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Environmental Damage Caused by Frozen Vessels under EU Sanctions

Current EU Legislation and its Compliance with EU Environmental Policy Principles

Abstract: Since the Russian-Ukrainian war began in February 2022, EU Member States have seized and immobilized numerous yachts linked to sanctioned Russian individuals. A key concern arising from these seizures is the environmental risk posed by abandoned or poorly maintained vessels, as neither their sanctioned owners nor the seizing states may assume responsibility for their upkeep. This paper focuses on whether and to what extent existing EU environmental law offers legal grounds for dealing with environmental harm caused by frozen vessels. It further examines whether the current legal framework aligns with core EU environmental policy principles such as the polluter-pays, preventive, and precautionary principles. Methodologically, it is grounded in a descriptive legal analysis of current EU environmental law and is complemented by a qualitative examination of three core EU environmental policy principles. The findings reveal significant legal ambiguities and enforcement challenges that hinder effective environmental protection in this context. Ultimately, the study contributes to the broader discourse on legal liability regarding environmental damage in the light of EU sanctions offering insights for both scholars and policymakers seeking to navigate the complex legal-political landscape of environmental protection.

Keywords: EU Environmental Liability Directive, Environmental Damage, Sanctions against Russia, Frozen Vessels, Polluter-Pays Principle

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Introduction

In the context of the Russian-Ukrainian war which started in February 2022, the European Union (EU) has adopted restrictive measures against individuals of Russian and Belarusian nationality.[1] Part of these restrictive measures against Russia involve the freezing of assets and economic funds of sanctioned persons in order to weaken the aggressor and to bring the war to a quicker end.[2] As one of many tools of restrictive measures, the freezing of assets is a targeted sanction, tailored to address individuals and entities included in the list of the relevant EU legal acts.[3] Such targeted assets often belong to Russian oligarchs who have been a particular target of Western sanctions because, in addition to their wealth, they are often deemed to be politically influential or close to the government.[4] One of the overarching objectives of the sanctions is to limit such influence on the sanctioned government. Although the primary focus and purpose of these sanctions lie in the EU's Common Foreign and Security Policy (CFSP), it is important to recognise that imposing sanctions also has significant impacts on other policy areas – for instance if these frozen assets pose a threat to the environment. This is the case with several superyachts anchored in EU waters and seized from sanctioned persons linked to the Russian government. Even though exact figures are difficult to confirm due to complex ownership structures, at least 13 superyachts worth over $2 billion were detained across Europe within the first months.[5]

Vessel-based pollution is among the most prevalent sources of marine environmental damage and has been a long-standing concern.[6] But how exactly do these vessels threaten a healthy marine environment? Whether intentional or not, it is usually caused either by emergencies, discharges, accidents, dumping of residue and waste or cleaning processes.[7] Scholars have pointed out that "marinas and yachts represent an unexplored domain of coastal risk"[8] and that the growth in this sector increases concerns about the adverse effects of leisure boating on the environment

1 European Commission, "Ukraine: The Commission Proposes Rules on Freezing and Confiscating Assets of Oligarchs Violating Restrictive Measures and of Criminals," European Union, 2022, https://ec.europa.eu/commission/presscorner/detail/en/qanda_22_3265 (accessed October 19, 2023).

2 European Commission, "Questions and Answers: The Commission proposes rules on freezing and confiscating assets of oligarchs violating restrictive measures and of criminals," European Union, 2022, https://ec.europa.eu/commission/presscorner/detail/en/qanda_22_3265 (accessed on 19 October 2023).

3 European Data Protection Supervisor, "Asset Freezing," European Union, 2023, https://edps.europa.eu/data-protection/data-protection/reference-library/asset-freezing_en (accessed October 19, 2023).

4 Sergei Guriev and Andrei Rachinsky, "The Role of Oligarchs in Russian Capitalism," *The Journal of Economic Perspectives* 19, no. 1 (2005): p. 132.

5 "Russian Superyachts Worth Over $2 Billion Are Detained in Europe," *Bloomberg.Com*, April 4, 2022, https://www.bloomberg.com/news/articles/2022-04-04/russian-superyachts-worth-over-2-billion-are-detained-in-europe (accessed May 5, 2025).

6 Marie-Louise Larsson, *The Law of Environmental Damage: Liability and Reparation* (Stockholm: Kluwer Law International–Norsteds Juridik: Martinus Nijhoff Publishers, 1999): p. 132.

7 Larsson, *The Law of Environmental Damage*. p. 132

8 Eli D. Lazarus and Leonidas A. Ziros, "Yachts and Marinas as Hotspots of Coastal Risk," *Anthropocene Coasts* 4, no. 1 (January 2021): p. 62.

in the Mediterranean Sea, specifically in so-called marine protected areas.[9] Although there are relatively more smaller boats than large superyachts[10], the impact of a large vessel can be disproportionately severe and irreversible, especially in confined areas like a marina.[11] Vessels pose a risk to the marine environment because of the release of various types of substances which can be summarized as general harmful substances, oil, sewage, garbage and harmful emissions.[12] Besides oil waste and oil derivatives[13], hydrocarbons are one of the most dangerous threats to harm the environment and are often released from poorly maintained engines, during maintenance procedures or structural vessel failure.[14] Regular maintenance is essential for both safety and environmental reasons, and typically occurs in marinas, slipways or dry docks, depending on the size of the vessel.[15] Thereby, pollutants such as "spent engine fluids, waste hydrocarbons and used ethylene glycol (anti-freeze), waste solvents from parts-cleaning operations; detergents; paints; vessel scrapings and dust; metals from worn parts and replacement batteries and acids" can enter the marine ecosystem solely as part of the routine maintenance of a vessel.[16] Based on these considerations, it is evident that vessels pose a considerable danger to the surrounding ecosystem, particularly when not well maintained or safely stored.[17] Yet, the repercussions of recreational boating on coastal waters often escape the attention of policymakers or remain inadequately managed.

At the same time, storing and maintaining these assets comes at a significant expense to local authorities, raising the question of financial responsibility for maintenance costs if the vessel is

9 Arnau Carreño and Josep Lloret, "Environmental Impacts of Increasing Leisure Boating Activity in Mediterranean Coastal Waters," *Ocean & Coastal Management* 209 (August 1, 2021): p. 2.

10 Lazarus and Ziros, "Yachts and Marinas as Hotspots of Coastal Risk," p.63.

11 Carreño and Lloret, "Environmental Impacts of Increasing Leisure Boating Activity," p. 2.

12 Agnieszka Deja et al., "Analysis and Assessment of Environmental Threats in Maritime Transport," *Transportation Research Procedia*, 14th International scientific conference on sustainable, modern and safe transport, vol. 55 (January 2021): p. 1075.

13 Larsson, *The Law of Environmental Damage*, p.132–134.; Deja et al., "Analysis and Assessment of Environmental Threats in Maritime Transport," p. 1075.

14 Troy A. Byrnes and Ryan J. K. Dunn, "Boating- and Shipping-Related Environmental Impacts and Example Management Measures: A Review," *Journal of Marine Science and Engineering* 8, no. 11 (2020): p. 10.

