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1. INTRODUCTION

This report is based on Article 14(2) of Directive 2004/35/CE on environmental liability with regard to the prevention and remedying of environmental damage (referred to below as ‘ELD’ or ‘the Directive’). The report assesses the effectiveness of the Directive in terms of actual remediation of environmental damage and the availability at reasonable costs of, and conditions for, financial security for the activities listed in its Annex III.

**Novel features of the Environmental Liability Directive**

The main objective of ELD is to prevent and remedy ‘environmental damage’. This is defined as damage to protected species and natural habitats (nature), damage to water and damage to land (soil). The liable party is in principle the ‘operator’ who carries out occupational activities. Operators who carry out certain dangerous activities, as listed in Annex III of the ELD, are strictly liable (without fault) for environmental damage. Operators carrying out other occupational activities are liable for any fault-based damage they cause to nature. Operators may benefit directly from certain exceptions and defences (for example force majeure, armed conflict, third party intervention) and defences introduced via transposition (for example permit defence, state of the art defence).

Operators have to take preventive action if there is an imminent threat of environmental damage. They are likewise under an obligation to remedy environmental damage once it has occurred and to bear the costs (‘polluter pays’). In specific cases where the operators fail to do so, or are not identifiable, or have invoked defences, the competent authority may step in and carry out the necessary preventive or remedial measures.

The report does this, firstly, by looking at the transposition and implementation of the Directive to examine how it has been applied in practice. The Commission worked with the government experts group on the ELD on transposition and national implementation. Business and financial security providers, i.e. insurers, brokers, banks and financial institutions, as well as NGOs were also consulted.

Secondly, it looks at the issue of financial security. To do this, the response of the financial sector was analysed and alternative options for financial security were assessed, based on information provided by the insurance and re-insurance industry on available ELD insurance.

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1 OJ L 143, 30.4.2004, p. 56.
products and coverage in the EU market. Reports on the ELD by the Confederation of European Insurers (CEA)\(^4\) and information on how operators and industry have responded to the Directive\(^5\) were also taken into account. Three aspects covered in particular are: the use of a gradual approach allowing Member States to gradually phase in mandatory financial security, starting with riskier activities and operators and with damage to soil and water; setting ceilings for financial guarantees; excluding low-risk activities.

2. **Effectiveness of the Directive in Remedyng Environmental Damage**

To examine the effectiveness of the ELD in environmental damage, its transposition into national law and its implementation were assessed.

2.1 **Transposition process**

The Directive entered into force on 30 April 2004. Only four Member States\(^6\) met the transposition deadline of 30 April 2007. The transposition of the Directive remained slow thereafter, so that the Commission had to start infringement procedures against 23 Member States. During this procedure, the number of non-compliant countries was reduced, but the Commission still had to refer a number to the European Court of Justice, which gave judgment against seven Member States in 2008 and 2009\(^7\).

The main reasons for the transposition delays were:

1. **Existing legal frameworks** — Member States that already had advanced liability rules on environmental issues had to fit the new legislation into these existing legal frameworks.

2. **Challenging technical requirements** such as the need for economic valuation of environmental damage, the different types of remediation, and damage to protected species and natural habitats, which were novelties to most Member States.

3. The **framework character of the ELD**, which leaves a wide margin of discretion to the Member States, with options that can only be decided upon during transposition; this led to delays, as the range of options needed to be debated at national level.

2.2 **Implementation features**

The framework character of the Directive resulted in a **broad divergence** on several key implementing provisions amongst the Member States:

- The **optional extension of the EU scope of ‘damage to protected species and natural habitats’** pursuant to the Birds\(^8\) and Habitats\(^9\) Directives (Article 2(3) ELD). Fourteen

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\(^6\) Italy, Lithuania, Latvia and Hungary.

\(^7\) France, Finland, Slovenia, Luxembourg, Greece, Austria and UK.

Member States decided to do so and included species and habitats protected under national or regional protection schemes in all or part of their jurisdiction (Austria, Belgium, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Portugal, Spain, Sweden and UK).

