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Effectiveness of remedial measures within waste management*

Abstract: The article examines the effectiveness of remedial measures imposed in administrative offence proceedings within the waste management sector. It juxtaposes the doctrinal framework with enforcement practice to assess the extent to which imposed remedial measures advance damage remediation in compliance with the principles of environmental law – most notably the requirement of rectifying environmental harm at its source – and whether they contribute to the prevention of recidivism. By mapping points of convergence and divergence between normative objectives and administrative implementation, the analysis evaluates the remedial, preventive, and deterrent functions of these measures within the broader architecture of administrative liability. On this basis, the article formulates *de lege ferenda* recommendations aimed at improving regulatory effectiveness and strengthening legal enforceability. The article thus situates remedial measures at the intersection of theory and practice, clarifies their role in environmental protection, and identifies targeted reforms to enhance their capacity to deliver timely remediation and credible deterrence.

Keywords: waste management, environmental law, remedial measures, liability for damage

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1. Introduction

The protection of the environment, as one of the most pressing challenges of our time, is based on the axiomatic premise that the prevention of environmental harm is unequivocally better than its subsequent remediation.[1] This principle stems not only from an ethical responsibility towards future generations, but also from the pragmatic realization that the restoration of damaged ecosystems to their original state (*status quo ante*) is often extremely costly, technically complex, and in many cases, such as biodiversity loss, entirely impossible.[2] As also acknowledged in the professional literature, environmental harm may be irreversible, and the primary goal should be to prevent damage from occurring rather than remedying it afterward.[3]

In response to these risks, the fundamental pillars of environmental policy have been developed within international and European environmental law *in concreto* the precautionary principle, the principle of remediation at source, and the "polluter pays" principle. States are thus obligated not only to actively protect natural resources and reduce pollution, but also to create and strengthen regulatory frameworks that ensure ecological balance.[4] The "polluter pays" principle is applied in such a way that the person responsible for the contamination also bears the cost of its removal.[5] Growing concerns about environmental degradation require immediate and adequate remediation, as well as the punishment of offenders, with the solution demanding collective effort, a long-term strategy, and research to ensure that future generations live in a clean world.[6]

Despite the strong emphasis on prevention, the reality of everyday practice is confronted with numerous violations of environmental regulations.[7] In such situations, remedial measures come to the forefront as a key tool used by public administration authorities to rectify unlawful conditions. In contrast to mone-

[1] L. A. Duvic-Paoli, *The Prevention Principle in International Environmental Law*, Cambridge University Press, Cambridge 2018, p. 16.

[2] A. I. Mahdi, *The Principle of Preventing Environmental Harm*, "Journal of Human Security" 2024, vol. 20, no. 1, p. 94; N. P. Hariram et al., *Sustainalism: An Integrated Socio-Economic-Environmental Model to Address Sustainable Development and Sustainability*, "Sustainability" 2023, vol. 15, no. 13, p. 6.

[3] M. Fitzmaurice et al., *International Environmental Law. Text, Cases And Materials*, Edward Elgar Publishing, Cheltenham 2022, p. 49.

[4] A. I. Mahdi, *The Principle of Preventing Environmental Harm*, "Journal of Human Security" 2024, vol. 20, no. 1, p. 94.

[5] R. G. P. Hawkins, H. S. Shaw, *The Practical Guide to Waste Management Law*, Thomas Telford Publishing, London 2004, p. 63.

[6] N. P. Hariram et al., *Sustainalism: An Integrated Socio-Economic-Environmental Model to Address Sustainable Development and Sustainability*, "Sustainability" 2023, vol. 15, no. 13, p. 6.

[7] A. I. Mahdi, *The Principle of Preventing...*, p. 94.

tary sanctions, whose primary function is repressive and deterrent, the main and sole aim of remedial measures is the actual and immediate rectification of the damage caused. These measures are thus a direct reflection of the preference for natural restitution, which in environmental law is more essential than monetary compensation.[8]

This article therefore aims to critically assess the effectiveness of the system of remedial measures in the waste management sector under the conditions of the Slovak Republic, based on a combined methodological approach that integrates doctrinal legal analysis with an empirical examination of administrative enforcement practice. While the doctrinal part focuses on the normative objectives and legal design of remedial measures under the Act No. 79/2015 Coll. on Waste and on the Amendment and Supplementation of Certain Acts (hereinafter: Waste Act), the empirical part seeks to capture how these instruments are applied *in concreto* by competent public authorities.

The empirical analysis draws on data obtained from authorities entrusted with supervision and enforcement in the field of waste management, namely district offices acting through their Departments of Environmental Care and the Slovak Environmental Inspectorate. These authorities were approached through individual requests submitted pursuant to the Act No. 211/2000 Coll. on Free Access to Information and on Amendments and Supplements to Certain Acts (hereinafter: Act on Free Access to Information). The selection of these bodies reflects their central role in detecting violations, conducting administrative proceedings, and imposing sanctions and remedial measures under the Waste Act. The empirical inquiry covers the period from 1 January 2016 to 8 September 2025, corresponding to the practical application of the current Waste Act. Within this reference period, the analysis focuses on enforcement outcomes rather than on individual inspection activities, with particular attention paid to final administrative decisions resolving detected breaches of statutory obligations.

From a methodological perspective, the empirical part examines several interrelated aspects of enforcement practice. These include the relative prevalence of remedial measures compared to monetary fines, the circumstances under which remedial measures are imposed cumulatively with sanctions or omitted altogether, and the substantive content of the imposed obligations. The analysis further considers whether remedial measures are framed in a manner that enables effective remediation of the unlawful condition and whether they exhibit a preventive dimension capable of discouraging repeated violations.

It must be noted that the empirical findings are subject to inherent limitations. The scope and structure of the data provided by individual authorities vary considerably, reflecting the absence of a unified reporting methodology at the national level. In some cases, the information supplied was incomplete

[8] R. G. P. Hawkins, H. S. Shaw, *The Practical Guide...*, p. 16.

or aggregated in a manner that precluded more detailed comparison. These constraints are taken into account in the interpretation of the results and do not undermine the analytical value of the findings, which nonetheless reveal significant enforcement trends and systemic deficiencies.

It needs to be emphasized that the effectiveness of remedial measures is evaluated primarily through the lens of their ability to fulfil the key principles of environmental law, specifically the "polluter pays" principle, the precautionary principle, and the principle of remediation at source. Thus, the central research question is as follows: *Does the current system of remedial measures, under the Waste Act, ensure effective enforcement of liability against offenders while also securing full remediation of the unlawful condition?* The presented analysis focuses on points of convergence and divergence between normative objectives and administrative practice, evaluating the remedial and preventive functions of these measures. Based on the empirical insights obtained, the article formulates *de lege ferenda* recommendations aimed at strengthening the practical effectiveness of remedial measures and enhancing their role as an autonomous instrument of environmental liability.

2. Remedial measures in general

Remedial measures form an integral part of the exercise of public administration, particularly in the context of inspections and administrative oversight.[9] They constitute a specific category of competencies falling within the authority of supervisory bodies and are typically applied during the second phase of administrative supervision, when certain deficiencies have been identified based on an inspection.[10] Unlike sanctions in the form of fines, which primarily aim to prevent recidivism by the offender and avert future deficiencies, the essence of remedial measures lies principally in the elimination of the identified shortcomings.[11]

From a legal-theoretical perspective,[12] the primary purpose of employing remedial measures as an administrative-legal tool is to rectify an identified unlawful state and to restore a condition that complies with the applicable law. The obligation to adopt such a measure may be imposed on a subject

[9] D. Hendrych et al., *Správní právo. Obecná část*, C.H.Beck, Prague 2016, p. 208.

[10] S. Košičiarová, *Právo životného prostredia. Všeobecná časť*, Aleš Čeněk Publishing House, Plzeň 2022, p. 149.

[11] M. Kindl, *Základy správního práva*, Aleš Čeněk Publishing House, Plzeň 2006, p. 268.

[12] M. Damohorský et al., *Právo životního prostředí*, C.H.Beck, Prague 2010, pp. 36–37.

in two fundamental ways. In certain cases, this obligation arises directly from the law (*ex lege*), wherein the legal provision explicitly stipulates how the subject is to act upon the fulfilment of defined conditions, even without prior intervention from a public authority.[13] However, much more commonly, a remedial measure is imposed through an individual administrative act (*ex actu*), that is, by an authoritative and legally binding decision of the competent administrative body.[14]

Although remedial measures are imposed as a result of the violation of legal obligations, it is essential to distinguish them clearly from sanctions, particularly monetary fines. While sanctions, primarily repressive in nature, are intended mainly to prevent further deficiencies in the future, remedial measures focus exclusively on identifying and eliminating existing deficiencies and on restoring a state that is consistent with legal regulations.[15] It may be argued, however, that the obligated subject may often perceive both fines and remedial measures as sanctions, since both represent an interference with their proprietary interests. Despite such subjective perceptions, their legal nature and purpose are fundamentally different. From the perspective of protecting the public interest, especially in the environmental domain a monetary fine has no direct and immediate impact on eliminating environmental damage that has already occurred. In contrast, the actual remediation of the damage is the main and sole purpose of remedial measures, and for this reason, they are often more crucial to fulfilling the purpose of legal regulation than the sanction itself.[16]

The distinction between the institutions of sanctions and remedial measures is particularly pronounced in environmental law, where remedial measures play a key role, not only in protecting natural resources and eliminating historical environmental burdens, but also in safeguarding public health.[17] It should also be noted that, in many cases, the imposition of a remedial measure is a more appropriate and often more effective solution than the imposition of a sanction alone, particularly in relation to environmental protection. In this regard, the obligation to carry out a complex and costly remediation may ultimately represent a significantly heavier burden and in a certain sense, even a "greater punishment," for the violator of the law than the one-time payment of a monetary fine.[18]

[13] P. Humlíčková, *Odpovědnost, preventivní a nápravná opatření ve vztahu k ochraně přírody a krajiny*, "Acta Universitatis Carolinae – Iuridica" 2015, no. 2, p. 72.

[14] M. Damohorský et al., *Právo životního...*, pp. 36–37.

[15] S. Košičiarová, *Právo životného...*, p. 150.

[16] P. Humlíčková, *Odpovědnost, preventivní a nápravná...*, p. 72.

[17] I. Jančářová, *Opatření k nápravě v právu životního prostředí*, "Právní rozhledy" 2010, vol. 18, no. 16, p. 575.

[18] Důvodová zpráva k českému zákonu č. 541/2020 Sb. o odpadech.

The obligation to adopt remedial measures in this area is a direct reflection of the preference for the principle of natural restitution, that is, the restoration or replacement of a damaged component of the environment, over monetary compensation. This principle clearly distinguishes the resolution of environmental damage, which has a public law character, from damage in the private law sense.

Whereas, in the case of private law damage, the form of redress typically derives from the discretionary will of the injured owner, in the case of environmental harm affecting a public good, the law establishes a binding hierarchy of remediation procedures, namely: (i) restoration to the original condition (*status quo ante*), (ii) substitute performance, for example, the creation of an ecologically equivalent biotope in another location, and (iii) monetary compensation as a measure of last resort (*ultima ratio*), if the implementation of the first two options is not feasible.[19]

3. Theoretical framework of remedial measures in the context of the Slovak Republic

Within the Slovak Republic, the application of remedial measures in the field of waste management is primarily governed by Waste Act, with secondary references in Act No. 10/1996 Coll. on Control in State Administration (hereinafter: Act on Control in State Administration).

The Waste Act refers to the possibility of imposing remedial measures in Part Ten, which deals with liability for breaches of statutory obligations, specifically in § 115(4)[20] and § 116(3).[21] We do not consider the current wording of these provisions fully consistent with their regulatory purpose, as a logical interpretation suggests that remedial measures may only be imposed in a subsidiary manner

[19] L. Bahýľová, *Nápravná opatření v právu životního prostředí*, COFOLA 2010, Masaryk University, Brno 2010, p. 3.

[20] Section 115 (4) of the Waste Act provides as follows: "The authority competent to handle misdemeanours under paragraph 3 may, in the decision on imposing a penalty on the person responsible for the misdemeanour under paragraph 1, simultaneously order measures to remedy the consequences of the unlawful conduct."

[21] Section 116 (3) of the Waste Act provides as follows: "When deciding to impose a fine, the waste management administrative authority may simultaneously require the party under obligation to take measures to remedy the results of the unlawful activity for which the fine was imposed. If the party under obligation fails to take said measures within the defined deadline, the waste management administrative authority may impose an additional fine of up to two times the maximum sum of the fine established by this Act."

and solely as part of a sanction decision. However, in line with the underlying purpose of imposing such measures, we consider it necessary *de lege ferenda* to refine and systematically reformulate § 115(4) and § 116(3) of the Waste Act to explicitly authorize administrative bodies to impose remedial measures independently, even in the absence of a concurrent sanction.

We hold that the current approach, binding remedial measures exclusively to the sanctioning mechanism, undermines their preventive and restorative potential and ultimately weakens the ability of administrative authorities to ensure effective environmental protection. As Gašparíková notes in this regard, the imposition of fines for breaches of the Waste Act should not be an end in itself, but rather a means of compelling the offender to comply with the law and, where possible, to eliminate the consequences of their unlawful conduct.[22] The possibility of imposing a remedial measure, however, will depend on further circumstances, for example, whether the obligated party has remedied the unlawful conduct prior to the issuance of the fine decision, thereby rendering the measure redundant.[23]

It must nonetheless be emphasized that subsequent remediation of the consequences of the unlawful conduct does not relieve the offender of liability for the violation established under the Waste Act.[24] In cases where the decision imposes both a financial penalty and a remedial measure, and the offender fails to implement the measure within the specified period, the state waste management authority[25] may impose an additional fine – up to twice the upper limit of the relevant provision in § 117 under which the original fine was imposed.

In practice, however, the application of § 115(4) of the Waste Act often reveals that the two-year limitation period, which applies not only to the handling of infractions but also to the concurrent imposition of remedial measures, may prove unreasonably short in more complex cases. This period is not always sufficient to reliably determine all decisive facts on the basis of which the obligation to implement remediation could be meaningfully set.[26]

Another problematic aspect of the Slovak legal framework governing waste is the absence of a clear regulation of legal succession in relation to the performance of remedial measures. The current Waste Act does not explicitly

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[22] See B. Gašparíková, P. Takáč, *Zákon o odpadoch. Komentár*, Wolters Kluwer SR, Bratislava 2019, p. 567.

[23] The Waste Act employs the term "measures to remedy the consequences of unlawful conduct."

[24] See J. Ďurďovičová et al., *Zákon o odpadoch. Komentár,* EUROKÓDEX, Bratislava 2018, p. 445.

[25] Within the meaning of the Waste Act, the term "waste management authority" refers to: (i) the Slovak Environmental Inspectorate, which adjudicates administrative offences committed by legal persons and natural persons-entrepreneurs, and (ii) the District Offices, which adjudicate minor offences (misdemeanours) committed by natural persons.

[26] I. Jančářová et al., *Právo životního prostředí: zvláštní část*, Masaryk University, Brno 2015, p. 473.

regulate such scenarios, which can lead to practical uncertainties, particularly in cases where a legal entity ceases to exist or a self-employed natural person dies after a final decision on remedial measures has been issued but before it has been implemented. In such situations, the subject of legal responsibility ceases to exist, which ultimately means that the remedial measure can no longer be imposed or enforced, even though the unlawful condition persists.

From a comparative perspective, the approach of Czech legislation as articulated in § 116(2) and (3) of Act No. 541/2020 Coll. on Waste can be considered instructive. According to this law, the administrative authority may impose a remedial measure on the legal successor of a legal entity or on the person continuing the business activity of a natural person who caused the defective condition.[27] The obligations arising from imposed measures explicitly transfer to legal successors. Such a solution fully aligns with the material nature of environmental liability, which is tied not to the person of the offender but to the duty to restore the impaired condition of the environment. *De lege ferenda*, it would therefore be appropriate for the Slovak legislator to consider the explicit incorporation of a similar legal succession mechanism into Act No. 79/2015 Coll. on Waste. This would not only ensure continuity of responsibility for remedying unlawful conditions but would also strengthen the practical enforceability of remedial measures in cases of organizational or ownership changes among entities operating in the field of waste management.

However, this theoretical-normative reflection is directly linked to the question of the practical effectiveness of remedial measures. If the *de lege ferenda* regulation is to be truly purposeful, it must be grounded not only in the principles of legal certainty and the systematic coherence of administrative law but also in empirical insights into how remedial measures function within the waste management sector. The following section, therefore, focuses on a critical assessment of the effectiveness of these measures in practice. Through quantitative and qualitative indicators, it analyzes the extent to which theoretical premises are translated into real, tangible environmental protection.

[27] Particular attention should also be given to the provision that served as the inspiration for the creation of § 116(2) and (3) of Act No. 541/2020 Coll. on Waste. The concept of legal succession in the imposition of remedial measures is, in its fundamental features, derived from § 22(4) of Act No. 201/2012 Coll. on Air Protection, which states: "The municipal authority of a municipality with extended competence or the inspection body shall, as necessary, impose remedial measures on the legal successor of the operator, who is not the originator of the defective condition. The obligations arising from the measures to remedy the situation and from the decision to shut down the operation of a stationary source imposed on the operator [...] are transferred to their legal successors." To avoid potential interpretative ambiguities and practical application issues, the subsequent legislation on waste management more precisely defined the group of persons to whom remedial measures may be imposed on the basis of legal succession, as well as the range of entities upon which the obligations arising from already imposed measures are transferred. See Explanatory Report to Czech Act No. 541/2020 Coll. on Waste.

4. The extent to which remedial measures in the field of waste management are truly effective

Although the preventive effect of remedial measures in waste management is frequently emphasized, their actual effectiveness in practice remains subject to legitimate doubts. The starting point of this section is therefore a critical evaluation of whether these instruments, as defined in the Waste Act, lead to consistent enforcement of liability and to timely, qualitatively adequate remediation of the consequences of unlawful conduct in accordance with the "polluter pays" principle, the precautionary principle, and the principle of remediation at source. The chapter aims to assess whether the current model, characterized by a division of competencies between the Slovak Environmental Inspectorate and district offices, truly serves to deter offenders from recidivism while also ensuring effective restoration of environmental harm in compliance with the Waste Act. Accordingly, the current section seeks to answer the research question posed in the introduction: *Does the current system of remedial measures, under the Waste Act, ensure effective enforcement of liability against offenders while also securing full remediation of the unlawful condition?*

The empirical part of this article is based on data obtained through freedom of information requests addressed to the competent authorities responsible for supervision and enforcement in the field of waste management, pursuant to § 14 of Act on Free Access to Information. These requests were submitted both to the district offices, specifically to the Departments of Environmental Care, and to the Slovak Environmental Inspectorate, Waste Management Inspection Division. Regarding the determination of the reference period, the analysis focused on the time span from 1.01.2016 to 8.09.2025.[28] The data collection targeted both quantitative and qualitative indicators. Among the most important findings sought were the ratio of cases concluded solely with the imposition of monetary fines compared to those concluded with both a fine and a remedial measure, the typical range of measures imposed, the occurrence of repeated offences by the same entities to whom remedial measures had previously been imposed, the most frequent obstacles in enforcement and monitoring of compliance, as well as the mechanisms used to verify the fulfilment of the measures with the required quality. Anonymized case studies documenting the timeline and outcome of remediation efforts were also requested, although these will be used in a subsequent research phase.

[28] The beginning of the reference period was set at January 1, 2016, coinciding with the date on which Act No. 79/2015 Coll. on Waste and on the Amendment and Supplementation of Certain Acts entered into force.

The purpose of this analytical approach, based on decisions by relevant public authorities obtained through the § 14 mechanism of the Act on Free Access to Information, was to provide a comprehensive mapping of the application of remedial measures, particularly in terms of their imposition under the legal and administrative conditions of the Slovak Republic *in concreto* the objective was to identify to whom, in what circumstances, and with what frequency these measures are imposed.

During the analysis of responses to the submitted information requests, several problematic aspects emerged, some of which were not initially anticipated. One of the most prominent and frequently occurring issues in administrative practice, not only in connection with the imposition of remedial measures in waste management, is the persistent inability to identify the responsible party.[29] Illegally deposited waste, commonly referred to as "illegal dumpsites," continues to represent a serious environmental and administrative problem in many municipalities, despite the existence of relatively strict sanctioning mechanisms. It must be emphasized that the Waste Act does not explicitly use the term "illegal dumpsite" but rather operates with the term "illegally deposited waste," which refers to waste placed on a property in violation of the provisions of the Waste Act. According to § 15 of the Waste Act, the district office is obliged to initiate administrative proceedings in which it determines the party liable for the unauthorized disposal and mandates the entity obligated to ensure the removal and legal treatment thereof. However, in practice, the process of identifying the responsible party often encounters significant obstacles, which is reflected in the persistently low clearance rate of such environmental offences.[30]

The identification of the responsible party is frequently impossible, and the clearance rate of unlawful conduct in this area remains very low.[31] Even though the law entrusts this authority to district offices and the Slovak Environmental Inspectorate, in reality, only a fraction of offenders are successfully identified. The Association of Towns and Municipalities of Slovakia (ZMOS) reports that the environmental departments of district offices identify the perpetrators of illegal waste dumping in approximately 10% of reported cases.[32]

Similar difficulties are encountered by the district offices themselves, which stated in their responses that in cases where the responsible party cannot be identified in accordance with § 15 of the Waste Act, they are compelled to ter-

[29] A. Mochorovská, *Ako postupovať pri odhalení nelegálnej skládky? Kto zodpovedá za jej odstránenie?*, https://www.odpady-portal.sk/Dokument/107709/nelegalne-skladky-ich-ohlasenie-a-odstranenie-pravny-pohlad.aspx [accessed 9 October 2025].