15 Byrnes and Dunn, "Boating- and Shipping-Related Environmental Impacts," p. 12.

16 Byrnes and Dunn, "Boating- and Shipping-Related Environmental Impacts," p. 12.

17 Annabelle Fox, "Marine Surveyors Van Ameyde McAuslands Warn Seized Yachts Must Be Decommissioned to Mitigate Safety and Environmental Risks," *The International Institute of Marine Surveying (IIMS) News*, April 7, 2022, https://www.iims.org.uk/marine-surveyors-van-ameyde-mcauslands-warn-seized-yachts-must-be-decommissioned-to-mitigate-safety-and-environmental-risks/ (accessed October 19, 2023).

in government custody.[18] In addition to the costs of maintenance and storage, the general issue of liability becomes even more pressing if these frozen vessels cause damage to the environment. Who should be primarily liable for the damage and who should bear the costs of cleanup? As these sanctions against Russia are part of a rather recent development, there has not yet been extensive research conducted on this issue. On the face of it, it remains unclear whether the operator of the vessel or the seizing government would be legally responsible for the care of the asset and the prevention and remediation of environmental damage.

According to Article 191 of the Treaty on the Functioning of the European Union (TFEU)[19], EU environmental policy is essentially based on the precautionary principle, the preventive principle, as well as the principles that pollution should be rectified at the source and that the polluter should pay.[20] In theory, EU environmental legislation is thus based on environmental policy and should therefore incorporate the objectives of the environmental policy principles. Beyond its legal basis, the consideration of environmental policy in the context of sanctioned yachts in EU marinas is crucial for several reasons. Environmental policy provides a framework for sustainable practices and ensures that the maritime industry is in line with wider EU environmental objectives. Additionally, the integration of environmental policy perspectives also enhances the social responsibility of marina operations and promotes responsible environmental management. In situations where there is a risk of environmental damage, environmental policy-making can be more flexible than existing environmental legislation. As the issue of frozen vessels under EU sanctions is of a cross-border nature and concerns the sound protection of the environment, EU environmental policy is therefore also involved. Since these vessels pose a threat to the environment, the associated sanctions create uncertainty as to the fate of these frozen assets and the party responsible in the event of an incident. Thus, while embedded in the context of the CFSP, it cannot be denied that it is also highly relevant to EU environmental policy which is guided by its fundamental principles aiming to protect the environment. EU environmental policy not only reflects a shared responsibility to protect the planet but also serves as a model for cooperative and effective policy-making to minimise pollution as much as possible.

18 Stephen Burgen, "Could Sanctions Leave Oligarchs' Super Yachts High and Dry in Spain?," *The Guardian – The Observer Russia*, February 26, 2022, https://www.theguardian.com/world/2022/feb/26/could-sanctions-leave-oligarchs-super-yachts-high-and-dry-in-spain (accessed October 19, 2023).; Giacomo Tognini, "Inside the 150 Frozen Homes, Yachts and Jets of Sanctioned Russian Oligarchs," *Forbes*, April 14, 2023, https://www.forbes.com/sites/giacomotognini/2023/04/14/inside-the-150-frozen-homes-yachts-and-jets-of-sanctioned-russian-oligarchs/ (accessed October 19, 2023).

19 Consolidated version of the Treaty on the Functioning of the European Union (TFEU). (2016). OJ C 202, 7.6.2016, p. 47–199, Art. 191.

20 Christian Kurrer and Nicoleta Lipcaneanu, "Environment Policy: General Principles and Basic Framework," *European Parliament*, 2023, p. 1.

Since this paper spans multiple policy areas and no clear guidance exists for this specific case, examining the current EU framework on the environmental liability of frozen vessels offers the best insight into the present status quo. In attempting to find an answer to this issue, this paper seeks to shed light on whether there is a potential gap between the implementation of EU environmental policy objectives and the current state of environmental liability legislation based thereon. Based on the preceding, this paper addresses two principal research questions:

Which party can be held legally liable for environmental damage caused by seized vessels under EU sanctions?

Does the current EU legislation reflect the polluter-pays, the precautionary and the preventive principles?

The intersection of EU security and environmental policy is examined by analysing legal liability for environmental damage caused by vessels seized under EU sanctions against Russia. The analysis focuses on assessing how well the current EU legal framework protects the environment in such cases. The two disciplines of law and politics are combined to examine the topic at hand from these two perspectives. By integrating methods and analytical tools from law and environmental policy, the study captures dimensions that would remain overlooked if approached from a single field.

This paper first outlines the legal requirements and concepts necessary to understand environmental liability before applying a descriptive legal method concerning the legal part of the research question, which is particularly suited for studies aiming to clarify and explain a specific issue.[21] As the primary objective of descriptive legal research is to depict events that have taken place in the past, this approach emphasises the examination of the research subject matter, the *what* rather than its underlying motivations, the *why*.[22] Therefore, this section focuses on the Environmental Liability Directive (ELD) and EU Regulation 269/2014[23] since they are the most prominent and fitting legislation to date. Besides the ELD, Directive 2008/99/EC[24] on the protection of the environment through criminal law also exists, however it only becomes applicable in case a vessel was seized under criminal allegations in relation to the vessel. Therefore, this Directive is not relevant unless the sanctioned vessel was linked to environmental crimes. This provides further opportunity to look at the topic from a different angle, which is not covered in this paper.

21 M.D. Pradeep, "Legal Research: Descriptive Analysis on Doctrinal Methodology," (Rochester, NY, December 29, 2019).
22 Uchenna Abugu, "Legal Research Methodology and Applicable Procedures to Legal Research in Nigeria," 2021, p. 5.
23 Council Regulation (EU) No 269/2014 of 17 March 2014 concerning restrictive measures in respect of actions undermining or threatening the territorial integrity, sovereignty and independence of Ukraine. OJ L 78, 17.3.2014, p. 6–15.
24 Directive 2008/99/EC of the European Parliament and of the Council of 19 November 2008 on the protection of the environment through criminal law, OJ L 328, 6.12.2008, p. 28–37.

After the legal descriptive part, this paper turns to an environmental policy analysis, applying a qualitative content analysis and using a deductive approach. A qualitative content analysis is essentially based on categories and aims to depict the "meanings of the phenomenon" rather than just counting words.[25] For this paper, the research by Wibisana (2006)[26] forms the basis for the creation of the deductive categories, as this paper has carried out similar research to find out whether the polluter-pays, the preventive, and precautionary principles were respected within a selected piece of legislation. The analysis assesses how the current EU legislation, particularly the ELD, aligns with three core environmental policy principles: the polluter-pays, preventive, and precautionary principles. While Regulation 269/2014 governs asset freezes under the CFSP, it contains no environmental provisions. Therefore, the analysis focuses solely on the ELD to evaluate whether it effectively incorporates these principles and can protect the environment from risks posed by frozen vessels. Thus, the analysis evaluates the extent to which the polluter-pays, preventive, and precautionary principles are reflected in relevant legislation, aiming to determine whether these principles are upheld or circumvented.

The discussion then critically examines the combined legal and policy findings, and the paper concludes by summarizing key insights, identifying open questions, and outlining potential implications for future liability cases under sanctions. Based on my analysis, I believe that the current EU legislation does not sufficiently support the protection of the environment in such a case and that the taxpayers ultimately have to pay for the damages in case of an incident.

Legal Descriptive Analysis

This section examines the current EU framework governing liability under sanctions, assessing whether environmental pollution caused by a seized vessel triggers any applicable EU liability provisions at present. It provides a descriptive analysis of existing sanctions and liability legislation and concludes that the EU's liability regime in the context of restrictive measures remains underdeveloped, offering insufficient means to hold responsible operators fully accountable for resulting environmental damage.

25 Ying Zhang and Barbara Wildemuth, "Qualitative Analysis of Content," in *Application of Social Research Methods to Questions in Information and Library Science* (2009): p. 308.
26 Armin Wibisana, "Three Principles of Environmental Law: The Polluter-Pays Principle, the Principle of Prevention, and the Precautionary Principle," in *Environmental Law in Development* (2006): p. 24–75.

