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Liability for pollution of water, soil, air and damage to ecosystems — selected aspects

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Abstract

Synopsis: The 2022 amendment to the Criminal Code responds to growing environmental threats and aims to make the fight against environmental crime more effective. The article examines elements of the object side of crimes under Article 182 § 1 and Article 183 § 1 of the Penal Code through the prism of the defendant's behaviour, and argues that the formal concept (threat) should be the correct point of reference in analysing the offender's behaviour. The article shows that the amendments to the environmental legislation are an important step towards strengthening environmental protection in Poland, introducing stricter regulations and enforcement mechanisms. The amendment's effectiveness will depend on the consistent application of the new regulations and effective cooperation between the various bodies responsible for environmental protection. The article argues for the topic's importance to legal science, as it addresses fundamental issues of responsibility and justice. It is no less important for legal practice, however, as it forces the adaptation of law enforcement and environmental compliance monitoring procedures, which in the long run can improve the quality of life and stability of ecosystems.

1. INTRODUCTION AND PURPOSE OF THE WORK

The purpose of this article is to analyse and evaluate the effectiveness of criminal and financial liability as tools for preventing environmental crime, with a particular focus on the 2022 legal amendments [Law... 2022], which tighten penalties and extend liability to collective entities. The article makes the cases that this is an important topic for legal science because it touches on fundamental issues of responsibility and justice. At the same time, it is an important issue for legal practice, as it forces law enforcement and environmental compliance monitoring procedures to adapt, which in the long run can improve the quality of life and stability of ecosystems. This article also organises the reading of the elements of the object side of crimes under Article 182 § 1 and Article 183 § 1 of the Penal Code through the prism of the defendant's behaviour, and finds that the formal concept (threat) should be the correct point of reference in the analysis of the offender's behaviour.

The primary research method used in the article is the theoretical-legal method, which allows for a detailed and systematic examination of legal provisions and their interpretation in the context of the existing legal order. This form of analysis concerning subjects of criminal

and financial responsibility has made it possible to draw conclusions about both the practical application of legal norms and their impact on social reality. In order to enrich our theoretical analysis, the article also uses a statistical method based on data made available by the Police Headquarters and the GIOŚ. These data were used to illustrate the scale and dynamics of the problems of criminal and financial responsibility and financial liability, which give the study an empirical character. The statistics are discussed and interpreted in detail, making it possible to present current trends and identify potential areas requiring further legislative or organizational action. In addition, the article includes references to academic publications and journalistic articles available in the online space. These were used as complementary sources that made it possible to deepen the research context and compare different theoretical and practical perspectives.

2. RESEARCH ON RESPONSIBILITY FOR ENVIRONMENTAL POLLUTION

Environmental pollution is one of the most significant problems of the modern world, threatening not only ecosystems, but also public health and the quality of human life. Environmental pollution is defined as the

introduction of substances or energy into the environment that adversely affects the health of humans, animals and plants, and destroys natural resources and ecosystems. Different types of pollution can be classified depending on where they occur. Air pollution includes the introduction of harmful gases and dust into the atmosphere, leading to smog, acid rain and climate change. Water pollution involves the introduction of chemicals, industrial waste or sewage into water bodies, leading to degradation of water quality and negatively affecting aquatic organisms and humans. Soil pollution involves with the introduction of toxic substances, including heavy metals and pesticides, into the soil, which reduces its fertility and affects the health of plants, animals and people who consume contaminated food grown in that soil. The visible effects of environmental degradation, such as climate change, air, water and soil pollution, are causing increasing social and political concern. In response to these threats, pressure is mounting on states and international organizations to tighten regulations and enforce environmental laws more effectively.

While legislation in many countries increasingly provides for harsher sanctions, questions arise as to whether courts are equally inclined to adjudicate them, and whether effective tools exist to hold collective actors accountable without first convicting individuals. In addition, there has been a paucity of studies assessing the real impact of imposed financial penalties and restitutions on reducing environmental pollution and the long-term effects of these preventive measures.

Responsibility for environmental pollution is an important issue, given growing concerns about climate change, degradation of ecosystems, and increasingly stringent environmental regulations.

In Poland, as in the European Union, there are laws imposing severe sanctions for environmentally harmful activities. Criminal and financial liability — two forms of sanctions applied to individuals or entities that violate environmental regulations — will be discussed later in this article.

Research on environmental pollution liability, both in Poland and internationally, covers many aspects, such as the effectiveness of legal regulations; the scope of liability of collective entities; and the impact of sanctions on reducing environmental crime.

There is a growing body of research in the international literature on the effectiveness of criminal and financial accountability as tools for reducing pollution. One example is OECD research, which points to the growing role of high financial penalties and fines as effective deterrents, which is particularly applicable in European Union countries. These penalties serve not only as a preventive tool, but also as a form of restitution, especially in cases where the effects of pollution have a direct impact on public health.

The *Journal of Environmental Law* publishes papers analysing the development of collective liability laws, especially in cases where pollution is caused by organisations. Research suggests that penalties imposed on organisations can be more effective when they also

require the implementation of internal environmental policies, which act as a preventive measure and reduce the risk of recidivism [Jones 2024].

The “polluter pays” principle is fundamental to the effectiveness of environmental protection and is reflected in international and domestic law [European 2021]. Its implementation is carried out mainly through economic instruments, such as environmental fees and fines for violations of environmental use conditions.