[30] See § 15 zákona o odpadoch.

[31] A. Mochorovská, *Ako postupovať pri odhalení...*

[32] Spravodajstvo: *Zastavili pri lese, aby vyhodili odpad. Zachytila ich fotopasca*, https://www.odpady-portal.sk/Dokument/108789/kosice-odpad-nelegalna-skladka-fotopasca.aspx [accessed 9 October 2025].

minate the administrative proceedings. Consequently, if the illegally deposited waste involves municipal or minor construction waste, the obligation for its removal or recovery is imposed on the affected municipality or town, at its own expense. A different situation arises in the case of hazardous waste, where the district offices, through their environmental care departments, impose the obligation to remove the waste upon themselves. Since these offices lack their own financial resources, they must submit a formal request to the relevant central administrative authority for the release of funds from the state budget. However, the law does not establish any statutory deadline for deciding on such requests. This legislative gap creates a paradoxical situation wherein the waste is formally considered removed, because a decision imposing the obligation was issued, yet the physical state remains unchanged.[33]

Further analysis of the responses provided by the relevant public authorities shows that the number of remedial measures imposed between 1 January 2016 and 8 September 2025 remains relatively low. This trend highlights a persistent problem in practice, namely the failure to prioritize the imposition of remedial measures over the imposition of monetary penalties, despite the existence of the principle of remediation at source. In reality, the prioritization of remedial measures is rarely realized and, due to their linkage to fine imposition, they are only marginally used by administrative authorities. Empirical data also reveal that approximately one-third of the surveyed district offices did not impose a single remedial measure during the nine-year period, even though proven violations of the Waste Act (§ 115 and § 117) occurred in their jurisdiction and monetary fines were imposed. This applies notably to the district offices of Trenčín, Humenné, Lučenec, Piešťany, Nové Zámky, Šaľa, Považská Bystrica, Prievidza, Bardejov, among others. An illustrative example of this disproportion is the District Office in Košice, which imposed 86 monetary fines since 2016 but only one remedial measure. This disparity clearly demonstrates the imbalance between the repressive and restitutive approaches within administrative sanctioning in the field of waste management.

One of the contributing factors to this situation is the absence of a unified methodology or internal guidelines that would provide district offices with concrete criteria for deciding whether to impose a remedial measure. The Waste Act is formulated rather abstractly in this regard, which allows for discretion by authorities but simultaneously results in significant inconsistency in decision-making practice. The low number of imposed remedial measures can also be partially attributed to the inability to identify the responsible party or to cases where the offender voluntarily removed the waste prior to the initiation of pro-

33 The District Office of Senec, in its responses to requests for access to information, identified several municipalities where this long-standing issue is most visibly manifested, specifically, the municipality of Farná, the Studené and Nový Svet districts of Most pri Bratislave, and the municipality of Ivanka pri Dunaji.

ceedings, thereby rendering the imposition of a remedial measure redundant. In terms of substantive focus, the most commonly imposed measures involved the removal of illegally deposited waste, its recovery in line with the waste management hierarchy or its use by the municipality, or the remediation and removal of an unpermitted landfill or the proper disposal of end-of-life vehicles.

Responses from district offices and the Slovak Environmental Inspectorate also point to a significant discrepancy in the approach of public authorities toward the imposition of remedial measures. While some district offices, such as those in Senec or Poprad, and the Slovak Environmental Inspectorate itself approach their imposition proactively, others in nearly identical factual scenarios settle for issuing monetary fines only. This inconsistency and lack of a uniform procedure underscore the need to develop binding methodologies or internal guidelines that would help ensure the predictability of administrative decisions, enhance legal certainty, and contribute to a more effective implementation of the principle of natural restitution in waste management.

Based on the analysis carried out, it can be concluded that the answer to the central research question, namely: *Does the current system of remedial measures, under the Waste Act, ensure effective enforcement of liability against offenders while also securing full remediation of the unlawful condition?*, must be answered in the negative. The current configuration of the remedial measure system under the Waste Act does not ensure effective imposition of liability against offenders, nor does it guarantee full rectification of the unlawful condition. Its conceptual and procedural framework exhibits multiple shortcomings that weaken the material implementation of the "polluter pays" principle. The obligation to remedy the harm is often merely formal, without actual restoration of the damaged state, while the application of remedial measures remains marginal, inconsistent, and tied to the sanctioning mechanism. Instead of providing for the real remediation of environmental harm, the system has been reduced to a repressive tool lacking sufficient restitutive effect. From the perspective of the objective of the legal regulation, it therefore cannot be regarded as an effective liability mechanism that simultaneously guarantees full rectification of unlawful environmental conditions.

5. Conclusions

In conclusion, based on the conducted analysis, it can be asserted that the current system of remedial measures under the Waste Act does not entirely realize its fundamental goal, which is to ensure the effective imposition of liability on offenders while also securing the complete rectification of the unlawful condition. Although the very concept of remedial measures is derived from key principles of environmental law, particularly the "polluter pays" principle and the principle of remediation at source, their application in the conditions of the Slovak Republic remains fragmented, formalistic, and frequently ineffective.

In practice, public authorities tend to prioritize repressive financial sanctions over the actual restoration of environmental harm, thereby reducing remedial measures to a secondary instrument devoid of an autonomous restitutive function. Empirical findings highlight the low frequency of their imposition, significant regional disparities in decision-making practices, and systemic obstacles in their implementation, chief among them the inability to identify the responsible party, the absence of unified procedural methodology, and the lack of statutory deadlines for the disbursement of funds required for the removal of illegally deposited waste.

These deficiencies result in a situation where, although the legislation formally declares the principle of material liability for environmental damage, its practical enforceability remains limited. The current model, therefore, cannot be regarded as an effective mechanism of environmental liability in its substantive sense. If remedial measures are to fulfil their intended function, it is necessary that the legislator, *de lege ferenda*, introduce unified methodological and procedural standards for their application and strengthen the institutional and financial capacities of administrative authorities. It would also be appropriate to amend the Waste Act in such a way that administrative authorities are granted an unequivocal power to impose remedial measures independently of sanction proceedings, and to revise statutory time limits to ensure that their expiration does not hinder the fulfilment of the principle of effective environmental protection. Only through such comprehensive reform can the system of remedial measures acquire real practical relevance as a tool that not only deters offenders from recidivism but also reinforces public trust in the effectiveness of environmental law.

Bibliography

Professional and academic publications (published in either English, Slovak or Czech language)

Bahýľová L., *Nápravná opatření v právu životního prostředí*, COFOLA 2010, Masaryk University, Brno 2010, pp. 1–24.

Damohorský M. et al., *Právo životního prostředí*, C.H.Beck, Prague 2010.

Duvic-Paoli L. A., *The Prevention Principle in International Environmental Law*, Cambridge University Press, Cambridge 2018.
Ďurďovičová J. et. al., *Zákon o odpadoch. Komentár*, EUROKÓDEX, Bratislava 2018.
Fitzmaurice M. et. al., *International Environmental Law. Text, Cases And Materials*, Edward Elgar Publishing, Cheltenham 2022.
Gašparíková B., Takáč P., *Zákon o odpadoch. Komentár*, Wolters Kluwer SR, Bratislava 2019.
Hariram N. P. et. al., *Sustainalism: An Integrated Socio-Economic-Environmental Model to Address Sustainable Development and Sustainability*, "Sustainability" 2023, vol. 15, no. 13, pp. 1–37.
Hawkins R. G. P., Shaw H. S., *The practical guide to waste management law*, Thomas Telford Publishing, London 2004.
Hendrych D. et. al., *Správní právo. Obecná část*, C.H.Beck, Prague 2009.
Humlíčková P., *Odpovědnost, preventivní a nápravná opatření ve vztahu k ochraně přírody a krajiny*, "Acta Universitatis Carolinae – Iuridica" 2015, no. 2, pp. 69–76.
Jančářová I., *Opatření k nápravě v právu životního prostředí*, "Právní rozhledy" 2010, vol. 18, no. 16, pp. 575–580.
Jančářová I. et al., *Právo životního prostředí: zvláštní část*, Masaryk University, Brno 2015.
Košičiarová S., *Právo životného prostredia. Všeobecná časť*, Aleš Čeněk Publishing House, Plzeň 2022.
Mahdi A. I., *The Principle of Preventing Environmental Harm*, "Journal of Human Security" 2024, vol. 20, no. 1, pp. 94–98.

Legally binding and non-legally binding documents and legislation (published in either Slovak language or Czech language)

Act no. 10/1996 Coll. on Control in State Administration
Act no. 79/2015 Coll. on Waste and on the Amendment and Supplementation of Certain Acts
Act no. 211/2000 Coll. on Free Access to Information and on Amendments and Supplements to Certain Acts
Act no. 541/2020 Coll. on Waste
Explanatory Report to Czech Act No. 541/2020 Coll. on Waste.

Internet sources

Mochorovská A., *Ako postupovať pri odhalení nelegálnej skládky? Kto zodpovedá za jej odstránenie?*, https://www.odpady-portal.sk/Dokument/107709/nelegalne-skladky-ich-ohlasenie-a-odstranenie-pravny-pohlad.aspx [accessed 9 October 2025].
Spravodajstvo: *Zastavili pri lese, aby vyhodili odpad. Zachytila ich fotopasca*, https://www.odpady-portal.sk/Dokument/108789/kosice-odpad-nelegalna-skladka-fotopasca.aspx [accessed 9 October 2025].

Alžbeta Adamkovičová

Skuteczność środków naprawczych w gospodarce odpadami

Streszczenie

Artykuł analizuje skuteczność środków naprawczych nakładanych w postępowaniach administracyjnych dotyczących naruszeń w sektorze gospodarki odpadami. Zestawia ramy doktrynalne z praktyką egzekwowania prawa, aby ocenić, w jakim stopniu nałożone środki przyczyniają się do naprawy szkód zgodnie z zasadami prawa ochrony środowiska – w szczególności z wymogiem usunięcia szkody u źródła – oraz czy wspierają zapobieganie recydywie. Poprzez zidentyfikowanie punktów zbieżności i rozbieżności między celami normatywnymi a wdrażaniem administracyjnym analiza ocenia funkcje naprawcze, zapobiegawcze i odstraszające tych środków w szerszym kontekście odpowiedzialności administracyjnej. Na tej podstawie artykuł formułuje postulaty *de lege ferenda* mające na celu poprawę skuteczności regulacyjnej i wzmocnienie wykonalności prawnej. Artykuł umiejscawia środki naprawcze na styku teorii i praktyki, wyjaśnia ich rolę w ochronie środowiska i wskazuje reformy mające na celu zwiększenie ich skuteczności w zakresie terminowej naprawy szkód oraz odstraszania.

Słowa kluczowe: gospodarka odpadami, prawo ochrony środowiska, środki naprawcze, odpowiedzialność za szkody

Альжбета Адамковичова

Эффективность корректирующих мер в управлении отходами

Резюме

Статья исследует эффективность корректирующих мер, применяемых в рамках административных производств по делам об административных правонарушениях в сфере управления отходами. Сопоставляя доктринальные основы с правоприменительной практикой, анализ направлен на оценку того, в какой степени такие меры способствуют устранению ущерба в соответствии с принципами экологического права — особенно с требованием устранения вреда в источнике — и помогают ли они предотвратить рецидив. Посредством сопоставления нормативных целей с административной реализацией, анализ оценивает восстановительную, превентивную и сдерживающую функции этих мер в рамках общей системы административной ответственности. На основе этого формулируются рекомендации de lege ferenda, направленные на повышение эффективности регулирования и усиление правоприменения. Таким образом, статья рассматривает корректирующие меры на стыке теории и практики, разъясняет их роль в охране окружающей среды и предлагает целевые реформы для повышения их способности обеспечивать своевременное устранение вреда и действенное сдерживание.

Ключевые слова: Управление отходами, Экологическое право, Корректирующие меры, Ответственность за ущерб

Alžbeta Adamkovičová

Efficacia delle misure correttive nella gestione dei rifiuti

Riassunto

L'articolo esamina l'efficacia delle misure correttive imposte nei procedimenti per illeciti amministrativi nel settore della gestione dei rifiuti. Mette a confronto il quadro dottrinale con la pratica applicativa per valutare in quale misura tali misure contribuiscano alla riparazione dei danni in conformità ai principi del diritto ambientale – in particolare il principio della riparazione del danno alla fonte – e se esse favoriscano la prevenzione della recidiva. Attraverso l'analisi delle convergenze e divergenze tra gli obiettivi normativi e l'attuazione amministrativa, l'articolo valuta le funzioni riparative, preventive e dissuasive di tali misure nel contesto più ampio della responsabilità amministrativa. Sulla base di ciò, vengono formulate raccomandazioni de lege ferenda volte a migliorare l'efficacia normativa e rafforzare l'applicabilità giuridica. L'articolo colloca così le misure correttive all'incrocio tra teoria e pratica, chiarisce il loro ruolo nella protezione ambientale e identifica riforme mirate per aumentarne la capacità di garantire una riparazione tempestiva ed efficace deterrenza.

Parole chiave: Gestione dei rifiuti, Diritto ambientale, Misure correttive, Responsabilità per danni

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The significance of accurate damage assessment in criminal offences of illegal waste management*

Abstract: The article deals with the substantive aspects of the criminal offence of unauthorised waste management under Article 302 of the Criminal Code in the Slovak Republic. It analyses its basic and aggravated forms, the meaning of fault and the distinction between a minor offence and an offence depending on the seriousness of the act and the amount of damage caused or its scale. The text discusses the concept of damage and scale, explaining their content in terms of ecological and property damage, as well as the definition of the boundaries of small, greater, significant, and large-scale damage. The article also focuses on the legal definitions of waste and waste management and the specifics of individual activities, as well as the possibility of committing this crime by a legal entity under the Act on Criminal Liability of Legal Entities. The article presents particular practical cases and pitfalls in determining the amount of damage on the basis of these cases.

Keywords: criminal offence, unauthorised waste management, damage, sanction, legal entity

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Introduction

The issue of unauthorised waste management represents a significant area of environmental criminal law and is among the frequently committed crimes in environmental criminality.[1] It is an act that directly interferes with the basic components of the environment, and its consequences are often manifested not only as immediate damage, but also as long-term ecological damage with serious social consequences. The Slovak Criminal Code regulates this crime in Article 302 of Act No. 300/2005 Criminal Code, as amended (hereinafter: Criminal Code or CC), which also consists of several aggravated forms depending on the extent of the crime, the amount of damage caused and the severity of the consequences. A significant role in application is played by the correct assessment of guilt, the determination and calculation of the amount of damage and the extent of the crime, which are crucial for the classification of the act as a basic or aggravated form of the crime and for determining an appropriate penalty. Examples from practice show that determining the amount of damage can appear to be very difficult, in some cases almost impossible, thus creating an obstacle to the successful completion of an investigation and bringing the perpetrator to justice.

"Within the European Union, the issue of environmental protection is given great attention. Environmental protection is one of the fundamental objectives of the Union. The importance of environmental protection is also highlighted in the preamble to the Treaty on European Union."[2] Therefore, the protection of environment in Slovak Republic by the means of criminal law is incorporated in the Criminal Code, special part, sixth chapter, labelled "Criminal offences against public safety and against environment." Overall 14 crimes protecting the environment respect the EU standards and adapt the Slovak legal order to norms prescribed by EU law. "Through EU directives, Slovakia is obligated to transpose European environmental norms into its national legal framework, thus facilitating the integration of EU environmental policies into domestic

[1] In the year 2024, there were 124 cases of this crime in Slovakia. In the year 2023 there were 104 cases. In the year 2022 there were 90 cases. These numbers represent high volumes of crime out of all environmental criminality. The second most widespread and committed crime is that under Article 305 CC – Breach of Plant and Animal Species Protection Regulations. With the number of cases at 55 (2024), 63 (2023) and 49 (2022), it is well behind the crime of illegal waste management. Source: Statistical overview of criminal and non-criminal activity for 2022, 2023 and 2024, www.genpro.gov.sk [accessed 10 October 2025].

[2] E. Burda, J. Čentéš, J. Kolesár, J. Záhora et al., *Trestný zákon II*, C.H.Beck, Praha 2011, p. 978.

law."[3] Environmental crimes in Criminal Code have been frequently amended to align with the EU goals and to comply with the EU policy. For example, there were amendments in the year 2020 (the Act No. 288/2020 Coll.) introducing new environmental crimes "neglect of animal care" (Article 305b CC) and "organizing of animal matches" (Article 305c CC) or amendment in the year 2023 (the Act No. 117/2023 Coll.) introducing the crime of "killing a social animal without reasonable cause" (Article 305aa CC). 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 (hereinafter: Directive 2008/99) states: "In order to achieve effective protection of the environment, there is a particular need for more dissuasive penalties for environmentally harmful activities, which typically cause or are likely to cause substantial damage to the air, including the stratosphere, to soil, water, animals or plants, including to the conservation of species."[4] However, there is a question of whether Slovak legislation is sufficient to make the sanctions dissuasive enough, when the system of damage assessment is not properly applied and thus the qualification of the "seriousness of the crime" is lowered and it becomes impossible to impose "dissuasive" penalties.

1. Substantive aspects of the crime of unauthorised waste management in the Slovak Republic

The crime of unauthorised waste management is one of the crimes against the environment defined according to type of object in the Sixth chapter, Second part of the Special Part of the Criminal Code: "Any person who breaches generally binding legal regulations when handling a small amount of waste shall be liable to a term of imprisonment of up to two years."[5]

"From a substantive point of view, the concept of damage affects many provisions of the Criminal Code, especially the classification of individual criminal acts that involve causing damage, because causing damage is an obligatory

[3] M. Michalovič, M. Maslen, *Advocating for environmental law – grounds for its status as an independent branch of law in Slovak legal doctrine*, "Prawne Problemy Górnictwa i Ochrony Środowiska" 2024, no. 2, p. 18, https://doi.org/10.31261/PPGOS.2024.02.06.

[4] 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, recital 5.

[5] Article 302(1) CC.

feature of the objective aspect of the factual basis."[6] This also applies to the crime of unauthorised waste management, which is regulated in Article 302 CC and distinguished into basic form (Article 302(1) CC) and three qualified forms of crime (Article 302(2,3,4) CC). The fulfilment of the basic form occurs when the perpetrator, even by a negligent act, handles waste on a small scale in violation of generally binding legal regulations.[7] The second paragraph requires, in terms of damage, the commission of the act referred to in the first paragraph and the exposure of the environment to a risk of greater damage. The third paragraph already requires that the act referred to in paragraph 1 be committed on a significant scale and the fourth paragraph on a large scale. Depending on the amount of damage caused or the severity of the consequences (causing serious bodily harm or death), the penalties are, of course, graduated.

"In the case of criminal offences against the environment, damage shall mean the combined environmental harm and property damage; property damage shall also comprise the costs of restoring the environment to its original state. In case of the criminal offence of illegal handling of waste pursuant to Section 302, the scope of the offence shall be determined on the basis of a customary price charged at the time and place of the offence for the collection, transport, export, import, recycling, disposal or dumping of waste, and the price charged for the removal of waste from a site that is not designated for dumping."[8] In this definition we can see the legislator's effort to specify the damage on environment differently in comparison to general determination of the amount of damage which is stated in Article 124(1) CC. The general determination of the amount of damage is based primarily on the property harm, that is, material harm. The importance of environment is highlighted by the prescription of compensation also of immaterial loss that is incurred to society and public by the deterioration of quality of environment.

"Property damage to the environment represents the property value by which individual components of the environment have been devalued. [...] Environmental property damage is therefore determined according to the usual criteria for determining damage and must always include the costs of restoring the environment to its previous state."[9] The second part of the damage is the

[6] M. Lévai, M. Čelár, *Pojem škoda podľa Trestného zákona*, in: *Míľniky práva v stredoeurópskom priestore 2022*, (eds.) M. Pavlovič, M. Mydliarová, Collection of Papers from the International Academic Conference organised by the Comenius University in Bratislava, Faculty of Law, on 24 June 2022, Comenius University, Faculty of Law, Bratislava 2022, p. 456.

[7] The crimes in question have a so-called blanket disposition, because they refer to other generally binding legal regulations. This is primarily Act No. 79/2015 Coll. on Waste and on Amendments and Supplements to Certain Acts, as amended, and Act No. 17/1992 Coll. on the Environment, as amended.

