cases where remedial work has begun, the costs have been covered in full by those responsible for the damage. According to the Law, operators of certain activities must have a financial guarantee, which enables them to pay for the potential environmental liability inherent to the activities they intent to carry out. The Spanish authorities adopted Order No ARM/1783/2011 to determine the order of priority and the timetable for adopting the ministerial orders that will require a financial guarantee on environmental liability. This is first to be discussed with the Government Executive Committee on Economic Affairs, the Autonomous Communities and the sectors affected. Hence, the requirement to hold a financial guarantee will be introduced gradually. All sectors of activity have been classified into three priority levels, according to which the government will introduce the obligation to hold financial guarantees. In the meantime, Spanish legislation requires those operators that are under this obligation, to conduct an environmental risk assessment to find out if they are obliged to hold a financial guarantee and if so, what the value would be. The Spanish authorities have published a document to assist and guide the different sectors with their drafting of sectorial risk assessments and they provide for technical assistance through the operation of a mailbox for queries from sectors or groups of professional activities. To assist in the calculation of the costs of remedial actions, the government has created a methodology named the Standard Environmental Liability Tender Form, including an IT application. It adopted several other guidelines and tools to facilitate the assessment of sectorial risks and the calculation of financial cost of damage.

Currently, there are over 50 sectors in Spain drawing up tools to assess sectorial risks to be submitted to the Technical Commission for Damage Prevention and Remediation for evaluation. Spain continues to conduct numerous training courses and information sessions on the application of environmental liability rules.

Sweden

Sweden reported five incidents of environmental damage within the scope of the ELD. These involved bio-oil leakage to a preservation area, leakage of diesel fuel from a gas station resulting in contamination of soil and water, leakage of contaminated oil resulting in water damage, the emission of chemicals into a creek in a nature preservation area causing soil and water damage, and leakage of tall oil to the Baltic archipelago of *Söderhamn*. The activities causing the damage were the manufacture of biofuels, trade with fuels and the food processing industry. Two of the cases were dealt with by competent authorities following a request for action. While the claimants have been successful in one of these cases, both are still ongoing. Two cases were dealt with by the competent authorities following an imminent threat of damage. The claimants were successful in both cases and one case has been closed, whereas the other is still ongoing. The last case was dealt with by courts but it was dropped after investigation. The remediation processes was finalized in most cases.

United Kingdom

The UK transposed the ELD in a number of transposing regulations due to the fact that environmental issues are a devolved matter. Consequently, England, Wales, Scotland, Northern Ireland and Gibraltar have different legislation implementing the ELD. Overall, the UK reported 19 cases, of which eight occurred in England, eight in Wales, two in Scotland, and one in Northern Ireland. Twelve of these are confirmed cases of environmental damage and seven were cases of an imminent threat to environmental damage. Twelve cases are closed, while seven remain open. Nine cases and two cases of imminent threat concerned land damage, two cases and five cases of imminent threat were related to biodiversity and one

case comprised damage to water. Two cases required complementary or compensatory remediation but none of the cases mentioned above resulted in resort to judicial review. Several other incidents were mentioned but not included in the report as ELD cases due to different reasons, such as cases where the pollution was not serious enough to trigger the ELD, the damage was historic, it occurred before the transposition date, the activity fell outside of those listed in Annex III of the ELD, or the liable operator could not be found.

The UK strongly opposes the imposition of mandatory financial security by operators, not least until a clear cost benefit assessment has been undertaken. Its preferred approach is to allow the insurance and other financial security markets to develop and respond by offering a voluntary cover. The English and Welsh Environmental Permitting legislation provides for a requirement on an operator of an environmental permit to be technically competent to operate the facility. The assessment includes the obligation for the operator to obtain financial security to meet the financial obligations of a permit. The insurance industry reports a growing Environmental Impairment Liability market in the UK, offering a wide and competitive range of insurance products. The take up of insurance has increased slowly but a number of new entrants have been reported in the past few months. Moreover, indemnity for ELD driven exposures, such as biodiversity damage is widely available. To promote and implement the financial security instruments, a report was published seeking to identify the capabilities of different classes of liability insurance to provide environmental cover. The insurance and brokerage sector worked together to ensure that the publication was widely disseminated. Further promotional work was conducted by different sectors, including information sheets, references in newsletters, hosting client forums and developing a series of claims scenarios identifying the potential liability in relation to several fairly common environmental incidents.