In the Polish legal system, this principle was introduced in Article 7(1) of the Environmental Protection Law [Law... 2001], which imposes an obligation on polluters to bear the costs of their actions. Administrative fines are seen as a means of ensuring that human activities are carried out in accordance with the principle of sustainable development, and placing the costs of pollution on the perpetrator.

From the Polish perspective, the topic of environmental pollution liability is the subject of a growing number of scientific studies and analyses. In recent years, Polish researchers have highlighted the inadequacies of the Polish legal system in the area of prosecuting environmental crimes. The main problem is the low efficiency in the enforcement of penalties, and the difficulty in identifying perpetrators. The 2022 amendment to the Criminal Code was a response to these problems [Wielc 2022], introducing stricter sanctions and the possibility of punishing collective entities without a prior conviction of an individual. A review of the national literature also reveals a growing need to monitor the impact of these legal changes on the actual reduction of environmental crimes in Poland.

This article contributes to this field by analysing current changes in Polish legislation and their impact on legal liability for environmental pollution, as well as situating them in the context of international trends.

Research shows that companies are increasingly recognising the benefits of implementing pro-environmental practices. Companies in the WIG-ESG index focus mainly on energy conservation, waste management and greenhouse gas emission reduction measures. About 40% of these companies declare environmental responsibility with regard to future generations [Świrk 2024].

At the international level, the European Union plays a key role in environmental negotiations. The EU is a party to a number of global environmental agreements, including the Paris Climate Agreement [Thematic... 2024].

In Poland, environmental protection is a constitutional obligation of public authorities. Special attention is paid to the problem of air pollution. According to WHO data, 33 of the 50 most polluted cities in the EU are located in Poland [Rogala 2024]. The main source of pollution is heating homes that use solid fuels.

The literature points to the evolution of the concept of liability for environmental damage. Directive 2004/35/EC (the Damages Directive) is an important reference point on this issue. International environmental law is developing rapidly. The 1993 Lugano Convention was the first attempt to create a comprehensive system of liability

for environmental damage [Lemkowska 2016]. Although it did not enter into force, it contributed to further legislative work in this area. The literature indicates a growing awareness of the problem of liability for environmental pollution, and the need for further research and regulation in this area.

In recent years there has been a tightening of regulations on criminal and financial liability for environmental crimes, both in Poland and the European Union. Studies and case law between 2022 and 2024 show the increasing effectiveness of these regulations in reducing environmental crime.

At the European Union level, Directive 2024/1203 of 11 April 2024, on the protection of the environment through criminal law, introduced uniform standards of punishment for environmental crimes across the EU [Patoleta 2024]. In general, prison sentences were raised (from three to 10 years) for the most serious environmental crimes; an obligation to restore the environment or pay compensation was introduced; and sanctions were introduced for legal entities, including bans on operation. An OECD study in 2024 indicates that the harmonization of regulations at the EU level has contributed to more effective prosecution of cross-border crimes and a reduction in the phenomenon of “waste tourism.”

In summary, in both Poland and the EU, recent years have brought a significant tightening of criminal and financial responsibility for environmental crimes. Preliminary studies and case law suggest that the new regulations are having a positive impact on reducing this type of crime, although a full assessment of their effectiveness will only be possible in the long term.

The rest of the article will discuss legislative changes in Poland and research on the effectiveness of these new regulations.

3. DISCUSSION OF CRIMINAL LIABILITY

Criminal liability means the possibility of punishing an offender with criminal sanctions, such as imprisonment or restriction of liberty. This is especially true for serious environmental crimes that have a significant negative impact on human health or ecosystems. Financial liability, on the other hand, invokes monetary penalties, such as fines or administrative fees, imposed by relevant institutions. These can be applied even to minor violations of the law, and mainly serve to compensate for environmental losses and as a preventive measure.

The crime of environmental pollution, as defined in Article 182 § 1 and 2 of the Penal Code (Penal Code), stipulates a penalty of imprisonment ranging from 6 months to 8 years for activities leading to environmental pollution that may pose a threat to the health of humans, animals or plants, or cause damage to the ecosystem. Examples include the introduction of toxic substances into waterways, which can cause massive fish die-offs, and industrial emissions leading to contamination of agricultural soils and threats to local crops.

The crime of environmental pollution is an issue that has generated some controversy in doctrine and jurisprudence, particularly with regard to its nature — whether it is a formal (exposure) or substantive (effect) crime. In the current state of the law, the prevailing view is that Article 182 § 1 of the Criminal Code and Article 183 § 1 of the Criminal Code are formal in nature [Kowalewska-Łukuć 2024] and not material (effect) [Kulik 2025; Gruszecka 2021; Sobczak 2023]. However, some representatives of the doctrine still seem to allow for the effectivity of the indicated criminal acts [Lachowski 2023].

In a judgment dated September 21, 2017,¹ the Court of Appeals of Wrocław made it clear that the offences under Article 182 § 1 and Article 183 § 1 of the Criminal Code should be treated as formal offences, i.e., offences in which the creation of a *potential* threat to the environment is significant — not necessarily the occurrence of an *actual* effect. The justification for the judgment emphasizes that criminal liability is based on the fact of creating a threat to the environment. This means that a crime can be committed when there is an objective danger of violating protected goods, such as water, air or soil. However, it is not required that the effects of pollution actually manifest. It is sufficient that the perpetrator's actions could have led to such effects.