[8] Article 124(3) CC.

[9] E. Burda, J. Čentéš, J. Kolesár, J. Záhora et al., *Trestný zákon I*, C.H.Beck, Praha 2010, pp. 816–817.

"ecological damage." We cannot find the definition of ecological damage in Criminal Code. This term is, however, defined in special Act No. 17/1992 Coll. on the Environment: "Ecological damage is the loss or impairment of the natural functions of ecosystems resulting from damage to their components or disruption of internal links and processes as a result of human activity."[10] This concise definition often translates into a very complicated legal practice, wherein the following questions arise: How to asses if the loss (or deterioration) of natural functions really occurred and how to calculate the "ecological harm"? The legislator reflected this practical problem, when he introduced the legal way to calculate "ecological damage" in Act No. 543/2002 Coll.: "The social value of protected plants, protected animals, selected animal species, selected plant species, woody plants, biotopes of European importance and biotopes of national importance expresses mainly their biological, ecological and cultural value, which is determined taking into account their rarity, vulnerability and fulfilment of non-production functions. The social value of woody plants is also used to quantify the social value of forest stands growing in areas with the fourth or fifth level of protection and protected trees."[11] Thus, the strictly "legal" value of ecological harm caused on different animal or plant species could also cause problems in practice, because it does not mirror the specific conditions on particular place where crime happens. The value of certain animal or plant could differ in reality depending on number of species in the specific region and their capability of surviving the loss caused by the crime committed. The legal formulation of "ecological value" could help criminal agencies by determining the particular damage in environmental crime proceedings, however, does not help the environment too much. This solution is to solve practically the necessity of speed and possible complications in criminal proceedings. We can find possible better option for environment in legal obligation to restore it to previous state.

For the purpose of "restoring the environment to its previous state" the explanation we find in Act No. 17/1992 Coll. on the Environment, as amended, is: "Anyone who has caused ecological damage by damaging the environment or by other unlawful actions is obliged to restore the natural functions of the disturbed ecosystem or part thereof. If this is not possible or for serious reasons not expedient, he is obliged to compensate for the ecological damage in another way (compensation); if this is not possible, he is obliged to compensate for this damage in money. The simultaneous nature of these compensations is not excluded. The method of calculating ecological damage and other details shall be established by a special regulation." Even such formulation leaves huge scope for avoiding the fulfilment of obligation of restoring the environment

[10] Article 10 of Act No. 17/1992 Coll. on the Environment, as amended.
[11] Article 95(1) of Act No. 543/2002 Coll. on Nature and Landscape Protection, as amended.

in previous state. The possibility of subsidiary obligation to compensate the ecological damage in money could be in some cases for perpetrators more valuable than restoring the previous state. The state agencies very often do not insist on restoring the environment in previous state because also for them is easier to accept the sum of money and to close the case, than use the complicated legal tools to push the perpetrator to fulfil his/her obligation in restoring the previous state. Money compensation could be thus easier for both sides. The environment as the victim remains on last place.

In case of illegal waste management, damage is incorporating also the third part – price of processing the waste. The seriousness of a specific crime of illegal waste management is therefore determined by the cumulative value of all the above-mentioned parts of the damage. "At the same time, the price that was spent in a specific case for removing the waste from the place where it is located, if this place is not legally designated for its storage, or for its recovery or disposal, is added to the scope of the crime of unauthorised waste management."[12] Therefore, the amount of damage caused by the crime of illegal waste management is a decisive factor when it comes to the seriousness of crime and its aggravated forms. For the perpetrator, in turn, it is very important whether the criminal agencies could count all the abovementioned damages and if they ensure to incorporate all of them as crimes.

For the crime in Article 302(1) CC, the penalty is imprisonment for up to two years, in paragraph 2 six months to three years, in paragraph 3 one year to five years, in paragraph 4 three years to eight years. Depending on the severity of the crime, these are therefore minor offences, even in the case of paragraph 4, provided that the act was committed through negligence, because all negligent criminal acts are minor offences.[13] An intentional crime is also an offence if the Criminal Code in its special part provides for a prison sentence with a maximum sentence not exceeding five years.[14] Such a sentence should be understood as a sentence specified for individual crimes in the special part of the Criminal Code. The legal formulation of guilt "including negligence" allows for the commission of a crime intentionally and, alternatively, also through negligence, whereby intent is always first established, and if it cannot be proven, negligence will be attributed to perpetrator as the result of principle in dubio pro reo, thus the option more favourable to perpetrator. Assuming intentional commission of the crime of unauthorised waste management under paragraph 4, it is an offence because the maximum sentence exceeds five years.[15] Although the previous paragraphs also involve minor offences, there is no obstacle to the fourth paragraph involving an offence. This is permitted by Article 11(2) of the Criminal Code.

[12] E. Burda, J. Čentéš, J. Kolesár, J. Záhora et al., *Trestný zákon I...*, p. 819.

[13] Article 10(1) letter a) CC.

[14] Article 10(1) letter b) CC.

[15] Article 11(1) CC.

It can be noted that only in one case is the term "damage" mentioned, whereas "scope" is used in others. In relation to the crime of illegal waste management, the scope of a crime is understood to mean the price at which waste is usually collected, transported, exported, imported, recovered, disposed of or deposited at the time and place of detection of the crime, and the price for removing waste from a place not designated for its deposit. As for damage, in the case of criminal acts against the environment, it is understood to mean the sum of ecological damage and property damage, with property damage also including the costs of restoring the environment to its previous state.[16] Ecological damage can have not only immediate visible consequences, but also long-term cumulative impacts on the environment and human health. An example of ecological damage in connection with the crime of unauthorised waste management can be when someone illegally exports and stores several tonnes of construction waste and hazardous chemicals in an illegal landfill near a water source, thereby contaminating the soil and groundwater, thus endangering biodiversity and causing health risks for residents living near the affected area. From that point of view, it is difference for causing ecological damage, if the same waste is stored on different places (warehouse at the city centre, warehouse on the countryside, waste stored outside of the hall in the city, waste stored outside of the hall in the countryside), counting in the account also the possibility of vicinity of other biological areas (forests, lakes, meadows, rivers, etc.). The criminal agencies are usually not capable of answering this complex question in their own competence. "Determining environmental damage, including ecological damage, is a complex issue that, in criminal law practice, must be resolved by expert statement (Section 141 of the Criminal Procedure Code), but more often by expert opinions (pursuant to Section 142 et seq. of the Criminal Procedure Code)."[17]

The individual types of damages, as well as the determination of their amount, are contained in Article 125 of the Criminal Code. Small damage is an amount exceeding 700 EUR; greater damage is damage exceeding 20,000 EUR; significant damage is in an amount exceeding 250,000 EUR, and the large-extent damage is in an amount exceeding 650,000 EUR. These considerations will also be applied for determination of the scale of the act. The specified limits on the amount of damages have not been in effect for a long time; they were changed by the amendment to the Criminal Code No. 40/2024 Coll., effective from 6 August 2024, which significantly increased their threshold value.

Within the qualified facts of the criminal offence of unauthorised waste management in the second paragraph, letter a) is sufficient for its fulfilment when the perpetrator, by committing the act referred to in paragraph 1, exposes

[16] Article 124(3) CC.

[17] E. Burda, J. Čentéš, J. Kolesár, J. Záhora et al., *Trestný zákon I...*, p. 820.

the environment to the risk of greater damage. The same applies to letter b) with a threatening consequence of serious injury to health or death. The law therefore does not require the occurrence of a harmful consequence here; the mere risk of its occurrence suffices. "Environmental crimes are predominantly threatening crimes. For criminal liability, it is sufficient to endanger a protected interest or cause a disturbance to a protected interest (causing damage to the environment is usually punished as a circumstance that conditions the application of a higher penalty rate)."[18] This issue is connected with the abovementioned practical problems of proving that the real ecological harm occurred. In practice, at times the consequences of crime are visible only after years. That way the environmental crimes must be punished on the principle of presumption of future harm that might occur or even would not, but the perpetrator is punished even for creating the danger that such consequences would be uncovered in the future. Causing of real damage (that could be proven in the time of investigation of criminal activity) is then punished with higher penalty rates.

"The fundamental problem regarding environmental law is waste production and the resultant pollution of the environment."[19] Thus the crime of illegal waste management is the logical consequences of the society to regulate the natural human desire to get rid of the waste. "Waste is often seen merely as an unwanted byproduct of human activity."[20] In connection with the fundamental factual basis of the crime in question, it is necessary to focus on the concepts of "waste" and "waste management" from the viewpoint of structure of the crime and fulfilment of all legal conditions for criminality of certain act. The legal definition of waste is contained in Article 2, paragraph 1 of the Waste Act,[21] according to which it is "a movable thing or substance that the holder disposes of, wants to dispose of or is obliged to dispose of in accordance with this Act or special regulations." The Act also states in paragraph 2 what is not waste. It does not include a by-product, an item that has reached the end of its life, a recycled product or waste handed over for household use. The definitions are in line with Directive 2008/98/EC of the European Parliament and of the Council on waste.[22]

[18] E. Burda, J. Čentéš, J. Kolesár, J. Záhora et al., *Trestný zákon II...*, p. 978.

[19] A. Zemanová, *Sanction Mechanism in Waste Management. Comparative Analysis between the Slovak Republic and the Republic of Austria*, in: *Míľniky práva v stredoeurópskom priestore 2024*, (eds.) V. Ťažka, Comenius University, Faculty of Law, Bratislava 2024, p. 846.

[20] B. Cepek, *Environmentálne právo. Všeobecná a osobitná časť*, Publishing House Aleš Čeněk, Plzeň 2015, p. 353.

[21] Act No. 79/2015 Coll. on Waste and on Amendments and Supplements to Certain Acts, as amended (hereinafter: Waste Act).

[22] See Article 2(1,2,4) of the Waste Act, Articles 3 and 5 of Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

The term waste management, in addition to the Waste Act, is also included in Article 131(2) of the Criminal Code, according to which "for the purposes of this Act, waste management shall be considered to be the collection, transport, export, import, recovery, disposal and storage of waste."

Taking over of waste is the taking over of waste from another person, including its preliminary sorting and temporary storage for the purpose of transport to a waste treatment facility.[23]

Waste collection should be understood as the temporary deposition of waste by the waste holder before further management, which is not waste storage.[24]

Waste recovery is an activity whose main result is the beneficial use of waste in order to replace other materials in production activities or in the wider economy or ensuring the readiness of waste to fulfil this function.[25]

Waste disposal is not considered recovery, even in cases when its side effect may be the recovery of substances or energy.[26]

We have already mentioned that when considered from the viewpoint of the seriousness of the criminal act of unauthorised waste management, these are minor offences in the first three paragraphs. Therefore, what needs to be considered in each case is the so-called material corrective of the offence under Article 10(2) of the Criminal Code in relation to the administrative delict alternative under Article 45(1) of Act No. 372/1990 Coll. on Misdemeanours, as amended (hereinafter: Misdemeanour Act).[27] The so-called material corrective therefore applies only to minor offences and forms the boundary between misdemeanours[28] and minor offences, and it is the key aspect of how to conclude whether the seriousness of the act already meets the level of a criminal act or not. The material corrective is regulated in Article 10(2) of the Criminal Code, which stipulates that if the seriousness of the offence is insignificant in view of the manner of committing the act and its consequences, the circumstances under which the act was committed, the degree of culpability and the motive of the perpetrator, it is not a crime. These elements must be assessed individually and also together. In practice, this means that even if a certain act meets all the elements of the factual nature of a minor offence, the perpetrator may not automatically bear criminal liability for it because the degree of its seriousness

[23] Article 3(5) of the Waste Act.

[24] Article 3(4) of the Waste Act.

[25] Article 3(13) of the Waste Act.

[26] Article 3(16) of the Waste Act.

[27] "A person who, by violating generally binding legal regulations on environmental protection in a manner other than that resulting from the provisions of Articles 21 to 44, deteriorates the environment shall commit an offence."

[28] "A misdemeanour is a culpable act that violates or threatens the interests of society and is explicitly designated as a misdemeanour in this or another law, unless it is another administrative offence punishable under special legal regulations, or a criminal offence" (Article 2(1) of the Misdemeanour Act).

was not sufficient from the point of view of the material corrective. In this context, we present the legal decision of the Supreme Court of the Slovak Republic (hereinafter: SC SR): "When resolving the question of whether the unlawful conduct of the complainant can be assessed under the provisions of administrative law as an administrative offence or under the provisions of criminal law as a criminal offence, it is necessary, in the opinion of the court of cassation, to fundamentally proceed from the assumption that each unlawful conduct must be subordinated as a priority to the legal regulation that affects the most serious form of antisocial conduct. When determining liability for unlawful conduct, each such act must be assessed according to all legal provisions, whether administrative or criminal law, the characteristics of which the conduct may meet. Therefore, if the body acting in the case concludes that the committed act is subject to regulations in different areas of law, the legal regulation, legal qualification that describes the factual essence of the most serious form of this conduct always has priority. After the defendant began to act in the case, he should, at the latest before the issuance of the merits of the decision in the case, thoroughly examine and take into account the extent of the real costs at which it is possible to remove the illegal landfill. However, if the proper procedure had been followed, the defendant could have arrived at a reasonable suspicion, on the basis of the above, of committing the crime of unauthorised waste management under Article 302, paragraph 1 of the Criminal Code. Despite the removal of the landfill in question by the complainant, such unlawful conduct, which meets all the formal elements of a crime, is not subject to effective remorse within the meaning of the relevant provisions of the Criminal Code."[29]

The perpetrator of the crime of illegal waste management can even be a legal entity, as permitted by Article 3 of Act No. 91/2016 Coll. on the Criminal Liability of Legal Entities and on Amendments and Supplements to Certain Acts (hereinafter: ZoTZPO). In connection with the provision in question, it is also appropriate to point out Article 4 of the ZoTZPO, which regulates the criminal liability of a legal entity:

> (1) A criminal offence under Article 3 is committed by a legal entity if it is committed for its benefit, on its behalf, within the scope of its activities or through it, if it was committed by
> a) a statutory body or a member of a statutory body,
> b) a person who carries out control or supervision activities within a legal entity, or
> c) another person who is authorised to represent a legal entity or make decisions on its behalf.

[29] Judgment of the Supreme Court of the Slovak Republic of 27 April 2018, file no. 10Asan/5/2017.

> (2) The criminal offence under Article 3 is committed by a legal entity even if the entity referred to in paragraph 1, through insufficient supervision or control which was its duty, although through negligence, allowed the commission of the criminal offence by a person who acted within the scope of the authorisations entrusted to him/her by the legal entity.

The paragraph that follows (paragraph 3) regulates the grounds for exemption in relation to the inference of criminal liability of a legal entity for the actions of an employee. Pursuant to paragraph 4, in turn, the inference of criminal liability of a natural person is not required for the inference of criminal liability of a legal entity, and at the same time it is regulated that the criminal liability of a legal entity is not conditioned by the determination of which specific natural person acted on behalf of the legal entity. Paragraph 5 lists cases of the emergence of legally important facts according to special regulations, which, however, do not affect the criminal liability of a legal entity. Paragraph 6 lists other legal prerequisites, upon fulfilment of which the provisions of Article 4 on the criminal liability of a legal entity are also applied.[30]

Article 4 of the ZoTZPO was amended by Act No. 40/2024 Coll. A new provision was added (paragraph 7), according to which the actions of the perpetrator cannot be attributed to a legal entity if it has made all efforts that can be fairly required of it, taking into account the latest knowledge in the field of control of management, decision-making or control processes taking place within legal entities, in order to prevent or hinder the commission of criminal offences.[31]

2. Practical cases of unauthorised waste management in the Slovak Republic

In this section, two particular offenses committed in the district Malacky in Slovakia are analysed. The problematic aspects of damage assessment are presented on the basis of these two cases.

[30] Explanatory report to the Act on Criminal Liability of Legal Entities, https://zakony.judikaty.info/document/dsnr/4334 [accessed 10 October 2025].

[31] Ibidem.

2.1. Case No. 1 – dangerous chemical waste

In this case the perpetrator illegally stored dangerous chemical waste (colours, paints, lacquers and other liquids sourced from the car industry) in one storage building where perpetrator held around 900 barrels, cans and other containers with different shapes and different amount of volume from an uncertain date until October 2020.[32] These barrels were not fully filled, so the real amount of substance was smaller than the volume of the particular cans and barrels, without possibility to assess the exact amount of substance in each of them during the first inspection on the crime scene. Upon the inspection of the crime scene, each item needed to be numbered and measured and the amount of volume in it noted. It was not possible with the crime scene inspection to ascertain immediately what kind of waste was in each item, so the police officers and other co-workers (e.g., firefighters, the workers form Environmental Office) needed to come and work in special equipment designed for work with hazardous substances. The crime scene inspection thus took 7 consecutive days. Everything needed to be noted and photo documented. Samples of the substances inside had to be taken from each of the 900 items. After this inspection, the 900 samples needed to be evaluated from the viewpoint of what kind of substance it was and how dangerous this substance was for the environment; then for each item the "cost of waste processing" needed to be calculated. However, the samples could be evaluated only in terms of the category of the waste and its dangerousness. The cost of "waste processing" could be calculated per 1 tonne of waste. However, the real "amount" of each substance needed to be measured using the reports from the "crime scene inspection" and mathematically calculated using values from crime scene inspection report.

The first problem that occurred was impossibility of finding a controlled testing facility where the samples could be evaluated. Waste management is very special field of economic activity, so there are not numerous such specialised facilities in Slovak Republic and in criminal proceedings the criminal agencies are obliged to take the facility from the "list of expert witnesses" administered by the Ministry of Justice of Slovak Republic.[33] For environmental cases, the situation could occur in which there is no expert witness available for such activity. A person who is not registered in the list may also be an expert witness in criminal proceedings, if:

a) there is no person registered in the relevant field or sector or

[32] Case No. PPZ-148/NCK-ENV-BA-2022, District Office of the Prosecutor in Malacky, Slovak Republic.

[33] Article 2(1) letter a) and Article 4(1) of Act No. 382/2004 Coll. on Experts, Interpreters and Translators, as amended (hereinafter as: Act No. 382/2004 Coll.).

b) a person registered in the list cannot perform the act or performing the act would involve unreasonable difficulties or costs.[34]

This was also the situation in this case because there were no competent expert facilities available and because registered expert witnesses – natural persons have no technical and material resources to evaluate so many samples. Thus, a legal company working in the field of similar chemical substances, which could have evaluated the samples, was sought after. One of the universities established in the Slovak Republic was chosen as the adequate working place, as the university is a "scientific" working place with laboratories and practical material and technical equipment for such evaluation. However, after almost 14 months, the university sent the samples back (January 2022) with the answer that it is not possible for them to evaluate the submitted samples because the current financial situation at the university does not allow it to evaluate them. After another two months (March 2022), the samples were sent to a private company, which was to make the evaluation. However, this company only managed to produce the results of the samples evaluation after additional 20 months (in November 2023). The result was that it was impossible to evaluate the samples because with the lapse of time they had already deteriorated and were unsuitable for evaluation.

The impossibility of assessing the samples caused that the type of waste and the hazardous nature thereof remained uncategorised, which in turn made it impossible to indicate correctly the extent of damage or to classify the act as a certain crime according to Article 302 CC (paragraphs 1 to 4). The principal investigator in this case stated that new "sample collection" needed to be made for submitting it for new expert evidence, which means a new team of technicians would come to crime scene in "hazardous substances suits" and that this sample collection would cost another 50,000 EUR. Due to the lack of time and resources in the "state budget," a new categorisation of waste in the containers from the old crime scene investigation was made, and the volume of waste in each item was measured. Then the "cost of waste processing" was calculated on the basis of the less valuable and less hazardous substance (the most favourable alternative for the suspect – *in dubio pro reo* principle) instead of the real value and real damage. The principal investigator formally accused the perpetrator with charges against him by the end of the year 2024, four years after the commission of the crime. Thus, in this case because of the lack of expert witnesses, time, and resources for the investigation of this particular crime, "justice" had to suffer, and the situation became more favourable for the defendant, even when this was not mirroring the real seriousness of the crime. This case was not the only one in Slovak Republic, but there exist much more crime investigations where the situation was similar. "However, establishing the extent

[34] Article 2(1) letter b) and Article 15(1) of Act No. 382/2004 Coll.

of the crime is sometimes not possible at all, or it is only very difficult to establish. This is especially the case in situations where (I.) the waste is mixed with other material, for example, soil or material that is not waste or (II.) waste that is, however, disposed of in accordance with generally binding legal regulations. In applied practice, in such cases, the usual procedure is to calculate the extent of the 'cheapest material' found at the crime scene that was disposed of in violation of the law, and this is then blamed on the perpetrator."[35] As we can conclude from this recent scientific article, the practice of "underestimation of caused damage" is quite obvious problem in the Slovak Republic and the investigators resigned in many cases for the pursuit of justice and the justice was exchanged for usefulness.

The final damage in this case was stated at 1,300,000 EUR.