- Another key definition, that of ‘operator’, was extended by all but one of the Member States, with some opting to give this definition a particularly broad scope (Estonia, Finland, Hungary, Lithuania, Poland and Sweden).

- The ELD grants Member States a choice as to whether they want to provide a ‘permit defence’ and/or a ‘state of the art defence’ that may be invoked by operators. Fewer than half decided to allow both defences: Belgium (at regional level), Cyprus, Czech Republic, Estonia (except GMOs), Greece, Italy, Latvia (except GMOs), Malta, Portugal, Slovakia, Spain, UK (except GMOs in Scotland, Wales). Equally, fewer than half decided not to make use of them: Austria, Belgium (at federal level), Bulgaria, Germany, Hungary, Ireland, Netherlands (applicable only after check of reason), Poland, Romania and Slovenia. Denmark, Finland and Lithuania decided to allow the ‘permit defence’ but not the ‘state of the art defence’, while France allowed the ‘state of the art defence’ but not the ‘permit defence’. Sweden took a middle position, admitting permit and state of the art defences as mitigating factors in the decision process.

- For the scope of activities covered by strict liability, several Member States exempted the spreading of sewage sludge from waste management operations (Bulgaria, France, Latvia, Malta, Portugal, Romania, Slovakia, Slovenia and UK). A number of Member States included further activities not mentioned in Annex III in the scope of strict liability (Belgium, Denmark, Finland, Greece, Hungary, Latvia, Lithuania, Netherlands and Sweden).

- For rules on multi-party causation, most Member States opted for a system of joint and several liability, whilst a minority chose proportionate liability (Denmark, Finland France, Slovakia and Slovenia).

- Finally, the ELD leaves Member States to decide whether to introduce a system of mandatory financial security at national level. Eight Member States have introduced mandatory financial security entering into force at different dates up to 2014: Bulgaria, Portugal, Spain, Greece, Hungary, Slovakia, Czech Republic and Romania. These systems are subject to risk assessment of relevant sectors and operators, and dependent on various national implementing provisions providing for issues such as ceilings, exemptions, etc. However, mandatory financial security is delayed in all three countries where it was supposed to come into effect in 2010 (Portugal, Spain, Greece) because essential provisions are not yet in place. The remaining Member States rely on voluntary financial security.

2.3 Limited implementation of ELD

The slow transposition of the Directive has resulted in a limited number of cases being treated by the competent authorities. The Commission with the support of the network of ELD

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government experts\textsuperscript{10} identified 16 cases treated under the ELD at the beginning of 2010, and estimates that the total number of ELD cases across the EU may now be around 50.

The most important obstacle to an examination of the effectiveness of the ELD is the fact that not much is known about the characteristics of these cases. Nevertheless:

- most cases relate to damage to \textit{water} and \textit{land} and only a limited number to protected species and natural habitats. This finding does not apply evenly to all Member States
- in most cases \textit{primary remediation} measures were applied immediately (excavation and soil replacement as well as clean-up of water, aiming to restore the site’s baseline condition). However, none of the cases reported included information about the other two types of remediation (\textit{complementary} and \textit{compensatory})
- the total costs of remedial measures, when known, range between € 12,000 and € 250,000
- the duration of environmental recovery varies considerably and is within the range of one week to three years for the cases reported
- the activities involved were almost exclusively listed in Annex III of the ELD, falling mainly under the IPPC Directive\textsuperscript{11}, as well as waste management operations, and the manufacture, use and storage of dangerous substances, preparations and related products.