Although many previous judgments and commentaries on Article 182 § 1 of the Penal Code have pointed to the substantive nature of the offense — the requirement that the effect of “significant pollution” occur — this judgment and some other rulings may confirm the jurisprudence's grounding in the direction of a formal approach. Thus, criminalization is based on whether the quantity of harmful substances or ionizing radiation, or the pollution they cause, is significant enough to endanger the life or health of many people or cause destruction in the plant or animal world to a significant extent. This is a formal crime of exposure of the listed goods to danger, and it is sufficient that it occurs only potentially [Marek 2010].

Thus, criminal liability will be determined by the established potential threat to the protected goods, related to the type and size of pollution introduced into water, air or land, and it is not necessary that the state of threat described in the elements actually arises [Bogdan 2023; Radecki 1998]. Criminal liability for environmental crimes depends only upon establishing a potential threat to protected assets, such as water, air or soil. This means that it is not required that environmental pollution actually occur, but it is important that the perpetrator's actions objectively could lead to such a threat. Thus, a merely potential threat to the environment is sufficient to realise the elements of the offense.

The formal concept — threat — should be the correct point of reference in the analysis of the offender's behaviour in the context of environmental crimes. Thus, the key element of criminal liability is the possibility of

¹ ref. no. II AKa 236/17, Lex no. 2381444

creating a danger to the environment, and not necessarily the occurrence of a concrete effect in the form of actual pollution. This interpretation contributes to the preventive nature of environmental protection in Polish criminal law. To summarise, regulations such as Articles 182 and 183 of the Penal Code impose penalties for both intentional and unintentional actions that harm the environment [Sołtysiński Kawecki, Szlęzak 2022]. Jurisprudence from 2023 and 2024 confirms a growing trend toward harsher punishment of environmental offenders, especially in the context of environmental damage and illegal waste management. Judges are increasingly handing down higher financial penalties, perquisites and long-term imprisonment, in line with public expectations for more effective environmental protection. An amendment to the Penal Code provides for the payment of up to 10 million zlotys in restitution to the National Fund for Environmental Protection and Water Management. In the case of serious crimes, such as illegal waste disposal, which carries a maximum sentence of 10 years in prison, these sentences are clearly intended to deter potential offenders.

4. AMENDMENTS TO THE CRIMINAL CODE

A key element in the fight against environmental crime was an amendment to the criminal legislation, which came into force on September 1, 2022 and introduced a number of significant changes [Law... 2022], including the introduction of harsher penalties for environmental crimes and new legal tools to prosecute and prevent them. An analysis of the jurisprudence on liability for environmental pollution reveals significant changes in criminal provisions and an increase in the rigor of penalties for environmental crimes. These changes were prompted when the proponent of the project observed that current applications of the existing law showed that its criminal sanctions were insufficient.

The amendment includes, in particular, a tightening of the Criminal Code and an increase in fines, which can now be as high as 10 million zlotys for serious environmental violations. There is also the possibility of imprisonment for up to 10 years for particularly harmful actions, such as destroying the habitats of protected species. The July 22, 2022 law significantly increased penalties and introduced new legal tools to more effectively criminalize and deter environmentally damaging acts.

The law toughened penalties for environmental crimes, providing, among other things, for up to 12 years' imprisonment for illegal cross-border transportation of hazardous waste. The legislature amended Article 183 of the Penal Code, increasing the minimum sentence of imprisonment from three months to one year in § 1, and the maximum from five to 10 years. In § 5, concerning the transboundary movement of hazardous waste, the minimum penalty was raised from six months to two years, and the maximum from eight to 12 years. A new type of crime was added, introduced in § 5a, that criminalizes the

abandonment of hazardous waste in places not intended for storage or warehousing. The punishment provided for this is the same as for illegal cross-border transportation of hazardous waste.

Section 6 expands the scope of liability of Section 5a to acts committed unintentionally. The maximum penalty for unintentional acts under Section 183 has also been increased. It is now up to five years' imprisonment for illegal handling of waste that endangers human life or health, and up to eight years' imprisonment for the pollution of water, air or land surface. The 2022 amendment toughened penalties for these crimes, raising the maximum prison term from five to eight years for intentional acts.

Changes have also been made to Article 185 of the Penal Code. In § 1 — concerning damage to the plant or animal world of significant proportions or a significant reduction in the quality of water, air or the earth's surface — the minimum penalty was increased from six months to two years, and the upper penalty limit from eight to 12 years. In § 2, relating to serious damage to human health, the lower penalty limit was increased from one year to two years, and the maximum penalty from 10 to 12 years. As of October 1, 2023, in § 3, relating to causing the death of a human being or serious damage to the health of multiple persons, minimum penalty was increased from 2 to 3 years' imprisonment, and the maximum was increased to 20 years' imprisonment.