Finally, a second problem occurred – the items, barrels and containers, still stored at the same place, started to leak because a couple of them were damaged and already in bad conditions due to the lapse of time since the crime scene investigation. So, the problem occurred that the danger of the waste stored became not "theoretical" but "real," because pollution of the soil, water, and possibly the air, by the chemical substances had already started. However, the "damage" in this case was calculated according to the Slovak legal order only based on the "cost of waste processing," namely, only the "economical part" of the damage. There was no presumption that the illegally stored waste would cause further damage due to its being stored at this particular place. The Slovak Criminal Code states in the Article 124(3) CC: "In case of criminal offences against the environment, damage shall mean the combined environmental harm and property damage; property damage shall also comprise the costs of restoring the environment to its original state. *In case of the criminal offence of illegal handling of waste pursuant to Section 302, the scope of the offence shall be determined on the basis of customary price charged at the time and place of the offence for the collection, transport, export, import, recycling, disposal or dumping of waste, and the price charged for the removal of waste from the site that is not designated for dumping* [emphasis added]."

For illegal waste management, the "damage" is regularly based only on the second part of the definition. The "damage" is in practice calculated only as the "economic cost" of the waste processing. However, the evaluation of "environmental damage" is not usually taken into consideration, nor is the "cost of restoring the environment to its original state." The reason why this situation occurs repeatedly is the fact that courts deciding in the environmental cases do not require the proof of any other types of "damage" and they are satisfied with economical part of damage when convicting the perpetrator. Thus, this

[35] M. Lévai, *Trestný čin neoprávnené nakladanie s odpadmi v aktuálnej aplikačnej praxi*, "Policajná teória a prax" 2022, vol. 30, no. 4, p. 137.

judicial simplification incentivizes the investigators not to prove the other parts of damage, because it doing otherwise would consume more of their time and resources. "Various courts have found the perpetrator guilty 'only because' he illegally disposed of waste, especially soil or excavated soil. When considering the operative clauses, it is necessary to focus our attention on the fact that the established decision-making practice of the courts is to prove exclusively the illegal disposal of waste, while the impact on the environment has not been proven. […] According to the established practice of criminal authorities and courts over the years, it can be seen that the impact of illegal waste management on the environment is not proven in criminal proceedings. This is proven in cases where there is reasonable suspicion that the waste may endanger or damage any of the components of the environment. Reasonable suspicion arises in particular if hazardous waste is being managed."[36] From the cited article it is clear that only in very few cases when hazardous waste is in question, criminal agencies try to prove also other parts of damage, for example, ecological damage. But in most of the cases of general waste the ecological part of damage remains unaddressed.

In this particular case, the state has no legal instruments to compel the perpetrator to remove the waste from its current place, process the waste and to pay the entire costs of these operations. Usually, the state would do that via the Environmental Office, but when we look in this case into minutes of the interrogation from the representative of Environmental Office, the answer was that the "state does not have the resources to remove and process such amount of waste."[37] So, during the investigation neither the perpetrator nor state removed and processed the waste. The real cost of "restoring the environment to its original state" is impossible to calculate, since the latter has not been done yet. Because of the danger of the statute of limitation and the lapse of time, the "criminal proceedings" cannot wait until the waste would be removed and processed, and it is necessary to prosecute the perpetrator with the "theoretical" damage calculation instead of a realistic one. This usually results in using the more favourable paragraph from the Article 302 CC than would have otherwise happened had the damage been calculated correctly.

2.2. Case No. 2 – dumped soil

In this case the perpetrator from an unspecified time until the end of November 2024 dumped several trucks filled with soil and waste from a construc-

[36] Ibidem, p. 145.

[37] Case No. PPZ-148/NCK-ENV-BA-2022, District Office of the Prosecutor in Malacky, Slovak Republic.

tion site to a place where perpetrator was not allowed to do so, that is, the trucks were unloaded without administrative permits.[38] The criminal proceeding were initiated, and because of the amount of the illegally stored waste (almost 250,000 tonnes), the amount of damage was presumably calculated at 7,200,000 EUR, which is the qualification for an offence under Article 302(1), (4) letter b) CC. In this case, the quality of the waste investigated was similar to a "by-product" that could be used again for field works. According to Denis Bede, in Directive 2008/98/EC of the European Parliament and of the Council on waste, the terms "by-product" and "end-of-waste status" are defined and the said legal act "sets out the criteria that an object or substance must meet in order to cease to be considered waste. Although the Waste Framework Directive does not require confirmation of compliance with these criteria by public authorities, for reasons of legal certainty, the Slovak legal norm transposing this Directive – Act No. 79/2015 Coll. on Waste, as amended – requires such confirmation for by-products."[39] From that viewpoint, the Slovak legislation is stricter than the Directive prescribes because in Slovak Republic it is not enough that the waste factually meets the criteria of by-product, the owner of the waste must also meet the administrative criteria and receive all necessary documents issued by respective bodies and authorities. However, in this case the perpetrator failed to produce the required certificates and mandatory administrative permits.

The second problem in this case was that the region where the soil was unloaded was in part specially protected, that is, even a "by-product" and "non-hazardous waste" could not legally be stored (unload) there. This caused, or could have caused, particular damage to the environment, to protected plants, animals, and particular animal species. However, nobody could assess the "real" impact on these species now. For such an evaluation, the longitudinal assessment of this region would be necessary and maybe even some observations, research, counting of particular numbers of animals or plants, etc. This could have been relatively easy with mammals, but quite complicated regarding insects and small land and water species. Thus, the criminal proceedings could not wait until these all circumstances and impacts are researched, and again the "amount of damage" could only be calculated on the basis of the "cost of processing the particular type of waste." We are thus in a similar situation as in Case No. 1, in that the particular classification of the crime could be downgraded, and the penalties made more favourable for the offender.

[38] Case No. PPZ-1483/NCK-ENV-BA-2024, District Office of the Prosecutor in Malacky, Slovak Republic.

[39] D. Bede, *Balancing Public and Private Interests in Waste Management Law*, in: *Bratislava Legal Forum 2023: Balancing Public and Private Interests in Environmental Protection*, (eds.) M. Michalovič, T. Garžík, V. Ťažká, Collection of the papers from the scientific conference organised by Comenius University Bratislava, Faculty of Law, 11–12 September 2023, Comenius University, Faculty of Law, Bratislava 2023, p. 59.

2.3. Lessons learnt from the practical cases

Regarding the abovementioned cases, it is remarkable that according to the legal standards prescribed for the evaluation of waste processing, that is, also for the damage assessment, the damage in the case of "chemical waste" caused by 900 barrels and cans was assessed at 1,300,000 EUR, but the harm caused by "soil, concrete, and stones" was assessed at 7,200,000 EUR. We need to acknowledge that the amount of "chemical waste" in the former case was lower than the amount of "constructions waste" in the latter one, but when we consider the real danger for the environment, it could be concluded that the amount of "chemical waste" in former case was more dangerous to the environment than the amount of "construction waste" in the latter case. In the latter case, the construction waste factually satisfied the criteria of a by-product and it was considered as "waste" for the purpose of criminal proceedings only due to the administrative burden and not receiving a particular certificate. As Bede concludes: "This situation is certainly not helped by the absence of clear criteria for end-of-waste status."[40] From this conclusion it is clear that Slovak legislation has some substantial gaps and shortenings in its definition of "waste," which needs to be addressed in the future. Also the paragraphs dealing with damage assessment need to be more precise. We need to think about the correct evaluation of "damage to the environment" by the crime of illegal waste management and not resign to a "financial" evaluation of waste processing that does not address the true dangers for the environment. On the other hand, the administrative "burden" could not be the ground for criminal prosecution in cases where the "waste" does not create a real danger for the environment. The criminal responsibility needs to mirror the seriousness of the conduct and the danger for environment. A couple of legislative changes should be introduced in this way, as Bede stated in his article: "It is therefore more than necessary to bridge the gap between the product on the one hand and the waste that needs to be disposed of."[41] After we make the necessary changes in legislation, maybe we will punish stricter the 900 barrels of hazardous chemicals than tonnes of soil and stones.

3. Conclusions

Even though damage evaluation in the criminal law of Slovak Republic is a quite complex system and there are clear provisions on how to assess the damage

[40] Ibidem, p. 59.

[41] Ibidem.

to the environment by an environmental crime, practice shows, on the one hand, that the prescribed "mechanism" for damage evaluation could be "disrupting" the real impact on environment, while on the other hand, there are many practical problems regarding how to evaluate damage in large extent cases, where a huge number of samples need to be examined. There is a dearth of expertise and a lack of resources and material and financial support for such cases. The investigation usually takes long time; perpetrators are found guilty for less serious crimes and without obligation to "restore the environment to previous state," and in the final outcome, there is nobody who can remove the illegal waste, because the state does not have an effective mechanism and the facilities for such actions. Current legislative and factual situation creates the scope where insufficient legal and practical tools encourage the perpetrators to commit the crimes against environment. Legislative shortcuts and insufficient application practice lead to undermining the criminal responsibility in cases of illegal waste management. If the perpetrators assess in advance consequences of their illegal activity and potential risk of criminal responsibility, they could conclude that in fact the criminal responsibility for illegal act is more valuable for them than the legal conduct. "If waste is handled illegally, it can be financially more advantageous, because the entity handling the waste does not have to meet strict legislative requirements, is not under state supervision and thus gains a huge competitive advantage."[42] After all these, the perpetrators face very mild penalties, often in form of financial sentence, where they are imposed sentence in thousands euros, but with illegal activity they saved the costs of hundreds of thousands euros.

We can ask whether criminal responsibility is an effective tool for protection of the environment, in case when at the end the perpetrator is punished, but nobody can "force" him to remove the illegal waste. As Matúš Michalovič and Ján Jenčo concluded in their article, the system of responsibility for illegal acts in Slovak republic remains only on the paper: "Act No. 17/1992 Coll. on the Environment, as amended by later regulations, imposes on persons who have caused ecological damage a primary obligation to restore the natural functions of the disturbed ecosystem or its part, and only subsequently, if this is not possible or for serious reasons expedient, an obligation to compensate for the ecological damage in another way, and as a third option, it states that such damage should be compensated in money. However, due to several facts, the institute of liability for ecological damage is almost never applied in the conditions of the Slovak Republic."[43] Even when we have legal tools and provisions that should secure the effective protection of environment in case of commission

[42] M. Lévai, *Trestný čin…*, p. 148.

[43] M. Michalovič, J. Jenčo, *Koncepcia environmentálnej protiprávnej činnosti ako základný kameň revízie starostlivosti o životné prostredie v podmienkach Slovenskej republiky*, in: *Bratislava Legal Forum 2022: Zefektívňovanie boja proti nelegálnej činnosti v oblasti starostlivosti*

of crime against environment, the real application practice is simpler than the legal prescriptions. The state agencies do not insist on fulfilling the prescribed obligations thus help the perpetrators to escape their real responsibility. The representatives of Slovak penal policy already proclaim for some years the precedence of restorative justice over retributive justice. In accordance with that said theory has also been drafted the Act No. 17/1992 Coll. on the Environment, as amended. Preference of restoration over the retribution (restoration environment instead of monetary compensation). As Tomáš Strémy, Lucia Kurilovská and Miroslava Vráblová stated, "While the basis of retributive justice is to punish the perpetrator of a wrongful act and satisfy the interests of the state, restorative justice emphasises the repair of the harm caused or discovered by the wrongful act."[44] The current practice of state bodies is not following this elegantly formulated theory. Therefore, the theory proclaimed in many legislative and scientific documents remains void. Money are still good enough also for the state to compensate the cost of other state expenses in different fields and the "restitution of environment into previous state" remains not on the first but on the last place. The final question remains, namely: How to "fix" this ongoing problem? Maybe the authors Matúš Michalovič and Ján Jenčo have found the answer in their article: "A worthy addition to the current system would be the establishment of a mechanism that would clearly establish a strict obligation for the perpetrator of an environmental crime to compensate for damage to the environment, with this damage being compensated similarly to what is provided for in the case of ecological damage; i.e., the primary emphasis should be placed on in-kind restitution – restoration of the state prior to the commission of the environmental crime."[45] From that point of view it is clear that the legislator needs to create additional mechanism that would prevent the perpetrator from choosing the option to pay instead of restitution. There must be introduced new mechanisms to push the perpetrator to do that without possibility to redeem oneself from this obligation by "payment of certain sum of money," which for perpetrator could be more economic.

There is no effective tool for ascertaining the real protection of the environment against illegally stored waste today in the Slovak legal practice, because the waste remains usually at the same place where it was kept by the perpetrator and the environment remains endangered. The only factor that changed, however, is that now the environment is endangered with the knowledge and actually with the consent of state bodies, because the state does nothing to accomplish the final "waste processing" and "waste removal." Matúš Michalovič and Ján Jenčo indicated one of the problem why the final waste removal fails. This problem

o životné prostredie, (eds.) V. Novotná, M. Durec Kahounová, Comenius University, Faculty of Law, Bratislava 2022, p. 17.

[44] T. Strémy, L. Kurilovská, M. Vráblová, *Restoratívna justícia*, Leges, Praha 2015, p. 28.

[45] M. Michalovič, J. Jenčo, *Koncepcia environmentálnej…*, pp. 17–18.

is hidden in wrong legislation that puts this obligation on the municipalities and other regional structures (local self-governments) that have not enough financial resources from state budget for fulfilling this task: "In approximately 90 percent of cases the perpetrator was not identified, and so the responsibility for the removal of illegally deposited waste was transferred either to the municipalities – in cases where it concerns municipal waste or small construction waste – or to the district authorities, if it concerns waste other than municipal or small construction waste. This often represents an unbearable financial burden for the municipalities and, in our opinion, this situation needs to be resolved legislatively."[46] The state budget for each year is usually structured for all municipalities and local self-governments to fulfil their regular tasks and there is only little space for irregular or extraordinary duties, such as removal of illegally stored waste. Thus municipalities and self-governments have no finances to pay these activities because they need the assigned financial resources for fulfilling more important tasks. From the point of view of some experts, the state should not bear the costs of "waste procesing" in any form: "Responsibility for the generation of waste – and for the consequences associated with it – always lies primarily with the producer Therefore, no 'superior' solutions, interventions by the state or local governments are always an appropriate solution – their role should be more to create conditions and motivate waste producers to reduce its production."[47] This opinion is in accordance with opinions of Michalovič and Jenčo, that at the end, in all cases the perpetrator should be the one who will restore the environment and who will bear all costs connected with waste processing and waste management.

The question of how to deal with illegally stored waste thus remains unclear, because there is not unity about the final answer who should be the final bearer of the obligations and costs connected with waste management. As Bede concluded, "Despite the consensus that there is a public interest in protecting the environment, implementing particular legally binding measures seem to be challenging."[48] Sometimes the politicians pass the law that imposes only general obligations and duties rather than impose particular targeted obligations which will lead to creation of part of unsatisfied voters. And all adopted legislation must be considered also in the view of future elections. Thus, the task of how to draft legislation better remains not only the question of fact, but rather the question of will. As mentioned above, there exist some proposals and formu-

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[46] Ibidem, p. 21.

[47] Ľ. Máčaj, *Úlohy obce pri znižovaní vzniku odpadov*, in: *Bratislava Legal Forum 2021: Waste management and climate change during corona crisis*, (eds.) M. Michalovič, M. Dufala, J. Šmelková, Collection of Papers from the International Academic Online Conference Bratislava Legal Forum 2021 organised by Comenius University Bratislava, Faculty of Law, on 22–23 April 2021, Comenius University, Faculty of Law, Bratislava 2021, p. 43.

[48] D. Bede, *Balancing Public and Private Interests…*, p. 56.

lations on how to structure the norms and rules of responsibility in the scope of environment, however there must be the will to adopt such rules. In that way, maybe the environmental legislation should be more targeted and more addressed to be not on the border of interest but in the centre of interest: "As environmental issues continue to evolve and intensify, the significance of environmental law as a specialised legal discipline is likely to grow, emphasising the need for ongoing research, legislative reforms and collaborative efforts to ensure environmental sustainability."[49] An optimal response of the society through a combination of civil law, criminal law, and administrative law needs to be found to the problem of how to deal with this complicated issue. Otherwise, we cannot fulfil the prescribed challenges that are current under the new Directive 2024/1203 of the European Parliament and of the Council of 11 April 2024 on the protection of the environment through criminal law,[50] which should be implemented until 21 May 2026.[51]

Literature

Professional and academic publications

Bede D., *Balancing Public and Private Interests in Waste Management Law*, in: *Bratislava Legal Forum 2023: Balancing Public and Private Interests in Environmental Protection,* (eds.) M. Michalovič, T. Garžík, V. Ťažká, Collection of the papers from the scientific conference organised by Comenius University Bratislava, Faculty of Law, 11–12 September 2023, Comenius University, Faculty of Law, Bratislava 2023, pp. 55–66.

Burda E., Čentéš J., Kolesár J., Záhora J., et al., *Trestný zákon I*, C.H.Beck, Praha 2010.

Burda E., Čentéš J., Kolesár J., Záhora J. et al., *Trestný zákon II*, C.H.Beck, Praha 2011.

Cepek B., *Environmentálne právo. Všeobecná a osobitná časť*, Publishing House Aleš Čeněk, Plzeň 2015.

Lévai M., *Trestný čin neoprávnené nakladanie s odpadmi v aktuálnej aplikačnej praxi*, "Policajná teória a prax" 2022*,* vol. 30, no. 4, pp. 135–150.

Lévai M., Čelár M., *Pojem škoda podľa Trestného zákona*, in: *Míľniky práva v stredoeurópskom priestore 2022,* (eds.) M. Pavlovič, M. Mydliarová, Collection of Papers from the International Academic Conference organised by Comenius University Bratislava, Faculty of Law, 24 June 2022, Comenius University, Faculty of Law, Bratislava 2022, pp. 451–460.

Máčaj Ľ., *Úlohy obce pri znižovaní vzniku odpadov*, in: *Bratislava Legal Forum 2021: Waste management and climate change during corona crisis*, (eds.) M. Michalovič, M. Dufala,

[49] M. Michalovič, M. Maslen, *Advocating for environmental law…*, p. 23.

[50] Directive (EU) 2024/1203 of the European Parliament and of the Council of 11 April 2024 on the protection of the environment through criminal law and replacing Directives 2008/99/EC and 2009/123/EC (hereinafter as: Directive 2024/1203).

[51] Article 28(1) of Directive (EU) 2024/1203.

J. Šmelková, Collection of Papers from the International Academic Conference Bratislava Legal Forum 2021 organised by Comenius University Bratislava, Faculty of Law, 22–23 April 2021, Comenius University, Faculty of Law, Bratislava 2021, pp. 35–45.

Michalovič M., Jenčo J., *Koncepcia environmentálnej protiprávnej činnosti ako základný kameň revízie starostlivosti o životné prostredie v podmienkach Slovenskej republiky*, in: *Bratislava Legal Forum 2022: Zefektívňovanie boja proti nelegálnej činnosti v oblasti starostlivosti o životné prostredie*, (eds.) V. Novotná, M. Durec Kahounová, Comenius University, Faculty of Law, Bratislava 2022, pp. 12–24.

Michalovič M., Maslen M., *Advocating for environmental law – grounds for its status as an independent branch of law in Slovak legal doctrine*, "Prawne Problemy Górnictwa i Ochrony Środowiska" 2024, no. 2, pp. 1–26, https://doi.org/10.31261/PPGOS.2024.02.06.

Strémy T., Kurilovská L., Vráblová M., *Restoratívna justícia*, Leges, Praha 2015, p. 344.

Zemanová A., *Sanction Mechanism in Waste Management. Comparative Analysis between the Slovak Republic and the Republic of Austria*, in: *Míľniky práva v stredoeurópskom priestore 2024*, (eds.) V. Ťažka, Comenius University, Faculty of Law, Bratislava 2024, pp. 844–853.

Legislation

Act No. 372/1990 Coll. on Misdemeanours, as amended.

Act No. 17/1992 Coll. on the Environment, as amended.

Act No. 543/2002 Coll. on Nature and Landscape Protection, as amended.

Act No. 382/2004 Coll. on Experts, Interpreters and Translators, as amended.

Act No. 300/2005 Coll. Criminal Code, as amended.

Act No. 79/2015 Coll. on Waste, as amended.

Act No. 91/2016 Coll. on Criminal Liability of Legal Entities, as amended.

Act No. 288/2020 Coll. amending Act No. 300/2005 Coll., Criminal Code, as amended, and amending Act No. 91/2016 Coll., on Criminal Liability of Legal Entities and on Amendments to Certain Acts, as amended.

Act No. 117/2023 Coll. amending Act No. 300/2005 Coll. Criminal Code, as amended.

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives OJ L 312, 22.11.2008, pp. 3–30.

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, pp. 28–37.

Directive (EU) 2024/1203 of the European Parliament and of the Council of 11 April 2024 on the protection of the environment through criminal law and replacing Directives 2008/99/EC and 2009/123/EC, OJ L, 2024/1203, 30.4.2024, ELI: http://data.europa.eu/eli/dir/2024/1203/oj.