Understanding Legal Foundations for Environmental Liability

Establishing liability requires demonstrating causation, which in tort law means proving a link between an action and the resulting harm. This task is complicated by the distinction between scientific causality and legal causation.[27] The legal 'but-for' test asks whether the harm would have occurred absent a specific act, yet scientific uncertainty often obscures this determination, allowing wrongdoers to evade responsibility.[28] Courts increasingly counter this by lowering the requirement for full scientific certainty or reversing the burden of proof, compelling the alleged injurer to disprove their role in the damage.[29] Establishing causality demands attention not only to active conduct but also to omissions or negligence that may have contributed to the harm. In environmental tort cases, both general causation (that a substance is harmful) and specific causation (that it caused the particular damage) must be shown. Yet this process is complicated by causal chains, multiple responsible parties, and the diffuse nature of pollution. These complexities can make pinpointing liability impossible, especially where the damage may stem from several interlinked actions or inactions. In the context of this paper, while a seized vessel might be assumed to pose environmental risks, such assumptions cannot by themselves establish legal responsibility; the challenge lies in attributing the harm to a specific actor within a potentially tangled web of causes. It is imperative to closely examine how causality is defined and required in the relevant EU legislation, for instance, if a causal link is necessary and which party bears the burden of proof. As this paper does not analyse a case that has actually occurred, it explores in which case the authorities or the operator of the vessel would be liable for the damage, or if there is no clear answer to this question.

When it comes to the attribution of liability, a distinction can usually be made between strict liability and fault-based liability schemes. This does not exclude the need to prove a causal relationship between the damage and an activity leading to the damage, but the strict liability scheme does not require the demonstration of fault or negligence on the part of the operator. On the other hand, the fault-based liability system operates on the premise that, in addition to proving causation, either fault or negligence must be demonstrated. Another option to escape liability within this scheme is that even though the operator caused the damage, he/she does not have to pay for it in case the operator fulfilled all due care standards.[30] Hence, the fault-based liability scheme is sometimes also referred to as a negligence scheme.

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27 Robert Young et al., "Causality and Causation in Tort Law," in *International Review of Law and Economics* 24, no. 4 (2004): p. 509.

28 Young et al., "Causality and Causation in Tort Law," p. 509.

29 Young et al., "Causality and Causation in Tort Law," p. 508.

30 Kristel De Smedt, "Is Harmonisation Always Effective? The Implementation of the Environmental Liability Directive," in *European Energy and Environmental Law Review* 18, no. 1 (2009): p. 3.

In addition to these two liability schemes, there are also the proportional liability rule and the joint and several liability rule when it comes to covering the costs of the damage. They become relevant when more than one party can be held liable for causing damage, and the question arises as to how the remedial costs should be apportioned. The proportional liability rule implements that each potential tortfeasor can be held liable in proportion to the probability that they are responsible for the damage.[31] Thus, each liable party would need to pay for the costs of the damage according to their share of responsibility for causing the harm. Precisely in this context, environmental risks have been mentioned as a prime example, where such a rule fits this reasoning.[32] Alternatively, the joint and several liability rule states that if the plaintiff sues many defendants and wins only against one, "it can recover its full damages from that defendant".[33] If, for example, multiple defendants are convicted but one of them is insolvent, the entire costs would be shared amongst the remaining defendants.[34] Proportional liability, on the other hand, can only charge a defendant according to this defined share of damage, and if one party is insolvent, these costs are not covered.[35] Thus, the joint and several liability rule intends to ensure that the full costs of the damage are covered no matter the state of solvency of the defendants and is hence advantageous in light of the increased burden it places on the operators.[36] Having outlined key legal concepts, it is now necessary to turn to the legal basis of EU sanctions in order to assess how environmental liability may arise in this context.

The EU Sanctions Framework against Russia

First of all, we will have a look at the current EU legislation regarding sanctions, which are one of many tools of the EU's CFSP aiming at weakening the economy of the sanctioned government or entity. Following Russia's military actions against Ukraine in February 2022, the European Union adopted additional sanctions, complementing the restrictive measures introduced in 2014 after the annexation of Crimea. Stemming from 2014, Regulation 269/2014 introduces the "restrictive measures in respect of actions undermining or threatening the territorial integrity, sovereignty, and independence of Ukraine"[37] and introduces sanctions against Russia as well as defines the

31 Young et al., "Causality and Causation in Tort Law," p. 508.; see also Steven Shavell, "Uncertainty over Causation and the Determination of Civil Liability," *The Journal of Law and Economics* 28, no. 3 (1985): p. 587–609.

32 Young et al., "Causality and Causation in Tort Law," p. 508.; see also Shavell, "Uncertainty over Causation and the Determination of Civil Liability," p. 587–609.

33 Lewis Kornhauser and Richard Revesz, "Joint and Several Liability," in *Tort Law and Economics* (2009): p. 109.

34 Kornhauser and Revesz, "Joint and Several Liability,", p. 109.

35 Kornhauser and Revesz, "Joint and Several Liability," p. 109.

36 De Smedt, "Is Harmonisation Always Effective?," p. 11.

37 Regulation 269/2014, European Commission, (2022). 'Ukraine: The Commission Proposes Rules on Freezing and Confiscating Assets of Oligarchs Violating Restrictive Measures and of Criminals', retrieved from https://ec.europa.eu/commission/presscorner/detail/en/ip_22_3264 (last accessed on 21 October 2023).

necessary terms with regard to the delimitation of the scope. Furthermore, Annex I of Regulation 269/2014 contains the list of persons affected by the measures and the provisions set in place.[38] Regarding the provisions established in Reg. 269/2014, Art. 1 lays out all definitions necessary for the correct understanding of the Regulation. For example, the "freezing of economic resources" is defined as the prevention of the use of economic assets to receive funds, services or goods, including their sale, hiring or mortgaging.[39] Art. 2(1) of Reg. 269/2014 addresses the explicit freezing order, pursuant to which all funds and economic resources shall be frozen that either belong to, are owned, controlled, or held by any natural or legal persons or entities on Annex I, or bodies associated with them[40] enabling any EU Member State to freeze the vessels of persons or entities named in Annex I of Reg. 269/2014 or who are associated with them. Thus, frozen vessels are put in a state that operators are not allowed to use or access them. The freezing order itself allows Member States to seize the assets of persons subject to or connected with the restrictive measures and access to funds and economic resources. However, Regulation 269/2014 introduces the exception to make funds or economic resources available if they are "intended exclusively for payment of fees or service charges for routine holding or maintenance of frozen funds or economic resources".[41] This thus presents governments with the opportunity to pass on the costs of maintenance and safe storage to the owner of the frozen vessels. In line with the objectives of the sanctions, a government that seizes an asset has the responsibility to make it unavailable to the sanctioned person and must guard the value of the assets to return them in the same state as it was previously seized.[42] Given the temporary nature of the sanctions, the seizing authority has the responsibility to take all necessary measures to ensure the vessel maintains its state and condition.

While Regulation 269/2014 establishes the legal framework for the imposition of sanctions, this paper will now direct its attention to the Environmental Liability Directive, as it constitutes the fundamental legislative instrument for the determination of liability for environmental damage.

The Environmental Liability Directive (ELD)

The ELD intends to hold operators liable who cause damage to the environment or who pose an imminent threat thereof, and establishes a liability regime based on the polluter-pays principle

38 Regulation 269/2014, Annex I.
39 Regulation 269/2014, Art. 1(e).
40 Regulation 269/2014, Art. 2(1).
41 Regulation 269/2014, Art. 4(1)(c).
42 Regulation 269/2014, Art. 1(e).