\begin{table}
\centering
\caption{Remediation of environmental damage under the ELD}
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\hline
Environmental damage may be remedied in different ways depending on the type of damage:
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- For damage affecting land, the Directive requires that the land concerned be decontaminated until there is no longer any serious risk of negative impact on human health;
- For damage affecting water or protected species and natural habitats, the Directive aims to restore the environment to how it was before the damage had the damage not occurred. Remedying of environmental damage in relation to water or protected species or natural habitats is achieved through the restoration of the environment to its baseline condition by way of \textit{primary, complementary} and \textit{compensatory} remediation. The damaged natural resources or impaired services must be restored or replaced by identical, similar or equivalent natural resources or services either at the site of the incident or, if necessary, at an alternative site. Annex II of the Directive includes definitions of the distinct types of remediation applicable to water and nature damage, as well as information on the measures that have to be taken into account in order to remedy the damage. Remedying interventions need to take place on the damaged site itself or by creating similar resources in nearby areas.
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\end{tabular}
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The competent authorities judged that the most difficult issues were the complex technical requirements linked to the \textit{economic evaluation} of damaged resources/services and \textit{environmental remediation methods}, as well as the lack of binding thresholds for key terms such as ‘\textit{significant damage}’. However, Member States have started to develop guidelines and are building up their knowledge base on these questions (see Section 3).

Reasons for the relatively low number of ELD cases could include limited knowledge by operators. But it may also reflect the preventive effect that the ELD is already having. Another reason for the limited experience may be that some Member States maintained their

\textsuperscript{10} Member States are not obliged to report data to the Commission for this report. Information was provided on a voluntary basis by government experts from about half of the Member States and extrapolated to give rough estimates for ELD cases.

existing laws for soil or water remediation which included more stringent measures than the ELD. Finally, the exceptions and defences of the ELD including insolvency and non-identification of the responsible operators may have led to fewer ELD cases.

Thus there is insufficient data to draw reliable conclusions on the effectiveness of the Directive in terms of actual remediation of environmental damage. However, this report has increased awareness among stakeholders and increased information flows between them, and will help Member States prepare their own reports to the Commission, due by April 2013.

3. The functionality of national ELD systems

The degree of Member States’ preparedness to deal with environmental damage under the Directive varies. Some Member States are quite advanced in terms of guidelines on technical and economic valuation (Belgium, Denmark, France, Hungary, Netherlands, Spain, and UK), procedures and manuals for risk assessment (Spain, Portugal, Italy) and legislative guidelines (Spain, Hungary, Czech Republic, Latvia and Poland). Specialised financial security systems (such as insurance pools in France, Spain and Italy) offer appropriate ELD insurance products.

To help implement Annex II, the Commission sponsored research\textsuperscript{12} on economic evaluation methodologies that can be used. REMEDE developed a tool-kit with methods for estimating remediation costs as well as case-studies to be used as examples.

Despite awareness-raising efforts\textsuperscript{13}, business and particularly those industry sectors more susceptible to risks and damage falling under the ELD (Annex III operators) are generally not aware of the ELD provisions. This applies in particular to Small and Medium Sized Enterprises (SMEs). Interviews with operators in the second half of 2009\textsuperscript{14} showed that the majority had not yet adapted their insurance policies to cover the ELD extended liabilities, while some were not even aware of its entry into force. This may be due to transposition delays, which caused legal uncertainty, and limited awareness-raising efforts. These results have been complemented by a survey carried out by the Commission in 2009 using the European Business Test Panel\textsuperscript{15}; the majority of operators and business associations reported high levels of uncertainty about their liabilities under the ELD and a limited use of financial instruments to cover ELD liabilities.

Operators aware of their environmental liabilities have tended to cover the resulting risks through a mix of environmental insurances such as General Third Party Liability-\textit{GTPL}, Environmental Impairment Liability-\textit{EIL} or other stand-alone insurance products. Operators were using to a much lesser extent other financial security, such as captives, bank guarantees, guarantees and funds.

A report from business\textsuperscript{16} pointed out the need to examine all options available to provide financial security and suggested that Member States work on improving the national environmental liability regimes in place. It asked for more clarity and precision in the rules regarding the restoration of environmental damage.