In assessing matters arising from the Commission's ELD report of 2010, the UK reports that the permit and state-of-the-art defences have been adopted in all jurisdictions within the UK (except from the permit defence not applying to GMOs in Wales). To promote the application of the Directive, the UK conducted trainings, awareness raising activities and provided information through its website.

The UK reported that domestic law is applied more quickly, effectively and efficiently for smaller scale cases than for large-scale cases. While there is consensus that the threshold for land damage provided for in the ELD is appropriate, it has been pointed out that in practice it is often difficult to establish whether there is a significant risk of harm to human health. However, due to guidance to give practical effect to the thresholds in determining significant damage, regulators have increasingly confidence in taking decisions. As to the relationship between the ELD transposing legislation and pre-existing legislation, the UK clarifies that for environmental damage to water, protected species and natural habitats, the terms of the ELD in particular on compensatory remediation are generally more stringent than in existing legislation. However, regarding land damage, there is more scope to use other legislation to achieve the remediation objectives.

The UK concludes that the strengths of the ELD are that it implements the polluter pays principle and the ecosystem services approach to remediation. Compared to its existing regimes, the ELD has the benefit of introducing a requirement for compensatory remediation where environmental damage to water, protected species or natural habitats has been caused. This may result in additional environmental improvements paid for by the operator, which would not have been required under existing legislation. The UK also acknowledges that the ELD provides a quicker and simpler mechanism for remedying harmful land contamination

than existing regulatory regimes in certain circumstances. The UK further welcomed that the ELD has given enforcing authorities wider powers to recover costs from responsible operators. One stakeholder from the shipping industry considered the ELD as positively complementing international conventions, as it applies to incidents not covered by the conventions. However, the UK also criticised that determining whether the threshold of environmental damage has been reached is challenging, in particular when reliable data are lacking or other practical difficulties hinder the collection of necessary information. Furthermore, raising awareness of the ELD remains a challenge even though awareness is growing as more cases are handled under the Regulations.

ANNEX 4: THE POLLUTER-PAYS PRINCIPLE

The ELD establishes a framework based on the polluter-pays principle to prevent and remedy damages on certain environmental media.

Concepts of cost allocation:

Economic activities often create emissions discharged into air, soil or water and having a detrimental effect on flora and fauna or human health; this is what is often referred as 'external effects' of an activity. On a macro-economic level, the question arises whether the public or a specific person or group of persons have to bear the costs of preventing and remedying the costs of such environmental damages. If the costs are attributed to the person responsible, the 'external effects' are considered to be internalized. This is what the 'polluter-pays principle' is aiming for. If the costs are, however, born by the public, a 'community-pays' system is implemented. The several concepts of cost allocation shall be described in the following with a focus on the polluter-pays principle:

The polluter-pays principle (PPP) as the relevant cost allocation principle

Article 191(2) TFEU provides that the Union policy on environment shall be based on the principle that the polluter should pay[169]. This is also in compliance with Article 16 of the Rio-Protocol and reflected in several secondary legislative acts of the EU. The polluter-pays principle is one of the main principles of EU environmental law and policy. The theoretical roots of the polluter-pays principle go back to welfare economics whose main assumption is that the highest possible welfare is achieved when the economic forces of supply and demand are balanced and external influences are absent. This state of economic equilibrium cannot be attained if an activity of a person has a negative impact on the welfare of a third party without compensating the damages; in this case the prices do not reflect the true costs of the person's product. A negative external effect occurs. The polluter-pays principle aims to internalize external effects the polluter's activity causes.