The law has made it mandatory to adjudicate a fine of between 10,000 and 10 million zlotys in favour of the National Fund for Environmental Protection and Water Management (NFOŚiGW) in the event of a conviction for an intentional crime against the environment. The NFOŚiGW is in charge of funding environmental protection and water management through the tasks specified in Article 400b, paragraph 1, of the Act of April 27, 2001 Environmental Protection Law (consolidated text: Journal of Laws 2024, item 54, as amended; hereinafter: p.o.ś.). Pursuant to Article 400a(1)(20), in conjunction with Article 400b(1), of p.o.ś., the Fund finances the prevention or remediation of the effects of environmental pollution in situations where the entity responsible for such effects cannot be determined. Thus, in cases where the perpetrator of the crime has been identified, NFOŚiGW's financing of such activities is not provided for. Most of the tasks carried out by the NFOŚiGW relate to environmental protection in the broadest sense, and include projects not directly related to environmental crimes that nonetheless would be grounds for imposing a reference.

The amendment also made changes to the liability of collective entities, allowing companies to be held liable without the prior conviction of an individual. Article 4a was introduced, which provides for the liability of a collective entity regardless of whether there is conviction against an individual. In such cases, the court may decree a fine of between 10,000 and 5,000,000 zlotys. This is intended to limit the ability of company executives to avoid responsibility, e.g., by delegating illegal actions to employees to avoid sanctions. Companies can thus

be held liable for environmental crimes if it is found that their activities or negligence have led to environmental degradation or pose a risk to public health. In addition, the court may order additional measures of a criminal nature against a collective entity, including a ban on promotion or advertising; a ban on the use of grants, subsidies or other forms of publicly-funded financial support; and a ban on bidding for public contracts.

The amendment makes no direct changes to Articles 187 and 188 of the Penal Code regarding destruction of legally protected areas and illegal construction in protected areas. It also adds a new Article, 188a, that allows for the application of extraordinary leniency or waiver of punishment to an offender who has voluntarily repaired the damage in whole or in substantial part.

Penalties for environmental offences have also been raised. The minimum fine for littering in public places is now 500 zlotys, and the maximum fine is 5,000 zlotys. The same minimum fine has been stipulated for polluting or littering a railroad area. On the other hand, a penalty of restriction of liberty, or a fine of not less than 500 zlotys, has been provided for polluting forests. These changes are introduced by Article 1(2) of the Act of July 22, 2022 on amending certain laws to prevent environmental crime, which amends Article 145 of the Code of Offences (Act of May 20, 1971, consolidated text: Journal of Laws of 2023, item 2119). The updated Article 145 § 1 reads as follows: *“Art. 145. § 1. Whoever pollutes or litters a railroad area or places accessible to the public, especially a road, street, square, garden, lawn or greenery, shall be subject to a fine of not less than 500 zlotys.”* It is worth noting that the law only sets the lower limit of the fine at 500 zlotys, without indicating the upper limit. The maximum amount of the fine — 5,000 zlotys — derives from the general provisions of the Code of Offences regarding the size of fines, and not from the amendment under discussion. According to Article 24 § 1 of the Misdemeanour Code: *“A fine shall be imposed in an amount from 20 zlotys to 5,000 zlotys, unless otherwise provided by law.”* The amendment to Article 145 introduces an exception to this general rule, setting a specific lower limit for the fine of 500 zlotys. The law also criminalises attempting, and aiding and abetting in the commission of, this offense. It also provides for the possibility of issuing a restoration obligation for any damage caused by the perpetrator’s actions.

An additional change is the introduction of a new offence, punishable by a fine of up to 30,000 zlotys, for removing vegetation from agricultural land and other areas by burning.

The amendment also expanded the powers of the Environmental Protection Inspectorate, giving it the authority to impose fines in mandate proceedings for environmental offences.

The catalogue of crimes resulting in exclusion from the concession award procedure was expanded to include crimes against the environment through Article 9 of the Law of July 22, 2022, amending certain laws to prevent environmental crime. This article amends the Law of

October 21, 2016 on the Concession Contract for Works or Services (consolidated text, Journal of Laws 2023, item 140), adding a new item to Article 32, paragraph 1, item 1, that reads, “i) against the environment, referred to in Chapter XXII of the Penal Code, committed intentionally.” In addition, Article 32(2)(2)(a) of the same law added a provision for environmental crimes committed unintentionally as grounds for exclusion from the licensing procedure.

In summary, the 2022 amendment significantly increased penalties for environmental crimes and offenses; for example, an act under Article 182 § 1 of the Penal Code is now punishable by six months to eight years’ imprisonment (previously up to five years), and illegal storage of hazardous waste (Article 183 § 5 of the Penal Code) is now punishable by two to 12 years’ imprisonment. The amendment also introduced new mechanisms for the liability of collective entities and expanded the powers of environmental control authorities, and introduced new types of crimes and mechanisms to increase the effectiveness of law enforcement in this area. These legislative changes provide a basis for the courts to impose harsher penalties. Courts are now applying the new, stricter provisions in their sentences.

The amendment of the criminal laws on environmental crimes is a significant step toward more effective protection of the environment in Poland. Initial analyses indicate that the stricter penalties have had a positive effect on reducing environmental crime. However, as the researchers point out, a full assessment of the effectiveness of the new regulations will only be possible in the long term. It is necessary to continue monitoring the impact of legal changes on the actual reduction of environmental crimes, and to analyse the judicial case law in this regard. It is also important to conduct research on the effectiveness of punishment enforcement, and its preventive effect on potential offenders.