Jurisprudence

Case No. PPZ-148/NCK-ENV-BA-2022, District Office of the Prosecutor in Malacky, Slovak Republic.

Case No. PPZ-1483/NCK-ENV-BA-2024, District Office of the Prosecutor in Malacky, Slovak Republic.

Judgment of the Supreme Court of the Slovak Republic of 27 April 2018, file no. 10Asan/5/2017.

Internet sources

Reason report on the Criminal Code Act responsibilities of legal entities, https://zakony.judikaty.info/document/dsnr/4334 [accessed 10 October 2025].

Reason report on the Criminal Code Act responsibilities of legal entities, https://zakony.judikaty.info/document/dsnr/6282 [accessed 10 October 2025].

Statistical overview of criminal and non-criminal activity for 2022, www.genpro.gov.sk [accessed 10 October 2025].
Statistical overview of criminal and non-criminal activity for 2023, www.genpro.gov.sk [accessed 10 October 2025].
Statistical overview of criminal and non-criminal activity for 2024, www.genpro.gov.sk [accessed 10 October 2025].

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Znaczenie dokładnej oceny szkód w przestępstwach nielegalnego gospodarowania odpadami

Streszczenie

Artykuł omawia materialne aspekty przestępstwa nielegalnego gospodarowania odpadami z art. 302 Kodeksu karnego w warunkach Republiki Słowackiej. Analizuje jego podstawowe i kwalifikowane formy, znaczenie winy oraz rozróżnienie między wykroczeniem a przestępstwem w zależności od wagi czynu oraz wysokości wyrządzonej szkody lub jej rozmiaru. W tekście omówiono pojęcie szkody i jej rozmiar, wyjaśniając ich treść w kontekście szkód ekologicznych i majątkowych, a także definicję granic szkody małej, większej, znacznej i wielkoskalowej. Artykuł koncentruje się również na prawnej definicji odpadów, gospodarowania odpadami i specyfice poszczególnych rodzajów działalności, a także na możliwości popełnienia tego przestępstwa przez osobę prawną w rozumieniu ustawy o odpowiedzialności karnej osób prawnych. W artykule przedstawiono konkretne przypadki praktyczne i pułapki w określaniu wysokości szkody na podstawie tych przypadków.

Słowa kluczowe: przestępstwo, nielegalna gospodarka odpadami, szkoda, sankcja, osoba prawna

Радован Блажек, Маргита Прокеинова

Значение точной оценки ущерба в преступлениях, связанных с незаконным обращением с отходами

Резюме

В статье рассматриваются существенные аспекты преступления, связанного с незаконным обращением с отходами, предусмотренного статьей 302 Уголовного кодекса, в условиях Словацкой Республики. Анализируются его основные и квалифицирующие формы, понятие вины и разграничение правонарушения и преступления в зависимости от тяжести деяния, размера причиненного ущерба или его масштаба. В тексте рассматривается понятие ущерба и его масштаба, раскрывается их содержание с точки зрения экологического и имущественного ущерба, а также определяются границы ущерба малого, крупного, значительного и крупного размера. В статье также рассматриваются правовые определения отходов, обращения с отходами и особенности отдельных видов деятельности, а также возможность совершения данного преступления юридическим лицом в соответствии с Законом об уголовной ответственности юридических лиц. В статье рассматриваются конкретные практические случаи и подводные камни при определении размера ущерба по данным делам.

Ключевые слова: уголовное преступление, несанкционированное обращение с отходами, ущерб, санкция, юридическое лицо

Radovan Blažek, Margita Prokeinová

L'importanza di una valutazione accurata del danno nei reati di gestione illegale dei rifiuti

Sommario

L'articolo affronta gli aspetti sostanziali del reato di gestione illegale dei rifiuti ai sensi dell'articolo 302 del Codice Penale nel contesto della Repubblica Slovacca. Analizza le sue forme fondamentali e qualificate, il significato di colpa e la distinzione tra reato lieve e reato a seconda della gravità dell'atto e dell'entità del danno causato o della sua estensione. Il testo discute i concetti di danno ed estensione, spiegandone il contenuto in termini di danno ecologico e patrimoniale, nonché la definizione dei limiti di danno di lieve entità, maggiore, significativo e su larga scala. L'articolo si concentra inoltre sulle definizioni giuridiche di rifiuto, gestione dei rifiuti e sulle specificità delle singole attività, nonché sulla possibilità di commettere questo reato da parte di una persona giuridica ai sensi della Legge sulla responsabilità penale delle persone giuridiche. L'articolo presenta casi pratici specifici e insidie nella determinazione dell'entità del danno sulla base di tali casi.

Paroleche: crimine, gestione non autorizzata dei rifiuti, danno, sanzione, persona giuridica

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Camera traps as an innovative tool for detecting illegal activities committed to the environment*

Abstract: The article examines the use of camera traps as an innovative tool for detecting illegal activities committed against the environment. It analyses their significance and practical application, highlighting how modern technologies effectively contribute to obtaining key evidence for administrative authorities. It focuses on the legal status of camera traps and the admissibility of their recordings for monitoring environmental administrative offenses. The aim of the article is to demonstrate that camera traps significantly increase the effectiveness of environmental surveillance and the process of establishing liability in environmental protection.

Keywords: camera traps, innovative tool, environmental protection, attributing liability, environmental administrative offenses

1. Introduction

The environment is one of the essential conditions for our existence and long-term survival, and therefore its protection and enhancement are essential.[1] The effective application and enforcement of legal standards is one of the key prerequisites and a real guarantee for maintaining and improving its current state. In addition to the law, there is a whole range of measures that play an important role in pro-

* This work was supported by the Slovak Research and Development Agency under the Contract No. APVV-23-0645.

[1] B. Cepek et al., *Environmentálne právo. Všeobecná a osobitná časť*, Aleš Čeněk Publishing House, Plzeň 2015, p. 12.

tecting the environment. Economic, technical, technological, and other measures work together with legal norms and complement each other.[2] Current environmental challenges clearly show that it is necessary to actively use the achievements of modern technology. Environmental protection requires the implementation of the latest technological innovations into environmental protection strategies.

Modern technical tools are becoming an established part of individual lives, helping in everyday life as well as in legal practice. Human capabilities and abilities are limited in many ways, while modern technologies complement and augment them. In the field of environmental protection, innovations can ensure monitoring, risk prediction, and detection of illegal activities. Legal practice in the field of environmental protection has recently confirmed that innovative tools are effective and beneficial. The benefits of these tools are wide-ranging, and in this article, we will focus on their role in detecting environmental crimes. One proven, significant innovation is the camera trap. Currently, camera traps are considered a non-invasive tool for studying wildlife and providing data on their behaviour that was previously difficult to obtain.[3] In this article, we provide a brief overview of the legal framework for the use of camera traps. The primary objective of the article is to highlight the benefits and effectiveness of these approaches in environmental protection. At the same time, it aims to educate and alert operators of these devices to exercise greater caution when installing and operating them to avoid violating applicable laws. Finally, the article discusses the conditions for the admissibility and usability of camera trap recordings in administrative proceedings.

2. Trail cameras as a tool for overcoming evidentiary barriers

Camera traps were originally used predominantly by researchers to monitor the movement, occurrence, and behaviour of wild animals in their natural environment.[4] Today, however, their importance and practical application are increasingly recognised in legal practice, particularly in connection with the detection of environmental offences.[5]

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[2] M. Damohorský et al., *Právo životního prostředí*, C.H.Beck, Prague 2003, p. 8.

[3] A. Caravaggi et al., *A review of camera trapping for conservation behaviour research*, "Remote Sensing in Ecology and Conversation" 2017, vol. 3, no. 3, p. 122.

[4] L. M. Cardona et al., *Survival analysis of wildlife cameras on roads exposed to theft*, "Biodiversity and Conservation" 2025, vol. 34, p. 4073.

[5] C. P. Cordier et al., *Camera trap research in Africa: A systematic review to show trends in wildlife monitoring and its value as a research tool*, "Global Ecology and Conservation" 2022, vol. 40, p. 10.

Their contribution to the legal field is most apparent in the proceedings aimed at establishing liability for environmental offenses. This is due to their considerable potential to detect perpetrators engaged in unlawful activities, thanks to their high ability to detect perpetrators in natural settings where continuous human surveillance is impossible. The impossibility of continuous human surveillance is linked both to the size of the area being monitored and to the limited capabilities of the entities themselves.

Camera traps are discreet monitoring devices specifically designed to minimise visual detection in the environment where they are installed.[6] This innovative tool is constructed based on the sensor detectors that enable automatic recording of visual material in response to the detection of movement or heat signature in the monitored area. Their use in environmental law has proven essential in documenting and detecting environmental offenses, which are often committed in remote locations with a low probability of direct surveillance. This fact influences the perpetrator's behaviour, as they act under the assumption that their illegal activity is not being directly observed by anyone or anything, meaning they do not anticipate being recorded. This is precisely where camera traps come in: they capture the perpetrator and create an image or audiovisual record. The recordings generated by the camera traps are stored on an electronic data carrier. Provided that the installation and operation of the camera traps strictly comply with the legal requirements, the recording can serve as legitimate evidence for administrative authorities as well as for law enforcement authorities in criminal proceedings.

A typical example of environmental crime is illegal waste disposal, a high-impact phenomenon associated with significant societal burdens and ecological risks across the territory of the Slovak Republic. In 2024, the Supreme Audit Office of the Slovak Republic conducted an audit focused on illegal waste disposal. According to the Supreme Audit Office of the Slovak Republic's audit report, no significant systemic successes were detected. The fact that more than eleven thousand illegal dumpsites are within our national borders is an alarming data point. This alarming value indicates a systemic shortcoming in administrative or criminal liability. Specifically, it indicates a low success rate in identifying perpetrators as well as insufficient effectiveness in imposing and enforcing sanctions that would serve as a robust deterrent.[7]

In practice, identifying the perpetrator is difficult, as illegal waste dumps are often located in hard-to-reach areas outside municipalities or in the forest.

[6] K. Sharma et al., *Conservation and people: Towards an ethical code of conduct for the use of camera traps in wildlife research*, "Ecological Solutions and Evidence" 2020, vol. 1, no. 2, pp. 1–6.

[7] Supreme Audit Office of the Slovak Republic, *Report on the results of audit 2024. Illegally dumped waste*, https://www.nku.gov.sk/documents/d/nku/nezakonne-umiestneny-odpad-pdf?csrt=8761137259385806910 [accessed 29 September 2025].

These are remote locations where it is not possible to ensure constant surveillance or catch perpetrators in the act. This challenge applies not only to the abovementioned issue but also to other equally serious environmental offences, such as poaching and illegal logging. In this context, camera traps appear to be an indispensable tool for field reconnaissance and detection. Their long-term monitoring capability effectively overcomes evidentiary barriers and furnishes crucial evidence required for the successful prosecution and sanctioning of offenders.

3. Slovak Environmental Inspection as an administrative authority using camera traps

The Slovak Environmental Inspectorate (hereinafter: the Inspectorate or SEI) is one of the state administration bodies responsible for environmental protection, which guarantees it a significant position within this sector. The legal status of the Inspectorate is defined by Act No. 525/2003 Coll. on State Administration of Justice in Environmental Matters and on Amendments to Certain Acts as amended, which establishes the Inspectorate as a professional supervisory body in Section 9(1). The Inspectorate performs a wide range of activities essential to effective environmental policy. Its main tasks include exercising state supervision over environmental matters and imposing fines for environmental administrative offences. SEI carries out control activities in accordance with Act No. 10/1996 Coll. on control in public administration, as amended, as well as with special legal regulations in the field of the environment. In the context of state supervision in the field of nature and landscape protection, authorised employees have the powers defined in Section 71(2)(k) of Act No. 543/2002 Coll. on nature and landscape protection as amended. The provision explicitly authorises entities supervising in the field of nature and landscape protection to use technical means to make photo, video, and audio recordings. The purpose of this authorisation is to secure evidence effectively. However, the application of these tools is conditional on respecting legal limits on special legal regulations. In addition to the camera traps, technical means can also include satellite imagery and drones. The significance of deploying these technologies lies in their capacity to effectively contribute to the protection and maintenance of natural balance, the diversity of life forms, and natural values.

To increase the effectiveness of inspection tasks and achieve a sustainable improvement in the state of the environment, the SEI also focuses on implementing and actively using modern technical means. The Action Plan for the Improvement of the Slovak Environmental Inspectorate for the years 2024–2026 ranks this approach as one of its objectives.[8] The vision is to develop employees in technical areas, specifically in the use of innovative tools.

In 2023, the Slovak Environmental Inspectorate underwent a structural change by creating the Department of Technological Innovations. The main task of this department was to ensure the use of available technological equipment and to methodically guide employees in the use of innovations during inspection activities. The activities of this department also included coordinating and cooperating on inspection activities using technological innovations, and preparing materials for inspectors based on findings from the various deployed tools. The strategic goal was to maximise the applicability of these tools in field inspection activities and data analysis, thereby fundamentally strengthening the enforceability of environmental law.[9]

Despite this strategic intention and the expected benefits, the Department of Technological Innovations was unfortunately abolished shortly after its establishment as part of internal organizational changes. Although this is an internal decision, it is surprising that it came at a time when the institution itself clearly declares on its website that "[m]odern technologies are an essential part of our work." Such a discrepancy between a public statement and an organisational action naturally raises questions about the future. The demise of the specialised department could, in fact, make the systematic introduction of innovations more difficult and thus potentially slow the effort to prosecute environmental offenses more effectively. The presence and active use of modern technologies within the performance of state supervision represent a fundamental shift in the formation and implementation of inspection work. These tools enhance the capacity of inspections to detect, document, and effectively prosecute environmental offenses. Their deployment brings results, especially in areas where human surveillance is difficult and inefficient. These include illegal waste disposal, illegal logging, illegal fishing, and poaching. These technologies streamline evidence collection and strengthen the overall enforceability of environmental law in the field.

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[8] Slovak Environmental Inspectorate, *Action Plan for Improving SEI 2024–2026*, https://www.sizp.sk/projekty/operacny-program-efektivna-verejna-sprava-caf/akcny-plan-zlepsovania-sizp-2024-2026 [accessed 19 September 2025].

[9] Slovak Environmental Inspectorate, *Modern technologies are an essential part of our work*, https://www.sizp.sk/novinky/moderne-technologie-su-nevyhnutnou-sucastou-nasej-prace [accessed 15 September 2025].

4. Technical parameters of camera traps

Camera traps are fully automated digital monitoring devices of various models. These devices are designed for outdoor use and have a high degree of resistance to various weather changes. Their visual and colour camouflage is specifically designed to ensure they discreetly blend into the surrounding environment, minimising the risk of detection by perpetrators.[10]

The mechanism of camera traps consists of automatic recording of photos and videos in day and night modes. Triggering is activated by an integrated passive infrared sensor that detects thermal changes or movement of objects within its field of view. The thermal sensor triggers an image capture and records an object whose temperature is higher than the ambient temperature. The motion sensor starts recording upon detecting movement within its field of view. A key comparative advantage of camera traps is their detection function based on sensor triggering, which, in practice, minimises unwanted recordings and ensures efficient energy use. In contrast, continuously recording surveillance footage is also legitimately used in legal practice and represents a relevant means of evidence in uncovering a wide range of illegal activities, and not just in the field of the environment. However, the difference lies primarily in the method of data collection, operating costs, and the costs incurred in purchasing this equipment.

Camera traps can capture night recordings using invisible infrared illumination, enabling recording even in complete darkness. It is important to emphasise that night shots are realised in black and white, which distinguishes them from daytime ones. Using a xenon flash for video is not possible at night, but certain devices do support it for daytime shooting.[11] All acquired data is stored on a removable SD card, allowing storage of thousands of records. For video recordings, the maximum length is one minute, which is sufficient for subsequent use in legal proceedings. The newest generations of these devices feature advanced communication functions, such as automatically sending recordings directly to a mobile phone or a predefined email inbox. This feature is crucial for increasing the operational speed and effectiveness of the individuals managing the device. Notification of ongoing activity allows the administrator to analyse the acquired record and initiate subsequent steps immediately. A quick response can often lead to the apprehension of the perpetrator in the act.[12]

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[10] S. Nazir, M. Kaleem, *Advances in image acquisition and processing technologies transforming animal ecological studies*, "Ecological Informatics" 2021, vol. 61, 101212.

[11] P. J. Apps, J. W. McNutt, *How camera traps work and how to work them*, "African Journal of Ecology" 2018, vol. 56, no. 4, pp. 702–709.

[12] K. Sharma et al., *Conservation and people: Towards an ethical code of conduct for the use of camera traps in wildlife research*, "Ecological Solutions and Evidence" 2020, vol. 1, no. 2, pp. 1–6.

5. Case study: Sundarbans Nature Reserves

The effectiveness of camera traps in detecting illegal activities against the environment has been confirmed through research led by Abu Naser Mohsin Hossain. The study focuses on the Sundarbans, a nature reserve located in the southwest of Bangladesh, where biodiversity is rapidly declining. It was also the first research to explore the use of camera traps in densely forested regions. Sundarbans Nature Reserves lack sufficient protection, exemplifying protected areas where monitoring and detecting environmental crime is extremely challenging. This difficulty correlates with the limited number and frequency of patrols by field workers relative to the size of the monitored area. The most common illegal activities threatening the biodiversity of these reserves include illegal fishing, poaching, and illegal logging. Managers have been unable to ensure effective protection and have instead relied on the limited capacity of field staff. Control patrols often faced issues such as boat engine failures, fuel shortages, or adverse natural conditions, which seriously hampered surveillance over the vast protected areas. As the lead author of the study noted, “Resources for patrolling rangers are limited, but we have technology available that can help monitor the forest when rangers are not nearby.” The research results were promising, confirming the high effectiveness of technical monitoring. With strategically placed camera traps, 914 unique instances of human activity were recorded over 1,039 days. Of these, 872 activities were illegal, while only 42 were legal, related to patrolling or tourism. A co-author of the study added, “By using camera traps, we captured evidence of illegal activity, helping to identify perpetrators and define risk areas that require greater attention from patrols.” It is important to note that not all recordings provided clear information for unambiguous identification of the offender.[13]

Nevertheless, the study results fundamentally alter the current understanding of illegal activities in nature reserves, where only about one case was reported annually before. In conclusion, camera traps significantly enhance law enforcement efforts and are a vital tool in combating environmental crimes.

[13] A. N. Mohsin Hossain et al., *Assessing the efficacy of camera trapping as a tool for increasing detection rates of wildlife crime in tropical protected areas*, “Biological Conservation” 2016, vol. 61, pp. 314–319.

6. Legal framework for the installation and operation of camera traps

Camera traps, as modern technologies designed for autonomous environmental monitoring, are becoming increasingly popular. Their widespread use is currently accompanied by a legislative gap, as there is no legal regulation that explicitly establishes the legal basis for the use of camera traps. The nature of this device inherently carries the risk of recording data on individuals moving within the monitored area. This risk is directly related to the protection of personal data. Therefore, it is necessary to establish clear legal boundaries for the use of these innovative tools. The complexity of this issue is also demonstrated by a precedent from Austria, where an Austrian politician was inadvertently recorded in an intimate situation via surveillance devices. This incident raised a fundamental doctrinal question regarding the obligation of transparency in surveillance in remote locations.[14]

While entities advocating strict privacy protection argue for the necessity of prior marking of the monitored area, the operators (hunting associations) object that the visibility of such markings would directly negate the purpose of wildlife monitoring. The legal assessment of the situation in the above-mentioned case was further complicated by the fact that the data subject (the politician) was in a zone with an explicit entry ban. Nevertheless, Austrian legislation, in accordance with European privacy standards, strictly limits the distribution of such sensitive data under threat of heavy penalties, thereby affirming the primacy of the protection of personal rights over property or usage rights to the land.

In terms of categorisation, camera traps fall into the category of camera systems. The Office for Personal Data Protection in the Czech Republic has adopted this classification in its methodological guidelines.[15] As a monitoring device, a camera trap captures a lot of information about a person, which is considered personal data for personal data protection.[16] Camera traps capture images of natural persons in the shot, as well as information about their movements and

[14] S. van Gilder Cooke, *Wildlife Cameras Capture Austrian Politician Having Forest Sex*, "TIME" 17 June 2012, https://newsfeed.time.com/2012/06/17/wildlife-cameras-capture-austrian-politician-having-forest-sex/ [accessed 20 March 2025].

[15] See: Office for Personal Data Protection of the Czech Republic, *Methodology for the design and operation of camera systems from the perspective of personal data processing and protection*, https://uoou.gov.cz/media/clanky/dokumenty/metodika-kamerove-systemy-webpdf.pdf [accessed 29 September 2025].

[16] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons regarding the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) defines personal data in Article 4 (1) as "any information relating to an identified or identifiable natural person."

whereabouts at a given time and place. In the Decision of the Supreme Administrative Court of the Czech Republic of August 23, 2013, no. 5 As 158/2012, the purpose of camera systems was pointed out and stated: "The purpose of camera recordings is precisely to identify persons captured on video. The entire camera system must therefore be considered as processing of personal data, even though some of the persons captured cannot be identified in practice."