There are three main strategies how to internalize the external effects:

a.) *The Direct Regulatory Approach ('Command-and-Control')*

One way of dealing with external effects may be the setting and enforcing of environmental standards. The occurrence of external effects shall be prevented or respectively minimized through the implementation of commands and prohibitions. A total ban of environmentally harmful activities is in many cases not wanted due to economic reasons. Hence, policymakers are challenged to define an acceptable degree of pollution. Emission ceilings or technical requirements can, *inter alia*, express these standards. Fines shall regularly ensure that companies comply with the commands. If the polluter bears the abatement costs, he internalizes the external effects – at least partially.

b.) *Market-based Instruments*

The internalization of external cost can also be obtained through market-based instruments. The market-based approach gives market players a wider margin of discretion than the direct regulatory approach, because it enables them to choose how to adjust the desired (and

[169] "*Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.*"

politically stated) environmental goals (what leads to dynamic efficiency). The market-based instruments (MBIs) include especially environmental taxation, charges, tradable pollution permits, property rights and liability regimes. In EU environmental law, there are several market-based instruments implemented, first and foremost through the ETS-Directive (tradable emission permit approach) and the ELD (liability approach).

The use of MBIs in environmental policy is often seen as advantageous due to their ability to correct market-failures in a cost-effective way.[170] A system of liability for environmental damages constitutes an internalization strategy and can be considered an MBI.[171]

Environmental liability rules determine under which circumstances and to which degree a party causing an external effect has to provide compensation. The polluter bears the costs for preventing or remedying environmental damage. In doing so, potential polluters take (potential) external costs into account in their investment decisions. Operational decisions regarding the production process and the quality of the product are made by considering the potential external costs arising from them. The liability rules incentivise insofar an environmental sound behaviour. And at the same time they ensure that damage is prevented due to the required preventive measures to be taken by the operator and that the environment is fully restored.

c) *Voluntary Approaches*

Agreements and other instruments on a voluntary basis can also be a possibility to prevent the occurrence of external effects. Voluntary labels can be considered as soft version of a market-based instrument since they indeed influence the consumer behaviour but do not oblige the polluter to bear certain costs; the polluter's disadvantage is more indirect, insofar as the consumer might opt for a less-polluting product.

It can be concluded that the PPP aims to allocate the social costs of a certain polluting activity at the responsible person. When implementing the PPP through a legal act, the following points have to be considered by the legislature:

- *Choice of methods:* Which (regulatory, economic, voluntary) instruments shall ensure the internalization of the external effects?
- *Identification of the polluter responsible:* Which person shall bear the costs? Often more than one person is, somehow or other, causal for the environmental damages. It is up to the legislature to define the personal scope of the PPP implemented. The incentive function of the PPP necessitates that the costs are borne by the persons capable to influence the impacts on the environment by changing their behaviour. Secondary legislation like the ETS-Directive and the ELD specify which 'persons' shall be held liable for pollution caused ('channelling of liability', in particular important under a strict liability standard).
- *The extent of the PPP*: What costs shall be recovered and how can these costs be measured? A human activity may have a multitude of different impacts on other economic activities and environmental media. It is up to the legislature to define the extent to which external effects are attributed to the polluter[172]; efficiency considerations

[170] See Commission, Green Paper on market-based instruments for environment and related policy purposes, COM(2007) 140 final, p. 3.

[171] Cf. EEA, Using the market for cost-effective environmental policy – Market-based instruments in Europe, EEA-Report No 1/2006, pp. 38 et seq.

[172] Cf. Article 9 WFD: "*water user have to a price reflecting the financial costs as well as the environmental and resource costs of a water service*".

can play role in this regard. However, the PPP as set out in Article 191(2) TFEU calls in principle for a broad internalization of social costs. A policy mix between 'command-and-control' and market based instruments can be used to achieve the desired internalization at the lowest costs possible.