(PPP).[43] In general, a directive binds Member States to EU law regarding the result but leaves them room to decide how to implement it in their national laws. The ELD either applies if the damage to the environment was caused by an occupational activity specified in Annex III of the Directive as written in Art. 3(1)(a) ELD, such as waste management operations or the transport of dangerous substances, or if the damage was caused by an occupational activity other than those mentioned in Annex III but the operator has been at fault or negligent, see Art. 3(1)(b) ELD.44 Without further constraints, we can determine that the context of this paper does not concern Art. 3(1)(a) ELD, as none of the occupational activities listed in Annex III of the ELD are concerned.[45] Art. 3(1)(b) ELD, on the other hand, introduces the potential applicability of the ELD to our case at stake, yet, there are three requirements to fulfil.[46] First, it is necessary to engage in an occupational activity. Second, fault or negligence must be established. Lastly, only damages to protected species and natural habitats of a certain significance are applicable as defined in Art. 2(3) ELD.[47]

The ELD only applies if the activity that caused the damage was carried out in the course of an occupational activity, as defined in Art. 2(7) of the ELD and supported by its recital 8.[48] According to this definition, an occupational activity is "any economic activity, business or undertaking, irrespective of its private or public, profit or non-profit character".[49] Opposing this definition, other legal scholars have defined non-occupational activity as "any activities of individuals carried out in a purely private and domestic capacity outside the public arena of gainful employment or self-employment".[50] Based on these two definitions, private and domestic activities would cause the ELD to be inapplicable. However, one of the difficulties in defining occupational activity is to distinguish between what can be considered occupational and what is purely private. In the case of a seized vessel, the operator is not able to carry out any occupational or non-occupational activities at all. If the vessels had been used for occupational or purely for leisure purposes before the freezing of the asset, this would need to be determined in each case. In fact, while some yachts are only used for private purposes and others for chartering on a commercial basis, many

43 Jonathan Kemp, Ning Li, Alberto Nieto, et al., "Experience Gained in the Application of ELD Biodiversity Damage: Final Report," European Commission, Directorate-General for Environment, 2014, p. 3.
44 ELD, Arts. 3(1)(a) and 3(1)(b), and Annex III.
45 ELD, Art. 3(1)(a) and Annex III.
46 ELD, Art. 3(1)(b).
47 ELD, Art. 2(3).
48 ELD, Arts. 2(7) and 3(1)(b) and recital 8.
49 ELD, Art. 2(7).
50 Martin Hedemann-Robinson, *Enforcement of European Union Environmental Law: Legal Issues and Challenges* (London: Routledge, 2015): p. 604.

of these vessels apply a mix of both.[51] Regarding a yacht seized by Italy in May 2022, worth $700 million and linked to Vladimir Putin, the Italian authorities stated that "its owner had significant economic and business links to prominent elements of the Russian government".[52] This suggests that at least some vessels of sanctioned Russian oligarchs show this required link to an economic activity that could make the ELD applicable.

First, Art. 4(5) ELD is the only provision in the ELD explicitly addressing the requirement of a causal link between an activity and the resulting damage for the ELD to be applicable.[53] However, this only applies to pollution of a diffuse nature. Otherwise, the ELD only uses the term "caused by" to indicate the necessity to prove causation. Thereby, the ELD does not specify what type of causal test needs to be fulfilled to prove legal causation.[54] Even though the ELD is not necessarily explicit about the necessity of legal causation, the competent authorities bear the burden of proof and must demonstrate legal causation in order for the ELD to apply at all. When it comes to the matter of financial liability, the burden of proof is reversed onto the operator following Arts. 8(3) and 8(4) ELD. According to these provisions, in case the operator can prove that he was not at fault or negligent, financial liability will be reimbursed.[55] This shift in the burden of proof shows us a first sign in favour of a strong will to hold an operator at least financially liable for the damage caused.

Further, the ELD establishes a mix of both liability rules, as discussed before. Any occupational activities referred to in Art. 3(1)(a) ELD and explicitly listed in Annex III are subject to strict liability[56], whereas fault-based liability can be found in Art. 3(1)(b) ELD.[57] According to this provision, any occupational activities other than those listed in Annex III of the ELD are concerned, but only if there is either fault or negligence in the operator's behaviour and a causal link can be established between the activity and the environmental damage.[58] Therefore, fault-based liability outlined in Art. 3(1)(b) ELD poses a higher risk that an operator of a vessel may escape being held

51 Chris Balls, "MASS – Potential Applications in Superyachts," *Journal of Physics: Conference Series 1357* (2019): p. 1.; Kate Duffy Bienasz et al., "Oligarchs Don't Just Love Their Superyachts – They Also Use Them to Cement Their Status among Russia's Elite," *Insider*, April 7, 2022, https://www.businessinsider.com/russian-oligarch-billionaires-love-superyachts-megayachts-status-luxury-elite-2022-3?r=US&IR=T (accessed October 21, 2023).

52 Bruce Zagaris, "Oligarch Sanctions," *International Enforcement Law Reporter* (2022): p. 200.

53 ELD, Art. 4(5).

54 Lucas Bergkamp and Peter van Bergeijk, "Scope of the ELD Regime," *The EU Environmental Liability Directive: A Commentary* (Oxford: Oxford University Press, 2013): p. 70.; ELD, Art. 3(1).

55 ELD, Arts. 8(3) and 8(4).

56 ELD, Art. 3(1)(a) and referring to Annex III.

57 ELD, Art. 3(1)(b).

58 ELD, Art. 3(1)(b).

liable for causing damage if any of these requirements were not fulfilled. Keeping this in mind, the situation of frozen vessels would trigger Art. 3(1)(b) ELD and thus be subjected to the fault-based liability scheme. Thus, an operator of a vessel can be held liable if the operator's actions cause environmental damage, by either fault or negligence in the course of an occupational activity other than those listed in Annex III of the ELD.

Turning to the defences, two are clearly outlined in Arts. 8(3)(a) and 8(3)(b) ELD. The first option allows for the redirection of financial liabilities provided that the operator can prove that the damage was caused by a third party and despite having taken all necessary safety measures.[59] The second alternative for eliminating liability is when the operator can prove that the environmental damage arose due to compliance with a compulsory order or instruction from a public authority.[60] Both of these defences are further supported by recitals 18 and 20 of the ELD. Recital 18 states that in case the competent authority acted itself or in place of the operator, financial liability of the operator shall be recovered.[61] Recital 20 of the ELD introduces leeway for the operator's liability, presenting a situation beyond the operator's control.[62] If the operator can prove that the situation at stake was beyond his/her control, the operator shall not be held liable according to the ELD. In our specific context, the operators of the vessel are denied access to the frozen asset as the sanctions in Reg. 269/2014 have established.[63] Thus, anything that happens to the vessel while in the custody of the local authorities may therefore be considered outside the operator's control and the freezing order can be considered to be a compulsory order from a public authority. Scholars also agree that in certain circumstances, such as in the case of a compulsory order by a public authority, operators are not required to bear the financial burden.[64]

Art. 8(4)(a) ELD outlines the so-called permit defence which holds that if an event has been expressly authorised, the operator can recover the costs of remedial actions.[65] Art. 8(4)(b) ELD introduces the state-of-the-art defence which describes the occasion where costs for remedial actions are reimbursed in case it can be proven that the activity was not considered likely to cause any

59 ELD, Art. 8(3)(a).
60 ELD, Art. 8(3)(b).
61 ELD, recital 18.
62 ELD, recital 20.
63 Reg. 269/2014, Art. 2.
64 ELD, recital 20.; Esther Brans and Gerrit Betlem, "Environmental Liability in the EU: An Introduction," in *Environmental Liability in the EU* (2006), p. 21.
65 ELD, Art. 8(4)(a).

damage according to the state of scientific knowledge.[66] Both these defences present further potential situations for the operator to circumvent liability in the case.