Based on the above classification, it can be analogously concluded that the legal basis and conditions established for camera systems are also applicable to the operation of camera traps. The installation, operation, and handling of recordings obtained from camera traps are subject to strict regulation under European Union and national law. The main legal framework is Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons concerning the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (hereinafter: GDPR) and the provisions of Act No. 18/2018 Coll. on the protection of personal data and on amendments to certain as amended.

In this article, we will provide a detailed analysis of the individual legal conditions set out in the GDPR that apply to the operation and use of camera traps. Specifically, we will focus on identifying the individual provisions relevant to the processing of personal data obtained through this monitoring tool.

According to Article 5(1) of the GDPR, when processing personal data, it is necessary to comply with the principle of lawfulness, which requires processing personal data in a lawful, fair, and transparent manner in relation to the data subject. Only processing of personal data for which the controller has a valid legal basis can be considered lawful. The operator of a camera trap is required to have a primary legal basis for each purpose of processing personal data. The GDPR regulates six legal bases: consent, performance of a contract, legal obligation, protection of the vital interests of the data subject or another natural person, public interest, and legitimate interest of the controller. According to M. Mesarčík, when defining the legal basis, it is necessary to assess whether the processing is not necessary for the performance of a contract, or whether it is a legal obligation or a task in the public interest.[17] The legal basis for processing is necessarily linked to the qualification of the entity that has the status of a monitoring device operator, whether it is a natural person or a public authority. In this article, we will focus on public authorities and the legal basis for installing and operating camera traps.

In cases where the controller is a public authority, processing is generally necessary for the performance of a task carried out in the public interest or in the exercise of official authority. In this article, we have highlighted the

[17] M. Mesarčík, *Ochrana osobných údajov*, C.H.Beck, Bratislava 2020, p. 75.

Slovak Environmental Inspectorate as one of the public authorities that uses camera traps to detect perpetrators of environmental crimes. However, this authority is not the only public authority that uses these modern tools. Recently, we have seen an increase in the installation of camera traps in cities and towns. Local authorities use camera traps to monitor illegal waste, improve security, and detect offences in areas with inadequate camera coverage.[18] These camera traps are mainly located in public spaces, with the key factor in their operation being the discreet surveillance of these publicly accessible areas.

When operating camera traps, it is essential to apply the principles of proportionality and data minimisation. In accordance with these principles, the operator is obliged to ensure that the camera trap only covers the area necessary to achieve the objective. At the same time, monitoring is associated with the operator's obligation to inform the subjects.[19] Under Articles 12 and 14 of the GDPR, controllers are required to inform data subjects about the processing of personal data. At the same time, data subjects have the right to be informed about the processing of personal data. In practice, this obligation to inform is met by placing a visible information board or pictogram at the entrance to the monitored area. The label must include information on monitoring, together with an information sheet or information on the overall processing of personal data. At the same time, it is neither required nor recommended to place these notification elements at the camera trap's actual installation site. In our view, such a procedure would be contrary to the purpose of the innovative monitoring tool, which is based on discreet monitoring. Given the size and nature of the monitored area, it is not possible to establish a uniform and precise specification for the placement of these notification signs.

When collecting and processing personal data, the operator is obliged to comply with the principle of minimising the storage of personal data. Under this principle, storage is permitted only for the period necessary to fulfil the purpose of their processing. After this period has expired, the controller is obliged to ensure the proper disposal of the data. Personal data may be stored for longer than would otherwise be required if it is processed for archiving purposes in the public interest, scientific or historical research, or for statistical purposes. However, in such cases, appropriate technical and organisational measures must be taken.[20] The Supreme Court of the Slovak Republic, in its

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[18] Waste Portal, *The city wants to eliminate illegal dumps. Dozens of camera traps and fines are supposed to help*, https://www.odpady-portal.sk/Dokument/106894/mesto-chce-eliminovat-nelegalne-skladky-pomoct-maju-desiatky-fotopasci-a-pokuty.aspx [accessed 2 October 2025].

[19] The Decision of the Supreme Administrative Court of the Czech Republic of August 23, 2013, no. 5 As 158/2012 stated: "The possibility of surveillance by a camera system must be communicated in every monitored area."

[20] M. Mesarčík, *Ochrana osobných údajov*, C.H.Beck, Bratislava 2020, p. 98.

ruling of January 12, 2011, no. 1 Sžo 410/2009, stated in this regard: "The controller cannot evade the obligation to destroy personal data after the purpose of processing has been fulfilled by pointing to the fact that personal data cannot be destroyed due to the controller's lack of technical capacity."

The legitimacy of camera trap recordings as evidence before administrative authorities or law enforcement agencies is strictly conditional on compliance with all legal requirements for their acquisition and operation. In practice, there are repeated cases, especially when camera traps are operated by natural persons, where the camera trap recording clearly confirms the commission of an unlawful act, but the camera trap was not operated in accordance with the law, resulting in illegal evidence. Despite this, established case law in matters of administrative punishment, specifically the Decision of the Supreme Court of the Slovak Republic of January 14, 2020, no. 3Asan/32/2019 allows for an exception to the principle of legality of evidence. In this decision, the Supreme Court of the Slovak Republic noted: "If evidence in the form of an audiovisual recording was obtained in violation of the law, it is necessary, before performing a proportionality test, to first assess whether the use of such evidence is capable of interfering with the personal rights of the person concerned, and this must be assessed about the specific factual circumstances of the case." If the recording, which was made unlawfully, demonstrably violates the rights of the person concerned, it is necessary to consider the entity that made the recording. If the entity that made the recording and the data subject are in an equal position, namely, it is not a relationship between a state authority and a natural person, the possibility of its use cannot be automatically ruled out, even though it was not made in accordance with the law.[21]

The use of evidence in the form of a recording made by a private individual without the consent of the person whose speech is captured on it may be admissible, considering the factual circumstances of the case. This admissibility is linked to the existence of relevant aspects that must justify the public interest outweighing the right to privacy. These aspects include, for example, the intensity of the expression, the public place, or identifiability of the person concerned. Finally, it should be noted that the key prerequisite for the use of such a recording as evidence remains the application of the proportionality test by the competent administrative authority.[22]

[21] The Decision of the Supreme Court of the Slovak Republic, of January 14, 2020, no. 3Asan/32/2019.

[22] Ibidem.

7. Conclusions

This article provides a detailed analysis of the use of camera traps in the fight against environmental crimes. From a technical point of view, these are fully automated digital devices that are resistant to extreme weather conditions. Camera traps use sensors that detect motion or heat, minimising unwanted recordings and optimising energy consumption. These devices were originally designed for wildlife monitoring but are now used to detect environmental crimes. They are equally effective in other areas, such as securing property and buildings or detecting illegal activities. As we pointed out in the article, given the discretion of camera traps, they can be useful in detecting illegal waste disposal, illegal logging, and poaching. Their key benefit lies in their ability to provide discreet, long-term monitoring, effectively overcoming the obstacles associated with the impossibility of continuous human surveillance in remote locations with a low probability of direct supervision.

The relevance of camera traps in practice is confirmed by research conducted by a team of researchers in South Asia. Researchers have recorded an increase in the detection of illegal activities in protected areas using camera traps, significantly strengthening environmental protection.

Camera traps are used by state authorities in the performance of their supervisory and environmental protection duties. Their installation and the subsequent relevance of camera trap recordings in legal practice are subject to strict legal regulations. The activation of sensors and the subsequent creation of recordings pose an unavoidable risk to the processing of personal data of persons in the monitored area. Due to the nature of this device, the Office for Personal Data Protection of the Czech Republic categorises it as a camera system, which means that its operation is subject to the GDPR and national law. For legal processing, it is necessary to respect the basic principles of the GDPR, namely lawfulness, proportionality, and data minimisation, the controller's information obligation, and storage minimisation.

The legal use of recordings as lawful evidence in administrative and criminal proceedings is conditional upon compliance with all legal conditions for their acquisition and operation. Although established case law allows for exceptions to the principle of legality of evidence in the case of recordings made by private individuals, the key prerequisite for their admissibility remains the application of the proportionality test by the competent authority.

In conclusion, camera traps significantly increase the effectiveness of monitoring and the ability to hold people accountable for environmental offences. Their successful deployment represents a fundamental shift in the way inspection work is conducted and in the overall strengthening of law enforcement in environmental protection.

Literature

Professional and academic publications

Apps P. J., McNutt J. W., *How camera traps work and how to work them*, "African Journal of Ecology" 2018, vol. 56, no. 4, pp. 702–709.

Caravaggi A. et al., *A review of camera trapping for conservation behaviour research*, "Remote Sensing in Ecology and Conversation" 2017, vol. 3, no. 3, pp. 109–122.

Cardona L. M. et al., *Survival analysis of wildlife cameras on roads exposed to theft*, "Biodiversity and Conservation" 2025, vol. 34, pp. 4067–4083,

Cepek B. et al., *Environmentálne právo. Všeobecná a osobitná časť*, Aleš Čeněk Publishing House, Plzeň 2015.

Cordier C. P. et al., *Camera trap research in Africa: A systematic review to show trends in wildlife monitoring and its value as a research tool*, "Biodiversity and Conservation" 2022, vol. 40, pp. 1–13.

Damohorský M. et al., *Právo životního prostředí*, C.H.Beck, Prague 2003.

Mesarčík M., *Ochrana osobných údajov*, C.H.Beck, Bratislava 2020.

Mohsin Hossain A. N. et al., *Assessing the efficacy of camera trapping as a tool for increasing detection rates of wildlife crime in tropical protected areas*, "Biological Conservation" 2016, vol. 61, pp. 314–319.

Nazir S., Kaleem M., *Advances in image acquisition and processing technologies transforming animal ecological studies*, "Ecological Informatics" 2021, no. 61, 101212.

Sharma K. et al., *Conservation and people: Towards an ethical code of conduct for the use of camera traps in wildlife research*, "Ecological Solutions and Evidence" 2020, vol. 1, no. 2, pp. 1–6.

Legislation and judicature

Act No. 10/1996 Coll. on control in public administration.

Act No. 543/2002 Coll. on nature and landscape protection.

Act No. 525/2003 Coll. on State Administration of Environmental Care and on Amendments and Supplements to Certain Acts.

Act No. 18/2018 Coll. on the protection of personal data and on amendments to certain.

The Decision of the Supreme Court of the Slovak Republic, in its ruling of January 12, 2011, no. 1 Sžo 410/2009.

The Decision of the Supreme Court of the Slovak Republic, of January 14, 2020, no. 3Asan/32/2019.

The Decision of the Supreme Administrative Court of the Czech Republic of August 23, 2013, no. 5 As 158/2012.

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons regarding the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

Internet sources

Gilder Cooke S. van, *Wildlife Cameras Capture Austrian Politician Having Forest Sex*, "TIME" 17 June 2012, https://newsfeed.time.com/2012/06/17/wildlife-cameras-capture-austrian-politician-having-forest-sex/ [accessed 20 March 2025].

Office for Personal Data Protection of the Czech Republic, *Methodology for the design and operation of camera systems from the perspective of personal data processing and protection,* https://uoou.gov.cz/media/clanky/dokumenty/metodika-kamerove-systemy-webpdf.pdf [accessed 29 September 2025].

Slovak Environmental Inspectorate, *Modern technologies are an essential part of our work*, https://www.sizp.sk/novinky/moderne-technologie-su-nevyhnutnou-sucastou-nasej-prace [accessed 15 September 2025].
Slovak Environmental Inspectorate, *Action Plan for Improving SEI 2024–2026*, https://www.sizp.sk/projekty/operacny-program-efektivna-verejna-sprava-caf/akcny-plan-zlepsovania-sizp-2024-2026 [accessed 19 September 2025].
Supreme Audit Office of the Slovak Republic, *Report on the results of audit 2024. Illegally dumped waste*, https://www.nku.gov.sk/documents/d/nku/nezakonne-umiestneny-odpad-pdf?csrt=8761137259385806910 [accessed 29 September 2025].
Waste Portal, *The city wants to eliminate illegal dumps. Dozens of camera traps and fines are supposed to help*, https://www.odpady-portal.sk/Dokument/106894/mesto-chce-eliminovat-nelegalne-skladky-pomoct-maju-desiatky-fotopasci-a-pokuty.aspx [accessed 2 October 2025].

Anna Kučerová

Fotopułapki jako innowacyjne narzędzie wykrywania nielegalnych działań przeciwko środowisku

Streszczenie

Artykuł analizuje wykorzystanie fotopułapek jako innowacyjnego narzędzia służącego wykrywaniu nielegalnych działań skierowanych przeciwko środowisku. Autorka przedstawia ich znaczenie oraz praktyczne zastosowanie, podkreślając, w jaki sposób nowoczesne technologie przyczyniają się do skutecznego uzyskiwania kluczowych dowodów przez organy administracji. Szczególną uwagę poświęca statusowi prawnemu fotopułapek i dopuszczalności wykorzystywania materiału, który one rejestrują, w monitorowaniu administracyjnoprawnych naruszeń w zakresie ochrony środowiska. Celem artykułu jest wykazanie, że fotopułapki w istotny sposób zwiększają efektywność nadzoru nad środowiskiem oraz pomagają w ustalaniu odpowiedzialności w dziedzinie jego ochrony.

Słowa kluczowe: fotopułapki, innowacyjne narzędzie, ochrona środowiska, ustalanie odpowiedzialności, administracyjnoprawne naruszenia w ochronie środowiska

Anna Kučerová

Фотоловушки как инновационный инструмент для выявления незаконной деятельности, наносящей вред окружающей среде

Резюме

В данной статье рассматривается использование фотоловушек как инновационного инструмента для выявления противоправной деятельности в отношении окружающей среды. Автор показывает их важность и практическое применение, подчеркивая, каким образом современные технологии способствуют эффективному сбору ключевых доказательств административными органами. Особое внимание уделено правовому статусу фотоловушек и допустимости использования материалов, которые они регистрируют, в мониторинге административных правонарушений в области охраны окружающей среды. Цель данной статьи – показать, что фотоловушки значительно повышают эффективность надзора за окружающей средой и помогают установить ответственность в области ее охраны.

Ключевые слова: фотоловушки, инновационный инструмент, охрана окружающей среды, установление ответственности, административные правонарушения в области охраны окружающей среды

Anna Kučerová

Le fototrappolaggio come strumento innovativo per l'individuazione di attività illegali contro l'ambiente

Sommario

L'articolo analizza l'utilizzo delle fototrappolaggio come strumento innovativo per l'individuazione di attività illegali contro l'ambiente. L'autrice ne illustra l'importanza e l'applicazione pratica, sottolineando in che modo le moderne tecnologie contribuiscano all'efficace acquisizione di prove chiave da parte delle autorità amministrative. Particolare attenzione è dedicata allo status giuridico delle fototrappolaggio e all'ammissibilità dell'utilizzo del materiale da esse registrato nel monitoraggio delle violazioni amministrative e giuridiche in materia di tutela ambientale. Lo scopo dell'articolo è dimostrare che le fototrappolaggio aumentano in modo significativo l'efficacia della sorveglianza ambientale e aiutano a determinare la responsabilità nel campo della sua protezione.

Parole chiave: fototrappolaggio, strumento innovativo, protezione dell'ambiente, determinazione della responsabilità, violazioni amministrative e legali in materia di protezione dell'ambiente

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Brown bear in the legal system of the Slovak Republic – monitoring, protection, responsibility***

Abstract: The brown bear (*Ursus arctos*) is a protected animal species under Act No. 543/2002 Coll. on Nature and Landscape Protection. The level of protection of this species directly affects the existence of state liability for damage caused by its activity. In our contribution, we will address the legal regulation of the status of the brown bear, its activity and the level of protection. We base our analysis not only on the legal regulations of the Slovak Republic but also on sources of international and European law. The reason for choosing this topic is the current issues of legal and factual protection of the brown bear in the territory of the Slovak Republic, which have become the subject of not only professional but (unfortunately) also political discourse.

Keywords: brown bear, protected animal, designated animal, monitoring, exception to the ban, shooting

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1. Introduction

The brown bear as the largest carnivore in the Slovak Republic, in addition to its biological uniqueness and high level of protection, is also a unique legal problem. In our article, we address the substantive and procedural aspects of the legal protection of the brown bear, but also, conversely, the tools for its *de facto* elimination and assessment of their suitability.

In the Slovak Republic, conflict situations are resolved in an *ad hoc* manner. The most common is the removal (both lethal and non-lethal) of individual brown bears.[1]

The basis for our analysis is primarily the legal regulation of the Slovak Republic *de lege lata* and the decision-making practice of administrative courts.

2. Protected animal species

The list of protected animal species is regulated by the legislator by the Decree of the Ministry of the Environment of the Slovak Republic No. 170/2021 Coll. implementing Act No. 543/2002 Coll. on the Protection of Nature and Landscape, as amended (hereinafter: the Decree). The brown bear is included in the list of original protected animal species as a species of European importance, pursuant to Annex No. 5 of the Decree[2] but also as a so-called priority species, for the preservation of which protected areas are declared. The social value of this protected species is 5,000 EUR, which fully reflects its biological and ecological value, taking into account the rarity and vulnerability of this species. Within the assigned values, we rank the brown bear among the significantly more "valued" individuals.[3] The amount of social value of a protected species of animal is applied pursuant to Section 95 of the Act No. 543/2002 Coll. on Nature and Landscape Protection (hereinafter: ZOPK), particularly when assessing the seriousness of the act consisting in the unauthorized handling of an animal and when quantifying the damage thus incurred, determining the amount

[1] M. Haring, Ch. Silviu, K. Miha, K. Ivan, *Defining, preventing, and reacting to problem bear behaviour in Europe*, https://www.academia.edu/26354474 [accessed 6 December 2025].

[2] For more details, see Section 2, letters w) and x) of the Act No. 543/2002 Coll. on Nature and Landscape Protection.

[3] According to the Decree, the golden eagle (*Aquila heliaca*) is of the highest social value and represents up to 40,000 EUR.

of benefit, the value of the thing and the extent of the act; preparing expert opinions or determining the amount of the find.

The protection of a protected species of animal in the conditions of the Slovak Republic – species protection, is classified together with the territorial protection of nature and landscape under the so-called special protection, which is also related to the restriction of the use of this species. The Ministry of the Environment may declare species of European importance or national importance as protected species by a generally binding legal regulation, with the exception of species of wild birds that naturally occur in the territory of EU Member States, as these are automatically considered *ex lege* to be protected animals pursuant to Section 33, par. 3 of the ZOPK. A protected species of animal is also any individual of which at least one parent is itself a protected animal.

According to § 35 of the ZOPK, it is prohibited to:

- intentionally capture a protected animal in its natural range;
- intentionally injure or kill it in its natural range;
- intentionally disturb it in its natural range, especially during the period of nesting, reproduction, raising young, hibernation or migration;
- crossbreed species to create hybrids;
- keep, raise in human care, transport, sell, exchange or offer for sale or exchange;
- collect or intentionally damage or destroy eggs of a protected animal in its natural range in the wild or keep them, including empty eggs;
- remove or intentionally damage or destroy nests of a protected animal in its natural range;
- damage or destroy breeding sites or resting places of a protected animal in its natural range.

Part of the species protection of animals is also the legal regulation of the general obligation to notify the nature protection authority of the finding, injury or killing of an individual of a protected species, without delay and also a set of prohibited methods and means of capturing and killing a protected animal (methods and non-selective means that may cause local extinction or endangerment of populations of its species or any forms of capturing and killing from means of transport).[4]

[4] The prohibited hunting methods are regulated in more detail by § 7 of the Decree, according to which, when hunting a protected animal (mammal or bird), it is prohibited to use:

1. a net, a snares, a hook, a net, a foot trap or a jaw trap;
2. a trap based on the principle of non-selective capture or a trap that catches non-selectively when used,
3. a bird trap,
4. a blind, crippled or otherwise handicapped animal used as bait,
5. a tape recorder or other sound carrier,
6. an electrical or electronic device capable of killing or stunning,

In the interest of a more comprehensive approach to species protection, we present further restrictions on the use of plant and animal species, which are regulated by Section 37 of the ZOPK. This provision regulates a special regime of species protection, which it grants to plants and animals that are not protected species but whose protection is necessary in order to maintain a favourable status of the species.