5. FINANCIAL RESPONSIBILITY AND ADMINISTRATIVE PENALTIES

In Poland, administrative fines are imposed under several key pieces of legislation:

1. Environmental Protection Law — Title V, Division III (Article 298 et seq.) of the Law of April 27, 2001 (54, Journal of Laws 2024).
2. Waste Law — the Law of December 14, 2012 on waste (1587, Journal of Laws 2023).
3. Administrative Procedure Code Act of June 14, 1960 (572, Journal of Laws 2024).

Fines are imposed by the authority—the provincial inspector of environmental protection — by way of an administrative decision for acting in violation of previously issued decisions, i.e. for exceeding the quantity or type of gases or dust introduced into the air, as specified in permits (integrated or for the introduction of gases or dust

into the air); for violating the conditions of the decision approving the instruction for operating a landfill site, or the decision specifying the place and manner of storing waste, as required by the provisions of the Law on Waste, as to the type and manner of storing or storing waste; and for exceeding the noise levels specified in the decision on permissible noise levels, or in the integrated permit.

It is worth noting that fines can reach up to 1 million zlotys depending on the type and severity of the violation. The purpose of these penalties is not only repression, but first and foremost to ensure that business is conducted in accordance with the principle of sustainable development and to charge those responsible for the pollution with the costs.

Environmental inspection authorities have gained expanded powers that allow for more effective inspection and prevention activities. One of the key changes is that they are no longer obligated to show an official ID card when performing certain observation and evidence-gathering activities. These changes were introduced by the Act of July 20, 2018 amending the Act on Environmental Protection Inspection and certain other acts (Journal of Laws of 2018, item 1479), which significantly increased the inspectors' ability to supervise compliance with environmental regulations. The basic act regulating the operation of the Environmental Protection Inspection remains the Act of July 20, 1991 on the Environmental Protection Inspection (Journal of Laws of 2024, item 425). Inspectors can, without revealing their identities in advance, observe and record events using advanced technical means, including satellite and drone techniques. In addition, the new regulations allow them to collect and secure evidence of a crime or offense, and inspect publicly accessible places without having to show identification. This significantly increases the Inspectorate's operational capabilities to detect and document violations of environmental regulations. Another important power is the ability to impose fines by fine procedure for environmental offenses while performing inspections. This allows for a faster and more direct response to violations, which can help increase the effectiveness of environmental enforcement.

The provincial environmental inspector issues a decision to impose an administrative penalty on the basis of exceeded limits or violations found during the inspection or based on measurements carried out by the entity. Once an exceeded limit is detected during an inspection, the inspector has 21 days to communicate the results of the measurements to the entity, and then issue a decision determining the size of the so-called "running penalty." This penalty is calculated from the time indicated in the decision until the violation or exceeding of standards is stopped.

The basic regulations for imposing penalties are found in the following legal acts:

1. Law of April 27, 2001. - Environmental Protection Law (consolidated text: Journal of Laws of 2024, item 54). Article 298 (1) defines the powers of the provincial environmental protection inspector to impose

administrative fines, and articles 309 and 311 provide the basis for determining the fines for violations;

2. Law of December 14, 2012 on waste (consolidated text: Journal of Laws of 2023, item 1587). Article 194 specifies administrative fines, which may range from 1,000 to 1,000,000 zlotys, and article 197 indicates the rules for the provincial environmental inspector to determine violations;
3. Administrative Procedure Code (Law of June 14, 1960, consolidated text: Journal of Laws of 2024, item 572). Article 189b defines the administrative fine and its nature;
4. The Law of July 20, 1991 on Environmental Protection Inspection (consolidated text: Journal of Laws 2024, item 425), which defines the general powers of the Environmental Protection Inspection bodies;
5. The Law on Packaging and Packaging Waste Management of June 13, 2013 (Consolidated text: Journal of Laws 2024, item 927). Article 57 provides for administrative penalties of up to 1 million zlotys.

These legal acts form a comprehensive system governing the imposition of administrative penalties for violations of environmental regulations.

The penalty decision shall take into account the degree or size of the detected exceedance or violation, the size of the running penalty, and the date from which the penalty is calculated. The running penalty may be accrued even before the penalty decision is issued, and continues until a change in the size of the exceedance or violation is found.

The dimension of the penalty may be changed at the request of the party if it submits its measurements or findings within 30 days. If the provincial inspector does not contest the request within 30 days, he is obligated to determine, by administrative decision, the new dimension of the running penalty, specifying the date of calculation of the penalty from a full hour or 24 hours from the date of measurement or the punished party's own findings.

After previous decisions to impose a running penalty, a final penalty is imposed by the provincial environmental inspector. Decisions to impose a running penalty must then become final, meaning that they can no longer be appealed.

The penalty shall be assessed for the period until the cessation of the exceedance or violation, or December 31 of the year in question, if the exceedance or violation has not been corrected by the date of the decision.

The final penalty is no longer a running penalty, but a one-time imposition of a penalty for the entire period of violation. This process ensures that the penalty is assessed for the actual period of the violation, while giving the penalized entity the opportunity to demonstrate that the violation has ceased.

Determination of the cessation of the violation may be made *ex officio* by the inspector, or at the request of the penalized entity. However, if the provincial inspector finds, within 30 days from the date of receipt of the application

of the penalized entity, that the exceedance or violation is higher than that stated in the appeal or that it has not ceased, the provincial inspector shall assess a new the running penalty calculated from the day or hour in which the application was found not to be justified. A simultaneous double increase in the amount of this running penalty occurs after a period of 60 days.