Art. 9 ELD stipulates that it is up to each Member State to decide on the exact method of liability with regard to cost allocation.[67] In other words, Member States are authorised to determine between proportional or joint and several liability if there is possibly more than one polluter.[68]

This section clarified how liability would be allocated under the ELD by tracing the attribution process and applying it to a hypothetical case. Under the ELD, attribution of liability generally follows a clear sequence: first, environmental damage is identified; then, causation is established; and finally, liability is assigned to the operator responsible for the polluting activity. If the operator is unknown, insolvent or exempt, liability may shift to the owner, the authority holding the asset or ultimately, public funds. In the case of a seized vessel causing pollution, the operator would usually be held responsible if their negligence had contributed to the damage. However, if sanctions prevented enforcement or if the seizing authority had control, liability could transfer to the custodian. If no party can be held accountable, the state bears the costs, highlighting a shortcoming in ensuring that the polluter pays.

Summary of the Legal Framework Regarding the First Research Question

We have seen that the sanctions are set out in Reg. 269/2014, which introduces the freezing order in its Art. 2(1). Furthermore, we have observed that the ELD is the correct EU liability legislation for this case and the only instrument that fits our situation. Nonetheless, some obstacles could hinder the applicability of the ELD, as it is not entirely clear whether it can be applied to frozen vessels in EU waters. The requirements for applicability outlined in Art. 3(1)(b) ELD are firstly, significant damage to protected species or habitats, secondly, being able to establish a causal connection based on fault or negligence, and thirdly, while conducting an occupational activity. If these requirements are met, local competent authorities have a good chance of holding an operator of a vessel liable for environmental damage. The first criterion is straightforward, as it is necessary to exceed a certain threshold or threaten certain species to invoke the ELD. The second criterion, a causal link due to fault or negligence, has to be established by the competent authority. The third criterion, the presence of an occupational activity, is the one most likely to pose a problem for the ELD to apply to environmental damage caused by frozen vessels. It can

66 ELD, Art. 8(4)(b).
67 ELD, Art. 9.
68 Monika Hinteregger, "International and supranational systems of environmental liability in Europe," (2008), p. 22.

be argued that the vessels of sanctioned persons cannot be assumed to be purely private, nor necessarily of an occupational nature. It is therefore necessary to determine in each case whether the vessel was used for occupational purposes or not. Ultimately, it is for the competent national authorities to decide whether or not an activity can be considered occupational and whether all conditions for the application of the ELD are met. Therefore, an operator of a sanctioned vessel can be held liable for environmental damage under the ELD if the national court considers that the vessel was carrying out an occupational activity while exceeding the threshold of significant damage to a protected species or habitat, and a causal link between the operator's activity and the damage can be established based on fault or negligence. However, the operators of the vessel may try to invoke one or more of the defences mentioned above in an attempt to deflect or evade liability. The most probable possibility would be that the seizure was an order explicitly authorised by the authorities and resulted in a situation beyond the operator's control, under given grounds. In such a case, the operator could escape financial liability for the damage since costs would be reimbursed.

At the same time, under the terms of the freezing order, the local authorities have the duty to take care of the frozen assets so that they can be returned in the same condition. As the operator of the vessel is no longer allowed to board the vessel, the seizing government is responsible for the maintenance of the asset. Therefore, if the local authorities have failed to maintain the vessel properly or if the environmental damage can be attributed to some other act, the seizing government may also be held liable for causing damage.

Against this background, almost all points discussed before have been confirmed by EU case law.[69] Only in relation to the legal causation requirement has the Court of Justice of the European Union (CJEU) reached differing conclusions depending on the specific circumstances, but always in favour of stringent environmental protection. Most importantly, it has been emphasised on several occasions that the protection of the environment is a high priority, and that the polluter-pays principle is of substantial value. In conclusion, the current jurisprudence shows that each case must be assessed in its own context and that the interpretation of crucial terms must be made in the light of the objective of the ELD and must ultimately aim to ensure a sound protection of the environment.

69 Judgments of 4 March 2015, *Fipa Group and Others*, C534/13, EU:C:2015:140 ; of 13 July 2017, TTK, C129/16, EU:C:2017:547 and of 9 July 2020, *Naturschutzbund Deutschland*, C-297/19, EU:C:2020:533.

Environmental Policy Analysis

Building on the preceding descriptive legal analysis of the ELD, this chapter turns to an environmental policy perspective. The analysis is carried out using a qualitative content analysis with a deductive approach based on the analysis carried out in Wibisana (2006)[70] which analysed the extent to which the polluter-pays, preventive and precautionary principles are recognised and interpreted in Indonesian legislation.[71] Wibisana, a legal scholar outside Europe, provides a clear framework of the mentioned principles that is directly useful for analysing the EU Environmental Liability Directive in this case.

Using a deductive approach based on the five criteria outlined by Wibisana, this chapter examines how these principles are implemented in practice. The analysis highlights areas where the application could be strengthened, revealing gaps between the legal framework and policy outcomes and providing a foundation for the subsequent discussion on liability and enforcement. Consequently, the categories applied in Wibisana serve as a basis for the analysis of current EU legislation in relation to the research questions of this paper and can be summarised in the following categories: 1. Recognition of the Principle; 2. Interpretation of Fault; 3. Interpretation of Causality; 4. Interpretation of Liability; 5. Function and Aim of the Principle. The category 'Recognition' examines whether and where the principle is explicitly mentioned and thus if and how it is recognised in the legislation in question. Next, the concepts of 'Causality', 'Liability', and 'Fault' are examined each in a separate category. More specifically, it is essential to consider whether causality and/or fault is required and what the implications are for the underlying liability. Additionally, one of the most important aspects is the question of which liability scheme is applicable and how this affects the possibility of holding an operator or the seizing government liable. Finally, the last category intends to conclude whether the 'Function and Aim' of the principle have been achieved within the current EU legislation regarding sanctioned vessels linked to Russia. Before delving into the analysis, each principle is briefly introduced.

The Preventive Principle

The preventive principle, grounded in scientifically proven evidence[72], is applied in policies to avert environmental harm before it occurs, particularly in sectors such as waste incineration and water management.[73] Its focus lies on preventing damage rather than bearing the greater cost of

70 Wibisana, "Three Principles of Environmental Law,", p. 24–76.
71 Wibisana, "Three Principles of Environmental Law,", p. 24.
72 Nigel Haigh, *EU Environmental Policy: Its Journey to Centre Stage* (London: Routledge, 2016): p. 153.; Wibisana, "Three Principles of Environmental Law," p. 39.
73 European Commission, "Principles of EU Environmental Law," E*uropean Academy of Law*, https://www.era-comm.eu/Introduction_EU_Environmental_Law/EN/module_2/module_2_9.html (accessed on 16 November 2023).

remediation[74] and it often operates in tandem with the polluter-pays principle which incentivises proactive measures by holding polluters financially responsible. In the context of this paper, the preventive principle is, in theory, upheld when all parties comply with international standards for vessel operation and maintenance, thereby safeguarding the environment. No specific legal framework exists to regulate preventive measures for sanctioned vessels, making adherence to general maintenance obligations essential. Where responsibility for a seized vessel's upkeep is unclear, the risk of environmental harm rises, making invocation of the preventive principle more compelling. Although the current EU legislation does not explicitly refer to the preventive principle, the ELD embeds prevention as a core incentive part of the PPP, as evidenced in multiple provisions. To conclude, this principle could not be examined in the context considered here.