Other concepts of cost allocation

a) Beneficiary-pays principle

The concept underlying the PPP is that the person responsible for a certain environmental damage has to be held financially liable; the polluter has to bear the abatement costs or costs that arise due to certain production restrictions, including the costs under the ELD for taking preventive action in case of imminent threat of environmental damage and remedial action in case environmental damage has already occurred. In contrast, the beneficiary-pays principle attributes these costs to the persons who profits from an intact environment. The beneficiary-pays principle constitutes another method to allocate resources economically efficient. In other words, the beneficiaries of environmental standards and restrictions imposed on polluters have to pay for their implementation. The beneficiaries can be a certain group of people interested in the conservation of a certain natural area or environmental medium[173] or could be the general public. In the latter case the beneficiary-pays principle is tantamount to the 'community-pays principle', described below. Subsidies granted by the State to industrial activities in order to promote higher environmental standards can be considered as an example for the 'beneficiary-pays principle' where the general public pays. However, it should be mentioned that there is also another view on the 'beneficiary-pays principle' which differs from the prescribed concept insofar as it does not address the beneficiaries of a certain environmental quality but rather the beneficiaries of a certain polluting activity, e.g. the purchasers of the goods manufactured in such an activity. The latter concept is a sub-form of the polluter-pays principle and should – in order to have a clear separation – be better called 'user-pays-principle'.

b) Community-pays principle

The PPP is a concept that seeks to attribute the costs to the persons responsible for a certain environmental damage. The opposite of this approach is what can be called community-pays principle. Here, not the actual polluter has to bear prevention or remediation costs but rather the public. Thus, the costs resulting from a polluting activity are socialized. The 'community-pays principle' is often de facto applied. When statutory environmental standards are imposed on (e.g. industrial) activities, there is usually some (more or less significant) residual pollution. Often the operator is not held liable for that but rather the general public. The same counts for environmental damages resulting for small, scattered sources of pollution (diffuse pollution) for which nobody can be held responsible.

c) Ability-to-pay-principle

The ability-to-pay principle is an economic concept according to which the costs for certain measures (prevention of damages, remediation/restoration of environmental goods) are allocated according to economic capacities of the payers. The ability-to-pay principle is applied, for example, to the income taxes;[174] persons with higher salaries pay more taxes than persons with lower income. The ratio behind this concept is to acquire revenues in order to finance public goods to the benefit of all members of the society. The ability-to-pay principle is – as far as can be seen – not applied in (EU) environmental law.

[173] Example: The inhabitants of X want the river flowing through their village clean. In order to achieve that goal, they pay the company discharging their effluents in the river new cleaning equipment.

[174] Cf. F. Vanistendael, *Ability to Pay in European Community Law*, in EC Tax Review 2014-3, pp. 121 et seq.

Efficiency considerations

Efficiency considerations may have a bearing on cost allocation. The choice of the legislature where to allocate the environmental costs is also influenced by certain economic criteria. According to Article 191(2) TFEU, the EU environmental policy is based on the polluter-pays principle; thus, the costs shall in principle be attributed to a person responsible for it and capable to reduce the total amount of pollution efficiently (incentive effect of "*making the polluter pay*"). However, in some cases it is unpractical or very costly to identify the responsible polluter and/or to allocate the costs to him. If this is the case, efficiency considerations may justify the attribution of costs not to the polluter but rather to the public. An example for that is given in the ELD: According to its Article 8(2) second subparagraph the authority may decide not to recover the costs for preventive or remedial actions if the expenditure to do so would be greater than the recoverable sum.

The establishment of the causal link

The polluter-pays principle can be regarded the expression in economic terms (cost allocation) of the legal principle of allocating the legal responsibility of a certain human doing (activity) to a certain effect (damage), only where the activity is causal to the effect. Thus, the polluter-pays principle as materialized in the ELD requires the establishment of a causal link between the liable activity and the environmental damage or the risk. Since the ELD itself does not specify how such a causal link is to be established, such a definition falls within the competence of the Member States. As the CJEU stressed in the case C-378/08 (*ERG I*) the Member States have a broad discretion when developing the polluter-pays principle. They can, for instance, foresee a presumption of causality as long as there is plausible evidence capable of justifying this presumption, for example through the identity of substances used in the activity and the pollutants found at the damaged site or through a certain vicinity of activity and damage[175]. Where no causal link can be established between the activity and the environmental damage or the imminent threat of damage, such a situation does not fall within the material scope of the ELD and has, therefore, to be treated under national law.

[175] CJEU C-378/08 (*ERG I*) para. 57.