If there has been a change in the rates of environmental fees constituting the basis for the penalty assessment, or if there has been a change in the unit penalties for exceeding noise limits, and the identified exceedance or violation has not ceased, the new amount of the running penalty shall also be determined. This calculation must take into account newly-introduced rates starting from the date of their introduction, and the date of the provincial inspector's decision. Accordingly, it is not always cost-effective for the penalized entity to apply for an adjustment of the running penalty.

The provincial environmental inspector is obliged to ascertain the degree of exceedance of limits on the use of the environment on the basis of measurements carried out by the penalized entity, provided that they are required and carried out by accredited laboratories or testing units. The penalty is imposed for exceedances found in a calendar year during the period covered by the penalty, taking into account changes in fee structures and penalties. However, the inspector also has the right not to recognize these tests if they raise objections. Objections may apply if technical measures cannot ensure the reduction of substance concentrations in accordance with the results; measuring instruments do not meet the requirements of legal metrological control; sampling rules have not been followed; analytical results are not authoritative for the determination of emissions; or if the laboratory work does not meet the requirements of the reference methodology, or of other methodologies specified by the law.

The provincial inspector may not initiate proceedings to impose an administrative penalty if the expected penalty does not exceed 800 zlotys.

In cases involving the emission of gases or dust into the air, the provincial environmental inspector has the right to impose a penalty of 20 times the unit rate of fees for the introduction of pollutants into the atmosphere. In cases involving the improper storage of waste, the penalty is calculated as 0.1 of the unit fee rate for each day of storage of waste that is in violation of the decision. In cases of exceeded noise limits, the top penalty rate is 86.18 zlotys for each decibel in excess of the limit, and is subject to annual adjustment. The amount of the noise penalty depends on how much it exceeds the limit and on the time of day, with a distinction being made between noise measuring 1-5 dB, 5-10 dB, 10-15 dB and above 15 dB. The detailed penalty rates for exceeding noise levels are specified in the Council of Ministers' Decree of September 29, 2001 [Announcement... 2023].

Companies that violate the regulations face serious legal and financial consequences. Administrative fines levied by the Provincial Inspectorate of Environmental

Protection can reach up to 1 million zlotys. Violations of the Environmental Protection Act can lead to fines of 5,000 to 1 million zlotys. For violations of the Waste Act, the penalty can range from 10,000 zlotys to 1 million.

Failure to comply with environmental regulations can result in the revocation of integrated permits or business licenses, which in practice means having to suspend or close a business. Company executives can be held criminally liable if it is proven that violations resulted from their negligence or conscious actions, and this liability can include imprisonment.

Failure to comply with environmental regulations has serious financial, legal and reputational consequences that can threaten a company's existence. It is crucial that companies invest in operational compliance with current regulations to avoid serious losses and ensure sustainability.

It is worth noting that consumers today are increasingly environmentally conscious. Companies that ignore environmental regulations risk not only financial penalties, but also long-term damage to their reputation and market position.

In conclusion, companies must make compliance with environmental regulations a priority. The costs associated with violating these regulations can far outweigh the potential benefits of ignoring them, both financially and in terms of a company's image.

6. ENVIRONMENTAL POLLUTION IN THE LIGHT OF STATISTICS FROM THE POLICE AND THE GENERAL INSPECTORATE OF ENVIRONMENTAL PROTECTION (GIOŚ)

Analysing the annual reports of the Ministry of Justice, as well as data from the Police and the General Inspectorate of Environmental Protection (GIOŚ), which provide detailed statistics on environmental crimes, several conclusions can be made about current trends and the effectiveness of the new laws.

In particular, reports from the EIA and the Ministry of Justice show actions and legal proceedings related to environmental crimes, which include illegal storage of and processing of waste, and emissions of harmful substances, among other acts. These institutions publish data annually, making it possible to track how changes in regulations affect the attitudes of the subjects and the effectiveness of the penalties applied to perpetrators. These data can serve as a basis for further research into the effectiveness of the new laws and indicate where further intervention or changes are required to effectively prevent these types of environmental degradation and crime. For example, according to statistics from the Police Headquarters, there has been an increase in the number of stated environmental pollution crimes from six in 2011 to 37 in 2021.

These police statistics include data on the number of pollution offences under Article 182 of the Penal Code.

Table 1. Proceedings Initiated and Crimes Detected under Article 182 of the Criminal Code for the Years 2011-2023

Year	Number of proceedings initiated	Number of stated crimes
2023	242	39
2022	220	45
2021	171	37
2020	169	35
2019	134	29
2018	129	31
2017	111	22
2016	109	19
2015	100	16
2014	91	14
2013	99	24
2012	95	8
2011	60	6

Source: Significant environmental pollution (Article 182)
- Statistics - Polish Police Portal

They focus on cases of intentional and unintentional pollution of the environment, primarily the emission of substances that endanger health and life. These data show how many such crimes were recorded in a given period, and indicate their detection rate, giving some insight into the effectiveness of the Police's efforts to prosecute environmental crimes.

An increase in the number of cases detected in successive years may suggest either changes in the frequency of environmental crime or in the effectiveness of inspection efforts. They could also be the result of increased inspections, or greater public awareness and reporting of such crimes.