The Precautionary Principle

The precautionary principle, closely related to but distinct from the principle of prevention, applies where scientific certainty is lacking[75] but the risk of serious or irreversible environmental harm is high.[76] It enables governments to restrict or prohibit potentially harmful activities even without conclusive evidence, as famously demonstrated in measures to protect the ozone layer before its depletion was definitively proven. [77] Its application, however, is complicated by the absence of a precise legal definition and the difficulty of determining when scientific uncertainty has been sufficiently resolved.[78] In the context of seized vessels under EU sanctions, there is no evidence to suggest they pose a greater environmental threat than other neglected vessels. Even though there are studies that show that vessels can potentially damage the environment, there is no scientific evidence yet that a seized vessel of a sanctioned person puts the environment at special risk. In the absence of reasonable grounds, such as the presence of highly toxic substances like plutonium, there is no basis for invoking the precautionary principle. Consequently, analysing current EU legislation through this lens is unwarranted in the present case.

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74 Tom Delreux and Sander Happaerts, *Environmental Policy and Politics in the European Union* (London: Palgrave Macmillan, 2016): p. 20.

75 Haigh, *EU Environmental Policy*. p. 153.; Delreux and Happaerts, Environmental Policy and Politics in the European Union. p. 20.; Geert van Calster and Leonie Reins, "The ELD's Background," in *The EU Environmental Liability Directive: A Commentary*, edited by Lucas Bergkamp and Barbara J. Goldsmith (Oxford University Press, 2013): p. 28.

76 Stavros G. Poulopoulos, "Introduction to Environment and Development," in *Environment and Development: Basic Principles, Human Activities, and Environmental Implications*, edited by Stavros G. Poulopoulos and Vassilis J. Inglezakis (Amsterdam: Elsevier, 2016): p. 39.

77 Haigh. *EU Environmental Policy*, p. 153.

78 Haigh, *EU Environmental Policy*. p. 153.

The Polluter-Pays Principle (PPP)

The PPP was established to hold an operator liable for the actions that are responsible for having caused environmental pollution. This way, the cost of economic externalities should be internalized and paid for by the entity causing the pollution.

First Category: Recognition

The PPP is explicitly stated in Art. 1 of the ELD as well as in its recitals 2 and 18. Art. 1 ELD defines the 'subject matter' and strongly states that the objective of the ELD shall be to introduce "a framework of environmental liability" relying on the PPP.[79] In almost the same line, recital 2 of the ELD refers to the advancement of the PPP and requests the operator whose activity caused the environmental damage to be financially responsible for the harm caused. The aim is to provide incentives to minimise the risks of environmental damage in the first place.[80] While Art. 1 ELD and its recital 2 introduce the provision that the operator responsible for the environmental harm shall be financially liable and give further explanations as to how this shall be achieved, recital 18 ELD goes a little further. Besides a short repetition regarding the aim of the PPP, it states potential defences that may exclude an operator's liability. This can be the case if the "competent authority acts, itself or through a third party, in the place of an operator".[81] Thus, recital 18 ELD provides a possible way out for the operator to avoid financial liability and circumvent the PPP. Ultimately, there is no doubt that the ELD recognizes the PPP, using it as a basis for its existence and referring to it explicitly on multiple occasions. Nevertheless, the PPP is also recognized in relation to potential cases where the operator could recover the costs from the authorities and therefore escape financial liability.

Second Category: Interpretation of Fault

We have seen that in our specific situation of interest, only the fault-based liability system is likely to be invoked, as the occupational activities that trigger strict liability are quite specific and are not usually associated with the vessels in question. Thus, fault or negligence is one of the essential conditions for the ELD and consequently the PPP to be effective.[82] Therein, according to Wibisana, the necessity to prove fault or negligence can be seen and interpreted as an unlawful activity in the sense that "liability will only come into play if the action infringes the law".[83] If the operator were to fulfil all standard obligations and comply with all legal provisions, fault could

79 ELD, Art. 1.
80 ELD, recital 2.
81 ELD, recital 18.
82 ELD, Art. 3(1)(b) and recital 9.
83 Wibisana, "Three Principles of Environmental Law," p. 36–37.

not be established and the operator of the vessel would not have to pay for any pollution. In case all due care standards have been followed and the accident did not show faulty or negligent behaviour, the ELD is not applicable. In this sense, this is a slight limitation to the full coverage of liability. Therefore, we are ultimately able to see that a sound implementation of the PPP requires the establishment of fault and/or negligence which can be challenging depending on the circumstances.

Even more limiting, we have seen that the ELD also introduces the permit and state-of-the-art defence, where the operator does not have to bear any costs for remedial measures if he/she can prove an absence of fault.[84] Again, this shows us that the PPP faces a few obstacles and is implemented with a few limitations. On the one hand, fault must be proven in order for the PPP to come into effect, and on the other hand, if the operator can prove that he/she was not at fault, the costs for any remedial measures may have to be covered by the taxpayers.

Third Category: Interpretation of Causality

The ELD generally requires that the damage to the environment is "caused by" an occupational activity.[85] This is not necessarily a requirement with stringent conditions, yet it shows that legal causation is a necessity for the ELD to hold a party liable. The explicit wording of a 'causal link' between the activity causing environmental harm and the resulting damage is explicitly mentioned only in the context of diffuse pollution.[86] This provision is further supported by recital 13 of the ELD which explains in more detail that there is a more stringent need to prove a causal link between individual actors and "pollution of widespread, diffuse character".[87] This leads to a clearer understanding of how the causal relationship must be proven regarding diffuse pollution but essentially establishes the same requirement as for the general establishment of liability. Either way, the authority raising the case must provide evidence of legal causation between the action and the environmental damage. Additionally, as the description of the current EU framework regarding the research context has shown, such a situation would trigger the fault-based liability scheme as set out in Art. 3(1)(b) ELD. Consequently, the authorities would need to provide further evidence that the damage resulted from either faulty or negligent behaviour of the operator.

84 ELD, Arts. 8(4)(a) and (b), recital 20.
85 ELD, Art. 3(1).
86 ELD, Art. 4(5) and recital 13.
87 ELD, recital 13.

At the same time, we were able to observe that the burden of proof is reversed when it comes to covering the costs for remedial and preventive measures. This tells us that in terms of pure financial liability, there is a stronger incentive to enforce the PPP, as the operator must prove that he/she did not actually cause the damage by disproving fault, negligence or proving that all due care standard was fulfilled.

It is therefore standard practice to place the initial burden of proof on the competent authority. However, if legal causation cannot be established, the PPP does not fulfil its purpose of holding a polluter liable and ensuring that society does not bear the costs. With regard to pure financial liability, on the other hand, competent authorities can shift the burden of proof to the operator according to the ELD and thus increase the likelihood that the PPP is followed, as the operator will be liable if he cannot disprove a causal link. This means that there is a greater risk that the operator will not be able to escape liability to pay for any preventive or remedial measures and thus favours the sound implementation of the PPP.