An important document that approximates the scope of legal protection, occurrence, population, habits, abundance, monitoring and management of the protection of (not only) the brown bear is the document *Ochrana a manažment veľkých šeliem na Slovensku* (Protection and management of large carnivores in Slovakia) issued under the auspices of the State Nature Conservation Agency of the Slovak Republic.[5] At the same time, as part of the project "Research and monitoring of large carnivores and wild cat populations in Slovakia," the Brown Bear Care Programme in Slovakia was adopted under the auspices of the Slovak Forestry Commission, which, in addition to providing an overview of the current situation and protection of the brown bear, also sets specific goals and measures to maintain a favourable state of the brown bear population in the Slovak Republic.[6] A practical problem related to the success of brown bear monitoring is its relatively low population density and large territories. In the conditions of the Slovak Republic, as well as in the world, a combination of various methods of determining the abundance and structure of populations at different levels is therefore used. Monitoring methods include: direct observation, monitoring using camera traps, monitoring of residence signs, vocalizations, telemetry, recording of damage caused and genotyping using the collection of non-invasive

7. an artificial light source,
8. a mirror or other dazzling device,
9. a device for illuminating targets,
10. an observation device for night shooting with electronic image magnification or an image converter or other similar device enabling shooting in night,
11. explosives,
12. crossbows or bows,
13. chemicals, poison, bait with poison or with an anesthetic or bait that contains a chemical substance that can cause death or malfunction of the physiological organs of an animal;
14. gas or smoke,
15. self-loading or automatic weapons firing individually or in bursts with a magazine that can contain more than two rounds,
16. lead ammunition when hunting birds in wetlands,
17. aircraft, vessels, motor vehicles, snowmobiles or other vehicles.

[5] A. Lešová, V. Antal (eds.), *Ochrana a manažment veľkých šeliem na Slovensku*, Štátna ochrana prírody SR, Banská Bystrica 2015.

[6] At the level of EU law, the legal regulation of bears is represented mainly by the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) and Council Directive No. 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

samples. Within the scope of the individual administrations of protected landscape areas and national parks, all of the aforementioned monitoring methods are carried out with varying intensity.[7]

In 2015, the State Nature Conservation Agency of the Slovak Republic introduced the Comprehensive Information and Monitoring System (KIMS). This is a database of data on the occurrence of plants, animals, and habitats in Slovakia. All observations are localized using GPS coordinates. At the same time, photo documentation can be made, which can also be entered into the KIMS together with data on the occurrence of the species itself.[8]

3. Designated animal

In order to protect selected species of protected animals, the Slovak legislation reflects cases where a person and their property collide with the activities of these animals, while the legislator assumes the existence of damage in this collision. The legal institute providing for the described set of situations is compensation for damage caused by animals regulated in the eighth part of the ZOPK. The affected group of animals for which the state assumes responsibility (to the extent specified by the law) is referred to as designated animals, which has long included the brown bear. Despite the fact that we are talking about a public law institute here, the subsidiary and general provisions of the Civil Code apply to legal relations pertaining to compensation for damage. However, the substantive legal prerequisites for the claim for compensation for damage are specifically regulated by the ZOPK:

1. It assumes the occurrence of damage, not in general, but specific damage (to the life and health of a natural person, selected domesticated animals, dogs used to guard selected domesticated animals or used in their herding, fish kept in ponds (to the extent provided for by law), beehives and beekeeping facilities, unharvested field crops, woody plants or forest stands, hunted ungulates).

2. Special conditions are met regarding the specific property of the injured party, namely:

a) in the case of damage to selected domesticated animals, fish, beehives and beekeeping facilities and woody plants, it is necessary that preventive measures be taken to protect this property, which are specified in detail in the decree;

[7] https://www.sopsr.sk/web/?cl=251 [accessed 12 September 2025].

[8] http://www.biomonitoring.sk/ [accessed 10 September 2025].

b) in the case of damage to fish, it must be proven that a specific species of designated animal is demonstrably present at the location where the damage occurred;
c) in the case of damage to fish and game ungulates, it was not a case where a previous exception to the conditions of species protection for the capture, killing or disturbance of a designated animal was allowed, which was also valid at the time of the damage;
d) in the case of damage to field crops, only if they were harvested within the agrotechnical deadline for their harvest, usual for the given territory.

3. The damage that is the subject of the claim must be caused by one of the designated animals.

4. The damage must be caused in the territory of the Slovak Republic.

5. None of the statutory grounds for excluding state liability are met if it concerns an animal kept in human care or an animal that escaped or damage that occurred to a hunter while hunting a designated animal.

The abovementioned substantive requirements for the establishment of a claim find their limits when it comes to applicability, especially when the following prerequisites must be met: proving the fulfillment of preventive measures, the occurrence of a designated animal at the place of occurrence of the damage, but also, for example, assessing whether it is a direct action of a designated animal or the consequences that arose as a result of the action of a designated animal. In this regard, the relevant nature protection authorities (district authorities) approach the interpretation of the legal regulation rather restrictively. In the case of the action of a brown bear as a designated animal, in the conditions of the Slovak Republic, damage mainly occurs to bee colonies, agricultural crops, domesticated animals, ungulates, but also to the life and health of human individuals.

We learn about the current number of individual brown bears from the Study of the Estimation of the Brown Bear Population,[9] which was prepared by the Faculty of Natural Sciences of Charles University in Prague on the basis of an order from the State Nature Conservation Agency of the Slovak Republic. Using scientific methods and collecting biological material, this study concluded that the number of brown bears was in the range of 1,012–1,275 individuals (in 2021). However, this study also states that the number of protected animal species has varied in the past depending on the source. For example, according to information from the National Forestry Centre, the estimated number of brown bears in 2021 was up to 2,997 individuals.[10] The undesirable impact

[9] https://www.sopsr.sk/news/file/00%20%C5%A0T%C3%9ADIA%20FINAL%20-%20Velikost_populace_medved_Slovensko2.pdf [accessed 10 September 2025].

[10] *Odhad velikosti populace medvěda hnědého (Ursus arctos) na Slovensku analýzou DNA* (A study of the estimation of the brown bear population size prepared by the Faculty of Natural Sciences, Charles University in Prague by: N. Tkáčová, J. Šrutová, B. Černá Bolfíková, V. Kornová, M. Apfelová, M. Kalaš, V. Antal, S. Finďo, M. Hletko and P. Hulva), p. 70,

of the brown bear, which enters the sphere of the population's disposal and potentially poses a threat of damage, is also addressed by the legislator through a special regulation in Act No. 79/2015 Coll. on waste by establishing the obligation of the waste holder to secure waste against the access of the brown bear. The implementing regulation subsequently specifies the list of territories and types of waste to which this obligation applies. It also specifies the method of securing collection containers.[11] In 2022, almost 400,000 EUR was paid out for damage caused by bears, in 2019 it was approximately 190,000 EUR, in 2021 – 197,000 EUR.[12]

4. Brown bear shooting

Exceptions to the conditions for the protection of protected species are regulated by Section 40 of the ZOPK. Activities prohibited in the interest of the protected species may be carried out on the basis of a prior written decision of the nature conservation authority – by granting an exemption from the prohibition, which the competent authority shall issue on the condition that the activity to be carried out is necessary to ensure the care of protected species and their habitats. This permit may also apply to activities for the purposes of research carried out on the basis of a requirement applied in a binding opinion of the nature conservation authority within the framework of the environmental impact assessment process. The legislator also regulates exceptions regarding activities damaging the natural nesting and breeding sites of protected animal species, provided that the activity is permitted by the nature conservation authority within the

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https://www.sopsr.sk/news/file/00%20%C5%A0T%C3%9ADIA%20FINAL%20-%20Velikost_populace_medved_Slovensko2.pdf [accessed 10 September 2025].

[11] Pursuant to Section 18(3)(a) of Decree No. 371/2015 Coll. implementing certain provisions of the Waste Act:

a) the waste collection container shall be placed in a closed area that is not freely accessible; the closed area shall be constructed in such a way that its technical design shall prevent a brown bear from manipulating the collection container placed in this area in any way;
b) the waste collection container shall be placed in a closed area that is equipped with functional electrical security or
c) a sufficiently durable and lockable collection container shall be used for waste collection; the locking of the collection container shall be adjusted in such a way as to prevent a brown bear from damaging or loosening the lock.

[12] Information made available upon request by the State Nature Conservation Agency of the Slovak Republic.

framework of territorial protection and will not have a negative impact on the population of the protected species, nor on the subject of protection of the affected area, or its favourable condition. An exemption from the ban is issued by the competent authority only if there is no other economically and technically feasible alternative and the exemption does not jeopardize the maintenance of a favourable status of the population of the species concerned in its natural range. At the same time, at least one of the conditions for the admissibility of granting an exemption must be met.

In population control methods, area-wide culling is also a consideration. Experts and zoologists strongly reject the implementation of the method of culling of brown bears, which they have also expressed in public discourse: "The only option for solving the factual problem is selective interventions against problematic individuals (from aversive conditioning to removing individuals from the population based on approved protocols), consistent application of preventive measures, effective waste management, effective elimination of additive food sources, and systematic information and education of people on how to avoid close encounters with bears and how to behave around them."[13]

An exemption from the statutory protection conditions may also be granted by the Ministry of the Environment pursuant to Section 8 of Act No. 15/2005 Coll. on the protection of species of wild animals and wild plants by regulating trade in them and on amendments and supplements to certain acts. The Ministry of the Environment shall issue a certificate granting an exemption from the ban on commercial activities if the protection conditions are met and there are no reasons relating to the protection of the species that would prevent the issuance of this certificate.

The admissibility of killing a brown bear is considered exclusively in cases limited by law. Pursuant to Section 65a, para. 5, ZOPK is an authorized entity for scaring, capturing or killing a protected animal by the State Nature Conservation Agency of the Slovak Republic (ŠOP SR), in the event that the animal, by its behaviour outside its natural habitat, directly threatens the health or safety of the inhabitants of the municipalities. The provisions of the hunting legislation do not apply to these cases. A specific tool for applying the possibility of using this provision in the case of the brown bear in the Slovak Republic is a specialized intervention team, which was established by issuing the Methodological Instructions of the Director General of the Nature Conservation and Landscape Creation Section of the Ministry of the Environment of the Slovak Republic on the establishment, organization and work of the intervention team

[13] *Výzva na prehodnotenie rozhodnutia a zastavenie plošného lovu medveďa hnedého na Slovensku* (An appeal of experts to the Ministry of Environment of the Slovak Republic on brown bear management, Bratislava 2025), https://www.aevis.org/wp-content/uploads/2025/05/appeal-to-the-slovak-ministry-for-bears_final_sk.pdf [accessed 6 December 2025].

and its regional groups for the brown bear.[14] The brown bear intervention team has been established as a separate department at the Directorate of the Slovak Forestry Agency since 1 December 2022, and is currently composed of twelve members, who are divided into three sections of four employees each, namely: Intervention Team North, Intervention Team South, Intervention Team West. The intervention team ensures nationwide care for the brown bear population, which also includes the exclusion of specific problem brown bear individuals from the population by killing (euthanasia).[15] In addition to using the tools required by law to eliminate dangerous brown bear individuals, the intervention team focuses mainly on educational, coordination and prevention activities.

Authorization of an exception to a prohibition represents a decision of the competent nature protection authority granting an exception to an *ex lege* prohibited activity concerning protected species. The law for granting an exception requires the cumulative fulfillment of three general conditions:
- it must be a justified case,
- there is no other economically and technically feasible alternative,
- it will not endanger the maintenance of a favourable status of the population in its natural range.[16]

The reason for granting an exemption may be:
- protection of the species concerned or protection of natural habitats,
- prevention of serious damage to crops, livestock, forests, fish farming, water management,
- public health or public safety of people,
- research and education,
- restoration of the population of the species concerned and their return to their habitats or for their cultivation or breeding in human care necessary for these purposes,
- taking, trapping or keeping of individuals in small numbers under strictly controlled conditions, on a selective basis and to a limited extent,
- declaring an emergency situation in connection with the undesirable occurrence of the brown bear.[17]

The last of the above reasons was added to the ZOPK in 2024. The reason for this legislative change was to shorten the process of granting an exception

[14] Methodological Instruction of the Director General of the Nature Conservation and Landscape Creation Section of the Ministry of the Environment of the Slovak Republic on the establishment, organization and work of the intervention team and its regional groups for the brown bear (under number 4970/2014-2.3 dated August 27, 2014.

[15] https://zasahovytim.sopsr.sk/o-nas-2/ [accessed 10 September 2025].

[16] The judgment of the Supreme Court of the Slovak Republic of 18 June 2020, File No. 3 Sžk 22/2019, also the resolution of the Constitutional Court of the Slovak Republic of 24 June 2014, File No. II ÚS 326/2014.

[17] Section 40(3) of the ZOPK.

in those areas if an emergency situation has been declared under Act No. 42/1994 Coll. on Civil Protection of the Population. This emergency event is to be identified based on an analysis of the area, so that within the limits of legal obligations according to the currently valid legal status, the relevant part and components of the local government monitor the occurrence of the population of large carnivores. Part of this change in the law is also the exclusion of the application of the Administrative Code (Act No. 71/1967 Coll.) to the process of granting exceptions to the ban, so that it is possible to achieve a legal status that will allow an exception to be issued in the shortest possible time for the purpose of eliminating problem individuals. For the sake of completeness, we add that part of this last amendment was also an obligation regarding the ban on creating bait stations that could attract bears. At the same time, it creates an obligation for local governments to purposefully remove existing bait stations, which should contribute to the return of the brown bear to its natural habitat. In the event that the absence of bait stations cannot be causally linked to the occurrence of large carnivores, the new legislation allows, by way of an exception, for the elimination of problem individuals whose occurrence and behaviour pose a potential threat to life, health, and property.[18]

Other obligations of the nature protection authority when issuing permits are regulated by Section 82, paras. 11 and 12 of the ZOPK. The competent authority shall also take into account the compliance of the permitted activity with the nature and landscape protection documentation and with the use of the territory (within the scope of land-use planning activities).

A specific content element of this group of decisions is the determination of the conditions for the performance of the activity, including measures to mitigate or eliminate the adverse effects of the permitted activity and the validity period of the issued consent and the permitted exception. In cases where the permitted exceptions to the prohibition are contested, the limited temporal validity of the decision may be the reason for terminating the proceedings, including proceedings before the court on the grounds that the subject matter of the proceedings has ceased to exist and has thus created an irremovable obstacle.[19]

When searching for judgments of the Supreme Court of the Slovak Republic (hereinafter: NS SR) in the field of nature and landscape protection, we came across a significant number of decisions in the field of granting exceptions to the ban, in particular for the shooting of brown bears. These were initiated in most cases by conservation associations, including a complaint to the Constitutional

[18] Explanatory report to Act No. 127/2024 Coll., amending Act No. 543/2002 Coll. on the Protection of Nature and Landscape, as amended, and amending Act No. 42/1994 Coll. of the National Council of the Slovak Republic on Civil Protection of the Population, as amended.

[19] See: The resolution of the Supreme Court of the Slovak Republic of 26 July 2016, File No. 6 SžO 130/2015.

Court of the Slovak Republic (hereinafter: ÚS SR), in which the complainant pointed out the issues of legitimacy and proportionality in granting exceptions to species protection. The ÚS SR states in its resolution rejecting the complaint: "As follows from the cited provisions, their purpose is not to exclude the granting of exceptions, but to establish the rules for their granting by defining the legitimate aim of the granted exception and by establishing criteria for assessing the proportionality of the interest in nature protection and the content of the permitted exception."[20]

In other proceedings, arguments of conservationists appear regarding the objection of the unreviewability of the contested decision, by which the nature conservation authority granted an exception for shooting, because there is no argumentation as to what facts established in the proceedings justify the assumption that the exception is capable of leading to the achievement of the pursued objective, since the reasons for synanthropization existing before the granting of the exception are not reduced by it. However, the NS SR stated that "if there is a threat to the health and safety of the population, mainly as a result of the synanthropization of the brown bear in the assessed localities, it is not possible to resolve the situation in real time otherwise than by granting an exception for the killing of this animal."[21] At the same time, however, it is necessary to bear in mind in these proceedings that the competent authority "is obliged in each individual case to examine the justification for granting an exception and to examine whether, from the point of view of nature protection (whether the brown bear population will not be endangered), it is necessary to adopt certain measures in specific locations that are necessary with regard to public safety of people."[22] A problematic aspect of granting exceptions to the shooting of brown bears for the safety of the inhabitants of the affected area is the fact that these exceptions are granted for the number of individuals, not specific individuals, which may ultimately result in a shooting that does not contribute to fulfilling the reason for granting the exception. The NS SR also dealt with this issue when it did not agree with the argumentation of the regional court and stated that "a protected animal is not identifiable to such an extent that it would be possible to mark a specific individual when causing damage, or when its behaviour threatens the safety of the population, and then kill this specific individual on the basis of a permit. Given the development of science and technology, it is not excluded that such an 'individual' approach will be possible in the future, but in the current state of affairs, the provisions of Act

[20] The resolution of the Constitutional Court of the Slovak Republic of 24 June 2014, File No. II ÚS 326/2014.

[21] The judgment of the Supreme Court of the Slovak Republic of 26 February 2018, File No. 5 Sžo 52/2016.

[22] The judgment of the Supreme Court of the Slovak Republic of 28 November 2016, File No. 10 Sžo 268/2015.

No. 543/2002 Coll. would be unfeasible according to the criterion of the regional court as stated in this way.”[23]

At the same time, we would like to point out the apparently established case law of the NS SR regarding the declaration of invalidity of the granted exception to the permit for the shooting of a protected animal – a brown bear. Assuming that the invalidity occurred upon the expiry of the period for which the exception was granted, this fact has the consequence that the subject matter of the proceedings has lapsed, because the exception that was the content of the decision has already expired and does not exist. The administrative authority, or rather the court, may (and even must) stop the proceedings on the exception, at any stage of the proceedings.[24]

The issues of judicial review of decisions granting an exemption from the ban have certain limitations due to the specific circumstances arising from the shooting. A valid permit for an exemption from the ban entitles the holder of this permit to carry out the shooting at a specified time. Any judicial review that would follow the shooting – provided that the aim of the judicial review is not only to review the legality of the decision, but also to protect the public interest in the protection of selected animal species – cannot be achieved without a decision granting suspensive effect to the administrative action. As a specific example, we would like to cite the application for the shooting of seven brown bears in the Liptovský Mikuláš district. The plaintiff – as a third sector entity, sought suspensive effect in order to prevent the shooting, which he considered to be unjustified, threatening the favourable status of the species and irreversible. Granting suspensive effect to the action in the sense of the plaintiff’s statement would not be contrary to the public interest. The administrative court may grant suspensive effect to an administrative action[25] if the immediate execution or other legal consequences of the contested decision would threaten serious harm, significant economic or financial damage, serious harm to the environment, or other serious irreparable consequence, and granting suspensive effect is not contrary to the public interest. The granting of an exception to the prohibition, on the basis of which individuals of a protected species are killed, is undoubtedly irreversible in nature and may lead to environmental damage, therefore the first of the two cumulatively required conditions for granting suspensive effect in this type of decision is clearly met. The question of meeting the condition that the suspensive effect will not be contrary to the public interest is particularly specific in this case, which is why we decided to present this specific example from application practice. Before submitting the application for an exemption

[23] The judgment of the Supreme Court of the Slovak Republic of 20 May 2015, File No. 2 Sžo 20/2014.

[24] The resolution of the Administrative Court in Banská Bystrica of 13 May 2025, File No. 3 S 61/2024.

[25] Pursuant to Section 185(a) of the Act of 21 May 2015 – Administrative Court Procedure.

permit for the shooting of seven brown bears, the relevant district office issued an emergency situation for the affected territory (Liptovský Mikuláš District) based on Act No. 42/1994 Coll. on Civil Protection of the Population. An emergency situation is understood to be a period of threat or a period of influence of the consequences of an emergency event on life, health or property. According to Section 3, para. 2, letter d) of the Civil Protection Act, an emergency event is also a condition that is assessed as a risk of endangering life, health or causing damage to crops, livestock or serious damage to property in connection with the occurrence of a brown bear in the territory in which an emergency situation is declared. The declaration of an emergency situation defined the need to protect the public interest, which in the case we describe comes into conflict with the public interest in protecting the environment, specifically a protected species of animal. The Administrative Court stated here that the mere general finding that the suspensive effect would not be contrary to the public interest does not constitute a reason to grant a motion to order the suspensive effect of an administrative action, especially after taking into account the declared state of emergency under the Civil Protection Act.[26]

We have encountered a similar case in other parts of Slovakia, and the plaintiff's procedure was identical. The administrative court assesses the issue of granting suspensive effect each time according to the specific circumstances of the case, while the threat of immediate harm to an interest protected by law is obliged to be demonstrated by the plaintiff, and not only as a hypothetical possibility. When deciding on such a proposal, the administrative court must take into account the exceptional nature of this institute, which interferes with a legally valid and enforceable decision of a public administration body, and the degree of interference with the plaintiff's rights must be assessed.[27]

Another procedurally significant aspect that is part of the proceedings concerning the shooting of the brown bear is the issue of the procedural status of non-governmental organizations and their possibility to enter into the proceedings in the procedural status of the interested public.

The Court of Justice of the European Union has recognized the status of a party to the proceedings of the interested public even in proceedings that were not preceded by proceedings under the EIA Act, in connection with the application of Article 9(3) of the Aarhus Convention. The Court of Justice has thus recognized the status of a party to the proceedings of the interested public, for example, in administrative proceedings concerning the granting

[26] The resolution of the Administrative Court Bratislava of 30 April 2025, File No. 4 S 32/2025.