\textsuperscript{12} The REMEDE project case studies and the tool-kit are available at: \url{http://www.envliability.eu}.
\textsuperscript{14} More information in the study mentioned in footnote 3.
\textsuperscript{15} The results are available at: \url{http://ec.europa.eu/yourvoice/ebtp/consultations/2009_en.htm}.
\textsuperscript{16} Survey of the Ad-Hoc Industry Group (footnote 5), available at: \url{www.NRDonline.com}.
The insurance industry reacted positively to the introduction of the ELD. Significant work on what the ELD means for the insurance sector has been carried out and widely disseminated. The industry has gradually developed products for ELD, either specific ‘stand alone’ solutions, or top-ups to existing liability products. Work is in hand on practical implementation issues such as underwriting and claims management, as are efforts to develop a database of case studies to share experiences. However, there remains uncertainty at this early stage as to the readiness of existing products to deal with ELD cases. The insurance industry also reported that the recent economic crisis had resulted in a temporary drop in the industry’s capacity to provide ELD cover.

It can be concluded that the transposition of the ELD was slow and that implementation methods vary widely across the EU. This divergence delayed the development of financial security options at national level. Although the wide variety of national implementation methods may impair the effectiveness of the Directive, it is extremely difficult to verify exactly how.

4. Financial Security for ELD

4.1. Development of Financial Security Products

Under Article 14(1) of the Directive, Member States are requested to encourage the development of financial security instruments and markets. Member States took rather limited action, restricted to discussions with insurers and/or their trade associations. In most cases the national ELD markets developed at the insurers’ initiative, even in the cases where mandatory financial security has been established.

4.1.1 Financial Security Products for the ELD

Insurance has proven to be the most popular instrument to cover environmental liability, followed by bank guarantees (Austria, Belgium, Cyprus, Czech Republic, the Netherlands, Poland, Spain, and UK) and other Market Based Instruments (MBIs), such as funds, bonds, etc (Austria, Belgium, Bulgaria, Cyprus, Poland and Spain). Insurance pools are present in Spain, France and Italy.

A significant part of the ELD-derived liabilities can be covered under traditional General Third Party Liability or Environmental Impairment Liability policies. (Re-)insurers are currently offering extensions to existing GTPL or EIL policies and new, specialised stand-alone products. When the ELD was adopted in 2004, reports indicated that there were practically no insurance products covering risks where the economic consequences could not be fully predicted. Since then, suitable products have appeared on the EU market. However, coverage of damage due to GMOs remains difficult: in Spain where mandatory financial security provisions apply without exclusion for GMOs, there is a special provision to address any damage and losses under a civil liability regime and not ELD.

At present it is difficult to assess whether the current capacity of the (re-)insurance industry is large enough to cover ELD liabilities efficiently. The ELD capacities of the insurance

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17 Relevant publications are at the web pages of the Confederation of European Insurers (CEA): www.cea.eu.
industries are constantly evolving, as demand for products increases. Capacities can also be raised through non-insurance financial security instruments.

4.1.2 Other types of financial security

There is a general focus on insurance products as a way to cover ELD liabilities, although a range of alternatives exist. In connection with other environmental legislation, such as that on waste management, significant experience has been gained with non-insurance instruments (bonds, bank guarantees, funds, captives, etc). These instruments require little change to make them suitable for ELD-related liabilities. It should be noted that some alternative instruments are more appropriate for large operators with numerous operations than for SMEs.

The suitability of financial security instruments will depend on their efficiency in terms of remediation costs covered, their availability to operators, and their effectiveness for preventing pollution. No available instrument appears to fulfil all three requirements for all ELD liabilities and all the sectors concerned, so the choice of instrument will vary across operators.

4.1.3 Limitations and gaps in financial security products

The limitations of the insurance products currently available are the exclusion of gradual environmental damage and exclusions for some types of remediation, such as compensatory remediation. These limitations are due to a lack of data about ELD incidents and inability to quantify potential losses. As the market gains experience, these limitations will gradually be resolved.