These statistics can be analysed in the context of new laws and harsher penalties, which were aimed at reducing environmental crimes, but may also have led to higher detection rates.

The statistics presented in Table 1 are related to environmental crimes under Article 182 of the Criminal Code, which covers environmental pollution. The data include the number of prosecutions initiated, and the number of offences found, between 2011 and 2023. A significant increase in the number of prosecutions initiated can be observed. The number of initiated cases increased from 100 in 2015 to 242 in 2023, an increase of 142%. Particularly dynamic growth was observed between 2021 and 2023. This may indicate an increase in the effectiveness of law enforcement agencies, the introduction of new legal tools, or greater interest from state agencies in the problem of environmental pollution.

The number of confirmed crimes has also increased, but at a slower pace — from 16 in 2015 to 39 in 2023. It is worth noting that the number of confirmed crimes has remained close to around 35-45 per year since 2020, suggesting that despite the increase in the number of cases opened, the number of crimes actually confirmed is not increasing. This situation may indicate difficulties in collecting evidence; the complicated nature of environmental cases; or the large number of cases that do not qualify as crimes after verification. This suggests that many reported cases do not meet the criteria for a crime, or that proving guilt can be difficult.

Instead, the increase in the number of prosecutions initiated may be due to greater public awareness about environmental protection and citizen reporting of irregularities. However, despite the increase in the number of reports, the confirmed real effectiveness of enforcement is limited.

The issue of environmental pollution is gaining the attention of law enforcement agencies, while the low ratio of identified crimes to prosecutions suggests the need to better equip agencies with legal and technological means to identify and prosecute perpetrators.

The increase in the number of prosecutions initiated (especially in 2021-2023) indicates that law enforcement agencies are becoming more active in detecting potential violations of this provision. This may be due to the introduction of new control tools, such as increased inspections by the Provincial Inspectorates for Environmental Protection (WIOŚ).

A significant number of cases may also involve offenses related to improper waste management.² The scope of this crime relates to waste mismanagement in the broadest sense, including conduct "contrary to regulations." It is primarily concerned with the rules set forth in the Law on Waste [Law... 2012], which sets out detailed rules for the management of waste, including hazardous waste. This law, combined with the implementation of regulations, constitutes a comprehensive system aimed at ensuring safe and lawful waste management.

The problem of illegal handling of waste, especially hazardous waste, remains a significant challenge for Poland. It requires coordinated action at the legislative, enforcement and educational levels to effectively protect the environment and public health.

Since 2020-2022, media and reports have pointed to the so-called "garbage mafia," engaged in illegal storage of hazardous waste, often imported from abroad. This phenomenon has intensified in 2020-2022, as reflected in media reports and reports.

In response to this problem, law enforcement agencies have taken intensive action. An example is the operation carried out by the Central Bureau of Investigation (CBŚP),

² Article 183 §5 of the Penal Code stipulates that "Whoever imports or exports hazardous waste from abroad without the required notification or permit or in violation of its conditions shall be punished by imprisonment from 2 to 12 years."

which resulted in the arrest of 34 people suspected of involvement in organized crime groups involved in illegal waste trading [Paszteleński 2023].

Combating waste crime is a major challenge for law enforcement agencies and the judiciary. This requires not only effective law enforcement, but also educating the public and businesses about proper waste handling.

Despite the intensification of inspections, the number of successful prosecutions (convictions) is still low. One recommended solution would be greater attention to the potential of modern technology in monitoring and detecting violations of environmental law. For example, drones can significantly improve the effectiveness of environmental monitoring, as they allow access to hard-to-reach places, which is crucial for detecting illegal waste dumps. Drones can be equipped with sensors for detecting and sampling chemicals, including volatile organic compounds; modern chemical detectors can continuously monitor more than 50 substances [Siemieniuk et al. 2017]. This allows for safe sampling of potentially hazardous sources, minimizing risks to operators.

In addition, satellite technologies offer a wide range of environmental protection possibilities, as they enable continuous analysis of large areas and monitoring for changes. These monitoring technologies can be used for the identification of illegal activities, such as illegal logging or landfills, making it possible to monitor the flow of pollution in the environment on a large scale [Digital 2022].

Modern technologies make it possible to detect previously unnoticed violations of the law, and precise data from sensors and satellite images can also provide solid evidence in criminal proceedings. Effective use of this technology, however, requires close cooperation between various institutions and law enforcement agencies. Laws may need to be adjusted to allow the full use of new technologies as evidence in criminal proceedings.

Investment in advanced environmental monitoring technologies (e.g., by increasing the budgets of the GIOŚ and WIOŚ for their procurement and maintenance) can significantly increase the effective detection and prosecution of environmental crimes. However, this requires not only financial outlays, but also a comprehensive approach, including training, inter-institutional cooperation and possible changes in the law. Statistics indicate that the number of cases involving protected areas (Articles 187-188 of the Penal Code) may be small compared to the actual extent of damage. Better mechanisms are needed to monitor such activities, such as satellite tracking of changes in the landscape. Amendments to regulations, such as Article 185 of the Penal Code, are intended to increase the deterrent effect of sanctions. However, the effectiveness of these laws depends on their consistent application and improved law enforcement efficiency.

Many laws, such as Article 181 of the Penal Code or Article 183 of the Penal Code, also impose liability for unintentional acts. Introducing preventive measures, such as education

and stricter waste management requirements, could reduce the number of these inadvertent violations.