Fourth Category: Interpretation of Liability

As mentioned before, the current EU legal framework for the environmental liability of sanctioned ships points to the application of a fault-based liability regime, provided that all conditions for the applicability of the ELD are met. Thereby, in terms of liability and an efficient implementation of the PPP, the weaker negligence rule would be applied instead of the strict liability scheme. As we heard before, the strict liability scheme would induce a stronger implementation of the PPP, as the operator of a vessel causing damage would directly be responsible without the need to prove fault or negligence. Strict liability would further suggest that operators take stronger preventive measures as compared to the negligence standard. More precisely, this means that in our case there is a higher probability that the operator of a vessel does not have to pay for the costs of pollution and that the social costs of the environment are not internalised. This is further aggravated by the fact that non-negligent activities are not considered at all by this liability scheme.[88] Thus, this finding suggests that the operators of sanctioned vessels face an increased possibility of escaping liability as not only a causal connection between activity and damage must be proven but either fault or negligence too. We can therefore see that the system in question respects the PPP to some extent but could be applied more stringently by applying the strict liability regime.

88 Barbara Luppi et al., "The Rise and Fall of the Polluter-Pays Principle in Developing Countries," in *International Review of Law and Economics 32*(1), (2012), p. 136; Brans and Betlem, "Environmental Liability in the EU," p. 21.

However, this is not the only weakness of the current EU environmental liability legislation in terms of respecting the PPP. In addition to the fault-based liability scheme, there are several defences that an operator of a vessel can use to avoid its responsibility to clean up or prevent environmental damage. It is likely that Arts. 8(3)(a) and/or 8(3)(b) ELD could be used by an operator to argue that the damage was caused by a third party as the vessel had been in the custody of the public authorities, or that the seizure of the vessel could be considered as an order from the public authority.[89] These reasonings are further supported by recitals 18 and 20 ELD which postulate that the operator shall not bear the costs of preventive or remedial measures whenever the competent authority acted itself or in place of the operator.[90] Furthermore, the permit and state-of-the-art defence established in Art. 8(4) ELD introduce further options that the operator cannot financially be held liable for any remedial measures under EU law. We are therefore able to observe that these four defences outlined in the ELD significantly limit the possibility to hold a polluter fully liable and thus to properly implement the PPP.

Most EU Member States have adopted the joint-and-several liability mechanism. Therefore, at least in this aspect, most Member States have opted for a strong application of the PPP compared to the proportional liability rule. The choice of the joint-and-several liability rule is aimed at covering the full cost of the damage, thus avoiding the possibility of operators declaring bankruptcy and passing the costs on to the taxpayer. It still requires proof of causality and fault or negligence but there is a greater likelihood that clean-up costs will be borne in full by the responsible parties rather than by society.

Last but not least, as Art. 9 ELD allows multiple parties to be held liable for causing damage to the environment, it is possible that both the seizing government and the owner of a sanctioned yacht could be held liable at the same time. Thus, the ELD does not exclude shared responsibility for the damage between these two parties. Depending on the specific circumstances in each case, both parties may have to pay their share of involvement in the remedying of the environmental pollution.

Fifth Category: Function and Aim of the PPP

Last but not least, this criterion serves to conclude whether the principle is fulfilled in its function and initial aim. Several authors have highlighted that the polluter-pays principle is a fantastic instrument aiming to incentivise pollution reduction by removing the burden from the

89 ELD, Arts. 8(3)(a) and 8(3)(b).
90 ELD, recitals 18 and 20.

taxpayer and placing it on the polluter itself.[91] However, is the PPP able to fulfil its aims and purpose in the current EU legislation regarding sanctioned vessels?

The need to establish both causality and fault in order to determine liability is not inherently bad, but as we have seen before, both are crucial concepts of tort law that ensure legality, lawfulness and a reasonable basis. However, in case these two requirements cannot be covered, the ELD is not applicable and therefore, the PPP cannot fulfil its function to make the polluter pay. In simple terms, fault and legal causality introduce an additional effort for the PPP to pursue its intention. Thus, this finding suggests that the purpose and function of the PPP are slightly diminished by the liability regime compared to its overarching purpose of internalising external environmental costs and shifting them away from society.

If environmental liability was determined by strict and not fault-based liability, the aim of the principle to hold an operator liable would be reached more easily. On the one hand, it would only be necessary to prove that the damage was caused by that vessel. On the other hand, strict liability generally provides greater incentives to internalise any external costs, thereby improving environmental protection while encouraging the implementation of preventive measures. Therefore, the application of a fault-based liability scheme results in a weaker function and a higher probability of failure to achieve the objectives of the PPP. All these reasonings do not necessarily only apply to the operator or owner of a vessel, but the same is true for seizing governments, who also have an interest in keeping their marinas safe and free from pollution. Therein, strict liability would also induce them to take any action that prevents any damage from happening. As one of the objectives of the ELD is to prevent environmental damage, the ELD requires operators and the local authority to take all necessary preventive measures where there is an imminent threat of harm to the environment.[92] Thus, fulfilling the function and aim of the PPP also means that the seizing government should pay for the damage if it can causally be attributed to an activity which led to the damage.

91 Sandra Cassotta, *Environmental Damage and Liability Problems in a Multilevel Context* (Kluwer Law International, 2012): p. 49.; Jan Jans and Hans B. Vedder, *European Environmental Law* (Groningen: Europa Law Publishing, 2008): p. 43.; Ludwig Krämer, *EC Environmental Law (2007)*, p. 27–29.

92 Edward H. P. Brans, "Fundamentals of liability for environmental harm under the ELD," in *The EU Environmental Liability Directive: A Commentary*, edited by Lucas Bergkamp and Barbara J. Goldsmith (Oxford University Press, 2013): p. 46.; ELD, Arts. 5(1) and 6(1).

Discussion

The analysis aimed to show whether and to what extent the selected environmental principles are reflected and thus respected in the current legislation and how far they can be applied to sanctioned vessels.

As the preventive and precautionary principles both concern actions taken before any damage occurs, policy makers need to be sure of a certain threshold of significant risk to implement either principle. In our case, however, the necessary level of risk is not exceeded for either principle, as these vessels are unlikely to be carrying particularly toxic substances. Nevertheless, the preventive principle is partially addressed and included in the sense that the implementation of the PPP leads to the execution of preventive measures and that the ELD requires operators to take preventive measures.

We will now turn to the results of the analysis of the PPP. The first category of the analysis showed us that the PPP is well recognised, represented and described in the ELD – a first strong indication that the current legislation reflects the principle. The interpretation of fault revealed that the requirements of an occupational activity, significant damage, as well as the presence of fault or negligence, exclude any other activity that could cause environmental damage. These findings therefore show that the objective of the PPP, to hold a polluter liable for the damage caused, is reflected to a lesser extent, as any other activity leading to environmental damage would not trigger the ELD. With regard to the results on causality, we found that the ELD does not directly require a specific test of causality and places the initial burden of proof on the competent national authorities. Only in the case of financial liability is the burden of proof shifted to the operator. In this respect, the reflection of the PPP is therefore most evident in the reversal of the burden of proof, as this increases the chances of holding an operator liable. All in all, causality is an essential concept of tort law and is implemented in the ELD to a satisfactory degree. The fourth category, liability, is certainly one of the most important as it is ultimately the question of whether an operator can be held liable. The analysis indicated that the application of a fault-based liability regime limits the extent to which a polluter can be held liable compared to the implementation of a strict liability regime. In this sense, it can be concluded that the PPP does not reach its full potential in the current EU legislation to make the polluter pay for the damage caused. The final criterion analysed was whether the function and objective pursued by the PPP could be achieved by the relevant EU legislation. The results showed that the PPP only partially achieves its objectives due to the implications of the interpretation of fault, causality, and liability. Therefore, the analysis shows that the PPP is, at least to some extent, in line with the legislation. However, the principle could be implemented more strongly in order to achieve its full potential and guarantee that the costs of pollution are shifted from society to those responsible

for the damage. Changes could be made by EU institutions to ensure that the PPP is fully reflected in the legal framework, particularly in relation to the fault-based liability scheme and the potential defences to invoke, where we have identified some weaknesses of the ELD.