4.2 The need for harmonised mandatory financial security

The Commission has to examine the need for a harmonised mandatory financial security system at the EU level. Given that the transposition of the ELD resulted in divergent implementation rules, that the Member States opting for mandatory financial security do not yet have their systems in place, so mandatory approaches cannot be evaluated, and that more financial security products are becoming available, it is premature for the Commission to propose mandatory financial security at EU level.

4.3 Addressing financial security issues

No commonly agreed definitions exist for the three issues the Commission has to consider in the report (gradual approach, ceilings for financial guarantees and the exclusion of low-risk activities). Possible approaches to these issues were explored with Member State experts and stakeholders. An assessment of the systems in place suggests that to facilitate implementation, all mandatory financial security schemes should employ a form of gradual approach, provide for the exclusion of low-risk activities, and include ceilings for financial guarantees.

4.3.1 A gradual approach

A gradual approach means the gradual introduction of financial security for different risk types and industrial sectors or liabilities covered. Member State applications of the gradual approach include the limitation of mandatory financial security to Annex III activities for which a permit, approval, or registration is required, while others have imposed mandatory financial security for some Annex III activities, starting with the riskier ones (in Hungary this is limited to IPPC installations).

4.3.2 Ceilings for the financial guarantee

No financial security system, be it insurance, bank guarantee or a trust fund, will provide unlimited liability. Therefore, ceilings apply both to voluntary and mandatory financial
security mechanisms. A ceiling for the financial guarantee could be introduced where the risk of damage occurring above that ceiling is considered as low, and depends on the location, type and size of the operation. Spain introduced ceilings to the liability cover their operators need of up to a maximum of €5 million. In other countries ceilings are arranged between insurers and operators. Insurance companies can also introduce ceilings to the liabilities they wish to cover, subsequently setting limits to the premiums to be paid but also in the coverage that their guarantee provides. The previous ceilings apply when determining the maximum coverage of the policies. In practice, there are also reimbursement ceilings of ELD policies, which currently range between €1 million and €30 million.

4.3.3 Exclusion of low-risk activities

Low-risk activities could be excluded from a mandatory financial security scheme based on a risk assessment of the potential environmental damage from Annex III activities\(^{19}\). Mandatory systems also define low-risk activities as those where the companies have an EMAS or ISO environmental management system\(^{20}\); this might be disputable, as other factors may play a more significant role in determining the operator’s actual environmental risks, such as the nature of the activity and its location. Stakeholders said that excluding operators on the grounds that their activities are perceived as low-risk might be controversial, as these activities could still in reality cause significant environmental damage.

4.3.4. Conclusions on aspects to be considered for financial security

Research into the feasibility, impact and effectiveness of mandatory financial security would illustrate in detail how such schemes could be implemented without significantly reducing the effective coverage of ELD liabilities. Many of the available options, such as a gradual approach, ceilings for financial security and the exclusion of low-risk activities, are already being implemented by Member States.

Whereas some form of gradual approach would necessarily be part of any mandatory financial security scheme, the other two options might or might not be employed in a mandatory scheme. Using any of the three options needs a thorough analysis; they can facilitate implementation of mandatory financial security, but may also reduce effectiveness.

5. Conclusions and way forward

The ELD transposition was finalised on 1 July 2010. Available information does not yet allow for concrete conclusions to be drawn about the effectiveness of the Directive in remediying environmental damage. The three-year delay in transposing the Directive means that little practical experience is available yet on its implementation. Authorities often did not have rules compliant with the ELD in place on time. Operators were often unaware of the specific legal obligations. Insurers and other institutions offering financial security were not sufficiently familiar with the requirements their products had to meet to be ELD-compliant.

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\(^{19}\) The Spanish mandatory financial security system exempts operators with an estimated potential environmental damage below €300,000 (or between €300,000 and €2 million when operators implement EMAS/ISO 14001). This would exempt a potentially large number of operators from compulsory financial security, making it easier to implement the scheme, but the potential environmental damage of all Annex III activities would need to be analysed.