7. ANALYSIS OF DATA FROM THE GENERAL INSPECTORATE FOR ENVIRONMENTAL PROTECTION (GIOŚ)

Data from the activities of the Chief Inspectorate of Environmental Protection (GIOŚ) in 2023 confirm the wide scale of inspections carried out and violations of environmental regulations detected. According to the 2023 report of the Chief Inspectorate of Environmental Protection (GIOŚ), 44,755 inspections were carried out, 1,421 more than in 2022. Of these, 9,979 cases (about 22% of all inspections) involved violations of environmental regulations. The largest number of inspections were carried out in categories of plants with low and negligible environmental nuisance, such as landfill self-monitoring and water and air quality monitoring.

In connection with the violations, inspectors sent 327 requests to law enforcement agencies with suspicion of environmental crimes. In addition, more than 26,000 sanctions and post-inspection actions were applied, demonstrating the intensification of inspection activities and greater responses to environmental problems. Interventions reported by citizens using the “report an intervention” form were also an important element. In 2023, the number of reports increased eightfold compared to 2021, demonstrating the growing public interest in environmental protection and the effectiveness of digital tools in calling attention to irregularities.³

The data show that the GIOŚ in 2023 not only increased the number of inspections carried out, but also enforced the regulations more effectively through the imposition of financial sanctions. Such actions are an important element of criminal and financial liability in the context of environmental protection, which can be an important reference point in the analysis of legal liability for environmental pollution. These data also confirm the GOCC’s growing activity in monitoring compliance with environmental regulations, and underscore the importance of enforcing financial penalties for violations. The GIOŚ data show a much larger scale of environmental violations than the Police statistics. This is due to the broader scope of GIOŚ inspections, which encompass misdemeanours and administrative violations in addition to crimes qualified under Article 182 of the Penal Code.

Police statistics show fluctuations in the number of stated crimes, with a marked increase in 2023. GIOŚ data, meanwhile, suggest a consistently high number of environmental violations.

The GIOŚ data suggest greater efficiency in detecting violations and imposing administrative fines compared to

³ Source: <https://www.gov.pl/web/gios/wykrywalnosc-to-skuteczna-ponad-tysiac-dwiescie-przypadkow-naruszen-potwierdzonych-przez-gios>

the Police's statistics on crimes under Article 182 of the CC. This may be due to differences in institutions' procedures and competencies.

The GIOŚ data also provide information on the financial dimension of fines (something that is missing from the police statistics), indicating violations of environmental regulations have significant economic consequences.

In summary, a comparison of these data suggests that the actual scale of environmental problems is much greater than the criminal statistics for Article 182 of the Penal Code alone would suggest. The GIOŚ data also show that environmental violations are more frequent and varied than what the Police statistics alone would suggest. The data can also serve as a starting point for assessing the effectiveness of environmental protection measures. However, a more comprehensive analysis would require additional research and explanations about trends in environmental crime in Poland.

7. SUMMARY

The legislative changes introduced in 2022 are an important element in Poland's environmental protection system, but their effectiveness will depend on the consistent application of the new laws and the further development of Polish society's environmental awareness. Both criminal and financial penalties are aimed at increasing the accountability of businesses and individuals for actions that may negatively affect the environment, and serve as a tool to effectively counter environmental crime.

The legislative changes introduced in Poland in 2022 significantly tightened penalties for environmental crimes, increasing both maximum prison sentences and fines. In Poland, penalties for exceeding noise standards continue to be tightened. A new deposit system is planned from October 1, 2025, with a 50-groszy deposit for PET bottles up to 3L and cans up to 1L, and a 1-zloty deposit for reusable glass bottles up to 1.5L. A uniform system for selective collection of construction and demolition waste is also being introduced. CO₂ emission standards for

vehicles have been tightened to 93.6 g CO₂/km for cars and 153.9 g CO₂/km for vans for 2025-2029. New ESG reporting obligations for companies have also emerged that aim to increase accountability for violations of environmental standards and implement eco-friendly solutions in Poland. One of the most important areas of intervention is environmental education, which should include all age and social groups. Incorporating environmental issues into curricula at various levels of education, organizing information campaigns, and promoting pro-environmental attitudes among citizens can help increase public awareness and commitment to environmental protection. Only by building environmental responsibility in society can lasting change can be achieved.

Effective environmental protection in Poland requires a synergy of between legislative, educational and financial systems, which together will strengthen the mechanisms of environmental protection. Only through a balanced approach will it be possible to effectively counter environmental degradation and build a more sustainable future.

The issues presented in the article comprise only a small section of the many issues related to criminal and financial liability for environmental pollution. Although they are key to understanding the essence of the problems analysed, they certainly do not exhaust the entire topic, and leave open space for further scientific research and practical analysis.

Due to the dynamic development of both the legal system and socio-economic reality, it is necessary to continuously monitor changes and their impact on the functioning of legal norms in practice. In addition, it seems necessary to develop statistical tools and empirical studies that will allow for a more precise determination of the scale and nature of the phenomena being analysed. Statistics and empirical data that is regularly updated and thoroughly interpreted can provide a solid basis for further conclusions and legislative recommendations.

This article can therefore serve as a starting point for more detailed and in-depth research to identify existing problems, as well as practical directions for solving them.

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