Based on the results of the analysis, a key finding is that costs to society could be more easily avoided if a strict liability regime was introduced. This was also stated in a concluding remark in a report linked to the European Commission aiming to expand strict liability of the ELD to all occupational activities and all biodiversity damage, as well as in a Resolution of the European Parliament.[93] The introduction of a strict liability scheme would be a way to ensure a strong and efficient implementation of the PPP and thus a higher level of environmental protection. At the same time, a strict liability system would promote the optimal level of preventive measures and thus increase efficiency compared to a fault-based liability scheme. The implementation of a strict liability regime would also eliminate the issue of fault, as this would no longer be a prerequisite for establishing liability. In such a case, only the scope of application of the ELD would remain. As mentioned above, it would make sense to extend the strict liability scheme to at least all occupational activities. In an even more stringent way, the strict liability regime could also be applied to all activities, both occupational and purely private. This would have much more impact and show an even greater respect for a sound protection of the environment.

The finding that the current EU legislation on environmental liability only partly complies with the PPP was also identified in the Special Report on the PPP from 2021, which further supports the results of the analysis.[94] Although not a direct result of the analysis, the descriptive legal section of this paper has highlighted several weaknesses of the ELD which were confirmed in the same Special Report and a report of the European Commission from 2016.[95] These include the inconsistent application of the ELD across Member States, a lack of clear definitions of ELD concepts, restrictions on scope due to defences, and financial uncertainty in the event of insolvency, all of which limit the effectiveness and efficiency of the liability regime and thus also the PPP.[96] While all of these points have been shown to weaken the legal implementation of the PPP, the analysis has also highlighted that the defences in the ELD allow an operator to escape liability if

93 Kemp et al. "Experience Gained in the Application of ELD Biodiversity Damage," p. vi.; European Parliament, "European Parliament Resolution of 26 October 2017 on the Application of Directive 2004/35/EC," p. 189.
94 European Court of Auditors, *Special Report: The Polluter Pays Principle* (Luxembourg: Publications Office of the European Union, 2021): p. 35.
95 European Commission, "Report from the Commission to the Council and the European Parliament under Article 18(2) of Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage," COM/2016/0204 final (2016), p. 5–9.
96 European Court of Auditors, *Special Report: The Polluter Pays Principle*, p. 24–25.

valid reasons can be brought up. Therefore, the findings of this paper support the argument that the permit- and the state-of-the-art defence should be removed for the sake of an efficient implementation of the PPP, as also suggested in the European Parliament Resolution.[97]

This shows us that the lack of full implementation of the PPP and its objective creates legal uncertainties and leads to a weak EU legislation in relation to the underlying environmental policy principles. Thus, the findings of this paper suggest that EU environmental liability legislation should aim to implement environmental policy principles, in particular the PPP, more rigorously in order to avoid situations such as exist in the ELD with regard to the PPP under fault-based liability.

Based on the legal instruments currently available, it is safe to say that the current EU legislation does not directly increase the risk of environmental damage. As the particular situation of frozen vessels is rather recent and does not involve a significant number of cases, no legal or environmental policy document has yet been implemented to deal with this specific situation. However, the current legislation provides a limited level of protection in certain circumstances. The current legislation is therefore technically ready to deal with such a situation but needs to rely on the interpretation of many terms by the national competent authority, such as "occupational activity" or "significant damage".

Potential Scenarios and Most Favourable Situations for Each Party

Under the ELD, both the owner of a frozen vessel and the seizing government may be held liable for environmental damage, depending on the specific circumstances of each case. Vessel owners may benefit from legal uncertainties around the applicability of the ELD and can invoke fault-based liability defences, such as arguing that the seizure resulted from a public authority's order, potentially shifting the cost burden to the state. This undermines the PPP and risks transferring environmental remediation costs to society. A key legal hurdle lies in determining whether the vessel was engaged in an occupational activity, which national authorities must assess individually. While governments are responsible for maintaining seized vessels, invoking Article 4(1)(c) of Regulation 269/2014 early on could allow them to recover maintenance costs from the owner and avoid environmental decay. Still, legal causation could be shared between both parties, making joint liability a plausible outcome depending on the facts of the case.

97 European Parliament, "European Parliament Resolution of 26 October 2017 on the Application of Directive 2004/35/EC," (2018), p. 189.

Conclusion

The answer to the question of liability can only be determined in each specific case and depends heavily on whether causality based on fault or negligence can be scientifically proven and to whom they can be attributed. The final answer to the first research question is therefore that it depends on whether the requirements for the applicability of the ELD are met. Most importantly, environmental liability depends on the precise circumstances of the case and in particular whether the interpretation of occupational activity and legal causation based on fault or negligence can be established. This ultimately determines whether the operator can be held liable under the ELD, or whether society must bear the cost of the environmental damage. Moreover, in case the causal action can be traced to the seizing government, costs would also be borne by the taxpayers.

Regarding the second research question, the current EU legislation regarding environmental liability for sanctioned vessels complies with the selected principles inasmuch as it strongly recognises the PPP in the legislation. However, the fault-based liability scheme limits the effectiveness of the principle to a certain extent and provides more options to escape liability for the operator of the vessel compared to a strict liability scheme. Another limiting factor is the limited scope of applicability of the ELD, which only considers damage caused to protected species and habitats and from an occupational activity. Finally, the function and aim of the PPP are targeted but have not entirely been fulfilled due to these weaknesses regarding the requirement of fault-based liability and the ELD's scope. Therefore, the second research question leads to the answer that the current EU legislation reflects the PPP to a limited extent. While the PPP builds the foundation of the ELD and is well outlined and recognised in the document, the relevant EU legal framework ultimately only complies in part with the PPP based on the application of the fault-based liability regime.

In general, EU environmental law, as it is currently structured, does not adequately address the risks posed by frozen vessels under sanctions. While principles like the polluter-pays principle are enshrined in legislation, their implementation is inconsistent and often ineffective. Clarifying liability and reinforcing policy principles within the legal framework is essential to ensure the EU's environmental objectives are met even in the complex terrain of sanctions enforcement. It is strongly recommended that competent authorities consider the objectives of the environmental policy principles and aim for their full implementation in their decisions.

Future sanction agreements should clearly specify who is responsible for upkeep and which funds are to be used to ensure environmental risks are managed and the polluter-pays principle is upheld. EU institutions, particularly the European Commission, along with Member States and the CJEU, are best positioned to effect these changes through legislation, enforcement, and interpretation. The current gaps in liability partially undermine the effectiveness of sanctions by shifting environmental costs to the public. Failing to address these issues risks undermining the effectiveness of sanctions by creating loopholes or shifting costs to taxpayers and highlights how environmental considerations are often sidelined when security and political priorities take precedence. This situation illustrates that environmental policy is often subordinated to security and political considerations, revealing a persistent tension between environmental protection and broader policy priorities.

List of Abbreviations

Art(s).	Article(s)
CFSP	Common Foreign and Security Policy
CJEU	Court of Justice of the European Union
ELD	Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage (Environmental Liability Directive)
Et al.	et alia (and others)
EU	European Union
PPP	Polluter-Pays Principle
Reg.	Regulation
TFEU	Consolidated Version of the Treaty on the Functioning of the European Union (2016)

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