\(^{20}\) This is true for Spain (see above) and the Czech Republic.
The results of the studies carried out for this report and the experience gained with the implementation of the ELD indicate that several measures can be undertaken to improve the implementation and effectiveness of the Directive:

1. Promote **information exchange and communication** between the key stakeholders (operators, competent authorities, financial security providers, industry associations, government experts, NGOs and the Commission).

2. Industry associations, financial security associations, and the competent authorities implementing the Directive should continue to promote **awareness of individual operators and financial security providers** through awareness-raising actions.

3. Develop further **interpretation guidance** on the application of the ELD, in particular possible **guidelines at EU level** on its Annex II. Key definitions and concepts, such as ‘environmental damage’, ‘significant damage’, ‘baseline condition’, where there is divergence in national implementation, will be discussed in the environmental liability group of government experts and should be clarified and evenly applied.

4. Member States are advised to establish **records or registers** of ELD cases. This will allow lessons to be learnt on how best to apply the Directive and support ELD stakeholders. It will also help Member States to fulfil their reporting obligations under Article 18(1) ELD and allow the effectiveness of the ELD to be judged on the basis of actual cases.

Despite the financial crisis, evidence suggests that the ELD insurance market is growing in the EU and that an increasing variety of products is available. Greater legal clarity is expected to lead to a more predictable and legally certain application of the ELD criteria by competent authorities and operators when dealing with cases of damage under this Directive.

Because of the lack of practical experience in the application of the ELD, the Commission concludes that there is not sufficient justification at the present time for introducing **a harmonised system of mandatory financial security**. Developments in those Member States that have opted for mandatory financial security, including the gradual approach, and in the Member States that have not introduced obligatory financial security, will have to be further monitored before reliable conclusions can be drawn. The Commission will also actively monitor recent developments such as the oil spill in the Gulf of Mexico, which may provide the justification for an initiative in this area.

The Commission 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 addition, the present report has identified a **number of other issues** that call for more immediate attention. With regard to the general review of the ELD foreseen for 2013/2014, the evaluation on a continuous basis of the possible earlier introduction of the following corresponding measures will be launched without delay:

- **the scope of the Directive**: While the ELD covers specific environmental damage, mainly on land territory, the coverage of the marine environment is incomplete. The ELD extends

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21 The Commission is aware of Member States’ efforts on this; some of them have incorporated provisions in their transpositions.

22 See for example the two preliminary rulings by the European Court of Justice in the Italian **Rada de Augusta** cases C-378/08 and combined cases C-379/08 and C-380/08, where the Court clarified questions in relation to the polluter pays principle and regarding the duties of competent authorities, such as the establishment of the causal link, determination and alteration of remedial measures, identification of liable parties etc.
to coastal waters and the territorial sea as regards ‘damage to water’ (through the Water Framework Directive) and to protected marine species and Natura 2000 sites within the jurisdiction of the Member States (extending to the exclusive economic zone and continental shelf where applicable), leaving a gap in the full remediation of damage to the marine environment. Damage to the marine environment due to oil spills caused by oil drilling activities is therefore not fully addressed by the present ELD provisions.

- **the divergent national transposing rules** potentially create difficulties, for example, to financial security providers who have to modify generic products to fit the requirements of each Member State where they are provided. A mandatory harmonised EU system for financial security for the ELD would have a greater chance of success if there was less divergence in the different national implementation provisions.

- the uneven application of the **permit and state of the art defences** by Member States.

- the uneven extension of the scope to cover **damage to species and natural habitats** protected under domestic legislation.

- **the sufficiency of actual financial ceilings** set for established financial security instruments with regard to potential large scale accidents. The ability of existing financial security instruments to cover massive incidents needs to be assessed in connection with applicable financial ceilings and the potential of different types of instruments, such as funds, insurance, guarantees, etc. In this context, the review will aim at discovering the most efficient ways of ensuring sufficient financial resources in case of large scale incidents that involve responsible parties with mediocre or even low financial capacity.