[27] The resolution of the Administrative Court Bratislava of 25 April 2025, File No. 3 S 142/2024; the resolution of the Supreme Court of the Slovak Republic of 30 May 2018, File No. 7 Sžsk 17/2018, the resolution of the Constitutional Court of the Slovak Republic of 30 May 2017, File No. III ÚS 364/2017-16.

of an exemption from the brown bear protection regime (judgment of 8 March 2011, Lesoochranárske zoskupenie VLK, C-240/09). However, the Court has clearly established that the rights of participation granted to the public by Article 6 of the Aarhus Convention apply only where a decision is taken on a proposed activity having a significant impact on the environment (judgment of 20 December 2017, Protect Natur-, Arten- und Landschaftsschutz Umweltorganisation, C-664/15, paras. 64 to 67). This does not therefore apply to cases where a negligible or minor impact on the environment is identified. Although the complainant is a non-governmental organization which declares an interest in environmental protection, it does not therefore have the status of party to the proceedings in any authorization procedure, but only in one which is likely to have a significant impact on the environment and which such an impact is also the subject of an argument by such an NGO.[28]

5. Conclusions

The brown bear has been the subject of social, political, conservation and legal debates in the Slovak Republic in recent years.

These debates around downgrading the protection of large carnivores, such as bears, have become deeply political, especially in areas where these species are recovering in mainland Europe and also North America. Various viewpoints on lethal control, either by target or non-target removals or through culling by authorities or public hunting schemes, have particularly exacerbated the polarization around large carnivore conservation and are often riddled with biased arguments.[29]

This largest Slovak beast arouses various emotions in the public, which creates the material basis for the legal regulation, according to which we can already speak of a relatively effective process of granting exceptions to species protection, and thus the *de facto* shooting of the brown bear. However, it is questionable whether these decisions on granting exceptions are effective in ensuring the protection of the population and the elimination of problematic individuals. A difficult aspect is the factual impossibility of assigning the issued exception to a specific individual of a protected species, because exceptions are granted

[28] The judgment of the Supreme Administrative Court of the Slovak Republic of 31 March 2025, File No. 7 Svk 3/2023.

[29] M. Kutal, M. Duľa, M. Haring, J. V. López-Bao, *Deeply Political and Populist Decisions on Large Carnivores in Europe in Recent Times*, “Conservation Letters” 2025, vol. 18, no. 4, e13125.

for the number of individuals occurring in a specific area, but these individuals are not identified in advance in any way, and therefore are not clearly determined even during the shooting. It is therefore questionable what facts established in the proceedings for granting an exception justify the assumption that granting an exception is conducive to the achievement of the intended goal. Neither the *de facto* conditions for synanthropization that were prior to the granting of the exception nor the implementation of the shooting may change or be reduced. From a procedural and legal point of view, we consider the described situation to be absurd. However, it is also necessary to take into account the issue of *de facto* protection of the population, when, due to the relatively frequent cases of bear attacks, it is necessary to actively resolve the situation, unfortunately, often by shooting problematic brown bear individuals. The relatively difficult question of the correctness of the procedure, in our opinion, finds a solution in improving monitoring and unambiguous identification of problematic individuals, which can subsequently be eliminated.

Bibliography

Professional and academic publications

Lešová A., Antal V. (eds.), *Ochrana a manažment veľkých šeliem na Slovensku*, Štátna ochrana prírody SR, Banská Bystrica 2015.

Legally binding and non-legally binding documents and legislation

The Act of 21 May 2015 – No. 162/2015 Coll. Administrative Court Procedure

The Act of 25 June 2002 – No. 543/2002 Coll. on Nature and Landscape Protection

The Decree of the Ministry of the Environment of the Slovak Republic of 19 April 2021 – No. 170/2021 Coll. implementing Act No. 543/2002 Coll. on Nature and Landscape Protection, as amended

The Decree of the Ministry of the Environment of the Slovak Republic of 13 November 2015 – No. 371/2015 Coll. implementing certain provisions of the Waste Act

Explanatory report to The Act of 21 May 2024 – No. 127/2024 Coll. amending The Act of 25 June 2002 – No. 543/2002 Coll. on Nature and Landscape Protection, as amended, and amending The Act of 27 January 1994 No. 42/1994 Coll. on civil protection of the population as amended.

Methodical Instruction of the Director General of the Nature Protection and Landscape Creation Section of the Ministry of the Environment of the Slovak Republic on the establishment, organization and work of the intervention team and its regional groups for the brown bear under number 4970/2014-2.3 dated August 27, 2014.

The judgment of the Supreme Court of the Slovak Republic of 28 November 2016, File No. 10 Sžo 268/2015.

The judgment of the Supreme Court of the Slovak Republic of 20 May 2015, File No. 2 Sžo 20/2014.
The judgment of the Supreme Administrative Court of the Slovak Republic of 31 March 2025, File No.7 Svk 3/2023.
The judgment of the Supreme Court of the Slovak Republic of 26 February 2018, File No. 5 Sžo 52/2016.
The judgment of the Supreme Court of the Slovak Republic of 18 June 2020, File No. 3 Sžk 22/2019.
The resolution of the Supreme Court of the Slovak Republic of 26 July 2016, File No. 6SžO 130/2015.
The resolution of the Administrative Court in Banská Bystrica of 13 May 2025, File No. 3 S 61/2024.
The resolution of the Administrative Court Bratislava of 30 April 2025, File No. 4 S 32/2025.
The resolution of the Administrative Court Bratislava of 25 April 2025, File No. 3 S 142/2024.
The resolution of the Supreme Court of the Slovak Republic of 30 May 2018, File No. 7 Sžsk 17/2018.
The resolution of the Constitutional Court of the Slovak Republic of 30 May 2017, File No. III ÚS 364/2017-16.
The resolution of the Constitutional Court of the Slovak Republic of 24 June 2014, File No. II ÚS 326/2014.

Internet sources

http://www.biomonitoring.sk/ [accessed 10 September 2025].
Haring M., Silviu Ch., Miha K., Ivan K., *Defining, preventing, and reacting to problem bear behaviour in Europe*, https://www.academia.edu/26354474 [accessed 6 December 2025].
Kutal M., Duľa M., Haring M., López Bao J. V., *Deeply Political and Populist Decisions on Large Carnivores in Europe in Recent Times*, "Conservation Letters" 2025, vol. 18, no. 4, e13125, https://conbio.onlinelibrary.wiley.com/doi/10.1111/conl.13125 [accessed 14 December 2025].
Odhad velikosti populace medvěda hnědého (Ursus arctos) na Slovensku analýzou DNA (a study of the estimation of the brown bear population size prepared by the Faculty of Natural Sciences, Charles University in Prague by: N. Tkáčová, J. Šrutová, B. Černá Bolfíková, V. Kornová, M. Apfelová, M. Kalaš, V. Antal, S. Finďo, M. Hletko and P. Hulva, https://www.sopsr.sk/news/file/00%20%C5%A0T%C3%9ADIA%20FINAL%20-%20Velikost_populace_medved_Slovensko2.pdf [accessed 10 September 2025].
https://www.sopsr.sk/web/?cl=251 [accessed 10 September 2025].
Výzva na prehodnotenie rozhodnutia a zastavenie plošného lovu medveďa hnedého na Slovensku (appeal of experts to the Ministry of Environment of the Slovak Republic on brown bear management), Bratislava, May 1, 2025, https://www.aevis.org/wp-content/uploads/2025/05/appeal-to-the-slovak-ministry-for-bears_final_sk.pdf [accessed 6 December 2025].
https://zasahovytim.sopsr.sk/o-nas-2/ [accessed 10 September 2025].

Jana Šmelková, Martin Dufala

Niedźwiedź brunatny w systemie prawnym Republiki Słowackiej – monitoring, ochrona, odpowiedzialność

Streszczenie

Niedźwiedź brunatny (*Ursus arctos*) jest gatunkiem zwierzęcia chronionym na podstawie ustawy nr 543/2002 Zb. o ochronie przyrody i krajobrazu. Poziom ochrony tego gatunku bezpośrednio wpływa na istnienie odpowiedzialności państwa za szkody wyrządzone przez jego działalność. W niniejszym opracowaniu podejmujemy problematykę regulacji prawnej statusu niedźwiedzia brunatnego, jego aktywności i poziomu ochrony. Nasza analiza opiera się zarówno na przepisach prawa Republiki Słowackiej, jak i na źródłach prawa międzynarodowego oraz europejskiego. Przyczyną wyboru tego tematu są aktualne problemy prawnej i faktycznej ochrony niedźwiedzia brunatnego na terytorium Republiki Słowackiej, które stały się przedmiotem dyskursu nie tylko naukowego, lecz (niestety) także politycznego.

Słowa kluczowe: niedźwiedź brunatny, zwierzę chronione, gatunek wyznaczony, monitoring, odstępstwo od zakazu, odstrzał

Яна Смелкова, Марцин Дуфала

Бурый медведь в правовой системе Словацкой Республики – мониторинг, защита, ответственность

Резюме

Бурый медведь (*Ursus arctos*) является охраняемым видом животных в соответствии с законом № 543/2002 Zb. о защите природы и ландшафта. Уровень защиты этого вида напрямую влияет на ответственность государства за ущерб, причиненный его деятельностью. В данном исследовании рассматривается правовое регулирование статуса бурого медведя, его активности и уровня защиты. Наш анализ основан как на правовых положениях Словацкой Республики, так и на источниках международного и европейского права. Причиной выбора данной темы являются актуальные проблемы правовой и фактической защиты бурого медведя на территории Словацкой Республики, которые стали предметом не только научного, но и (к сожалению) и политического дискурса.

Ключевые слова: бурый медведь, охраняемое животное, биоиндикатор, мониторинг, отступление от запрета, отстрел

Jana Šmelková, Martin Dufala

L'orso bruno nell'ordinamento giuridico della Repubblica Slovacca – monitoraggio, protezione, responsabilità

Sommario

L'orso bruno (Ursus arctos) è una specie animale protetta ai sensi della legge n. 543/2002 R. sulla protezione della natura e del paesaggio. Il livello di protezione di questa specie influisce direttamente sull'esistenza della responsabilità dello Stato per i danni causati dalla sua attività. Nel presente studio affrontiamo la questione della regolamentazione giuridica dello status dell'orso bruno, della sua attività e del suo livello di protezione. La nostra analisi si basa sia sulle disposizioni legislative della Repubblica Slovacca, sia sulle fonti del diritto internazionale ed europeo. La scelta di questo tema è motivata dalle attuali problematiche relative alla tutela giuridica e fattuale dell'orso bruno sul territorio della Repubblica Slovacca, che sono diventate oggetto di un dibattito non solo scientifico, ma (purtroppo) anche politico.

Parole chiave: orso bruno, animale protetto, specie indicata, monitoraggio, deroga al divieto, abbattimento

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Restorative justice in environmental law – conceptual and normative foundations*

Abstract: This article focuses on administrative law issues related to the possibility of handling administrative offenses in environmental protection using a restorative approach. First, it analyses selected substantive and procedural institutions of administrative law, theoretical issues of the approach, and examines the existing legal situation. It then formulates findings and, on this basis, evaluates the assumptions of the current legal framework in terms of more effective involvement of the perpetrator of an administrative offense in eliminating its negative consequences. Following the analysis, the article also deals with *de lege ferenda* proposals.

Keywords: restorative approach, administrative offences, environmental protection

Introduction

The concept of alternative dispute resolution is relatively broad. This broad definition is based on the term "alternative," which mainly reflects the fact that it is an alternative formalised process of authoritative decision-making by

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approved entities, most often courts or other public authorities. These procedures usually result in an agreement between the parties concerned, which is an alternative to a judicial decision. In such a case, the conflicting parties do not even bring their dispute before the court, or the agreement reached outside the court leads to an amicable conclusion of the proceedings that have already been initiated in court, but without a court decision on the merits of the dispute.[1]

1. Alternative (restorative) approach in Slovak criminal law

1.1. Characteristics of restorative justice

One of the distinctive features that characterise the current development of modern criminal law is the effort to rationalise the judiciary in order to lighten the burden on the courts, while also contributing to shortening the duration of criminal proceedings and reducing their financial intensity. At the same time, the ideals of restorative justice are increasingly being promoted in the criminal law of individual countries,[2] the premises of which are based on the conviction that, if the offender is to assume real personal and not merely formal criminal responsibility for what he or she has caused by their offence, the offender must first become fully aware of, acknowledge and understand his or her actions in their wider social and factual context, not just in their purely criminal consequences.[3] This is a revolutionary concept in its own way, innovating the process of resolving conflicts of persons' actions with legal norms, where active participation, reparation, reconciliation and reintegration take centre stage.[4]

"Restorative justice" has become a term that is widely used in the criminal justice system (and in other justice systems). It emphasises restoration of the victim and society, rather than punishment of the offender. Restorative justice aims not only to enhance justice and reduce crime but primarily to restore social

[1] P. Molitoris, *Konsenzuálne prostriedky alternatívneho riešenia sporov v správnom konaní*, University of Pavol Jozef Šafárik in Košice, Košice 2016, pp. 19, 20.

[2] For more details, see Š. Zeman, *Restoratívna justícia ako aktuálna výzva pre trestný systém a niektoré možnosti inšpirácie*, "Bulletin of Slovak Advocacy" 2015, no. 9, pp. 27–37.

[3] V. Černíková, *Sociální ochrana. Kriminologický pohled na terciární prevenci*, Police Academy of the Czech Republic, Prague 2005, p. 132.

[4] Š. Zeman, *Odklony ako nástroje restoratívnej justície v slovenskom trestnom práve a ich reálne uplatňovanie v praxi*, https://www.epi.sk/clanok-z-titulky/odklony-ako-nastroje-restorativnej-justicie-v-slovenskom-trestnom-prave-a-ich-realne-uplatnovanie-v-praxi-aktualita.htm [accessed 7 October 2025].

harmony and address the harm caused by unlawful acts. To see the goal solely in the reduction of crime impoverishes the mission of restorative justice. The latter equally seeks to offer practical advice on how citizens can lead a good life, with the aforementioned fight against injustice as the main goal. “Restorative process” is defined as any process in which the victim, the offender, or any other person or members of the community affected by the crime actively participate together in resolving issues arising from the crime. Often with the assistance of an impartial third party.[5]

The concept of restorative justice can thus be characterised as so-called restorative justice, which is based on the ideology that the offender should take not only formal criminal but also personal responsibility for his or her wrongful actions. It is therefore essential that the perpetrator of such an offence first realises, acknowledges and understands the consequences of his or her actions, not only in criminal terms, but above all in their social and wider factual context.[6] Following the informality of the restorative justice process as a response to the offence committed, “where the offender takes responsibility for his or her actions and actively participates in making amends, victim empowerment occurs and there is no stigmatisation of the offender, it is effective in terms of preventing reoffending.”[7] The proponents of the restorative approach believe that if the accused is actively involved in dealing with the situation he or she has caused, he or she will be much more aware of the consequences of his or her wrongdoing than if he or she were merely a passive observer, and that the offender’s active approach also brings greater satisfaction to the victims, who are thus not left to await the outcome of the criminal proceedings, in which they can only participate to a limited extent.[8] Hayes[9] states that restorative justice has positive effects on offenders and victims: “It is clear that restorative justice has many benefits for victims, offenders and the community. Victims benefit from active participation in the restorative process. Offenders benefit from opportunities for reparation and compensation. Society benefits from restorative justice negotiations that resolve its conflicts.” In this sense, restorative justice has

[5] T. Strémy, L. Kurilovská, M. Vráblová, *Restoratívna justícia*, Leges, Prague 2015, pp. 15, 21.

[6] M. Čelár, D. Gibalová, *Restoratívna justícia a aplikácia odklonov v podmienkach SR z hľadiska teórie a praxe*, https://www.projustice.sk/bezpecnostne-vedy/restorativna-justicia-a-aplikacia-odklonov-v-podmienkach-SR-z-hladiska-teorie-a-praxe [accessed 6 October 2025].

[7] J. Hulmáková, *Kriminalita mládeže*, in: *Základy kriminologie a trestní politiky*, (eds.) J. Kuchta, H. Válková et al., C.H.Beck, Prague 2005, p. 291.

[8] Š. Zeman, *Odklony ako nástroje restoratívnej justície v slovenskom trestnom práve a ich reálne uplatňovanie v praxi*, https://www.epi.sk/clanok-z-titulky/odklony-ako-nastroje-restorativnej-justicie-v-slovenskom-trestnom-prave-a-ich-realne-uplatnovanie-v-praxi-aktualita.htm [accessed 7 October 2025].

[9] H. Hayes, *Reoffending and restorative justice*, in: *Handbook of Restorative Justice*, (eds.) G. Johnstone, D. W. Van Ness, Willan, Cullompton, UK 2007, p. 426.

achieved many goals (e.g., holding offenders accountable, which provides many opportunities to compensate victims not only symbolically but also materially, to encourage reconciliation between offenders, victims, and society).[10]

The most commonly used restorative justice programmes are: (a) Victim-offender Mediation ("Victim offender Mediation") – includes offender, victim, mediator, (b) Community and Family Group Conferences ("Family Group Conferences") – includes victim, offender, family members, friends, local political representatives, (c) Community Decision-Making Circles ("Peacemaking/ Sentencing Circles") – includes circular sessions of the victim, offender, their loved ones, and community members, also representatives of the judiciary, that is, judge, prosecutor, defence counsel.[11] Although these restorative justice goals can be achieved in a number of ways, the most comprehensive appears to be the gradual expansion of alternative procedures in criminal justice systems in each country's legal system and their effective application in practice.[12]

1.2. Alternative sentences in criminal law

In the Slovak Republic, there are several institutes which promote a restorative approach to punishing offenders. To these, it is necessary to add the substantive aspect of the regulation of alternative punishments in the criminal law.[13]

The issues of alternative sentencing and restorative justice are interrelated. Restorative justice requires the offender to look back critically at his or her past and to understand the consequences of his or her actions in order to sincerely regret the wrongs committed, with the aforementioned motivating the offender to at least mitigate the wrongs caused. The way in which the message of restorative justice is delivered will, of course, vary from case to case. Choosing the right kind of punishment is a difficult task, especially if it is to act as a deterrent in the future, must be fair, proportionate and, at the same time, have a positive impact on the offender. Alternative punishments are a milder form of punishment, particularly in cases of less serious offences, which can be thought of as negligent offences or intentional offences which, by their nature, do not rise to the level of seriousness that justifies the imposition of a custodial sentence.[14]

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[10] H. Kury, T. Strémy, *Restoratívna justícia a alternatívne tresty – nové výsledky*, in: *Restoratívna justícia a alternatívne tresty v teoretických súvislostiach*, (ed.) T. Strémy, Proceedings of the International Scientific Conference, Leges, Prague 2014, p. 31.

[11] T. Strémy, L. Kurilovská, M. Vráblová, *Restoratívna justícia*..., p. 16.

[12] Š. Zeman, *Odklony ako nástroje*...

[13] Act No. 300/2005 Coll. Criminal Code, as amended (hereinafter: Criminal Code).

[14] A. Bajčíková, *Ako alternatívne trestanie formuje súčasnú podobu restoratívnej justície*, in: *Aktuálne výzvy mediácie a restoratívnej justície na Slovensku*, (ed.) G. Paľa, University of Prešov, Prešov 2024, p. 6.

In this way, they are intended to contribute to reinforcing the principle that imprisonment should be used only as a last resort – *ultima ratio*.[15]

The idea of introducing alternative punishments into the system of sanctions in the Slovak criminal legislation has gained currency, especially in the period after 2000. It was quite naturally brought about by the necessity to deal with the increased number of convicts, the need to build new prisons to accommodate the increased number of convicts, the increase in the costs for the execution of sentences incurred by the state, the uneconomical nature of punishment, etc.[16] The answer to the question of which sentences are considered alternative varies in academic circles. Some authors advocate the so-called broad concept of the range of alternative punishments and include among them all punishments not connected with imprisonment, that is, suspended imprisonment, suspended imprisonment with probation supervision, punishment of forfeiture of property, house arrest, compulsory labour, expulsion, prohibition of activity, monetary punishment, and punishment of prohibition of participation in a public event.[17] Záhora includes among the alternative punishments the punishment of house arrest, the punishment of compulsory labour, the punishment of monetary punishment, the conditional suspension of the execution of the sentence, the conditional suspension of the execution of the sentence with probationary supervision.[18] Bajčíková is of the opinion that the alternative punishment should be truly expressed by the nature of the punishment in question, and that it should not be individual forms of imprisonment, which include conditional suspension of imprisonment and conditional suspension of imprisonment with probationary supervision. In the case of these penalties, they are not separate types of penalties, as they are merely different forms of implementation of a custodial sentence. Therefore, in the light of the above conditions, the sentence of house arrest, the sentence of compulsory labour and the sentence of a fine are considered alternative sentences.[19]

Although on the one hand, imprisonment fulfils the protective and repressive function of punishment, on the other hand, it has very little educational effect, particularly in the case of short-term custodial sentences, which do not provide sufficient time to re-educate the offender. At the same time, numerous negatives must always be taken into account when imposing this punishment (especially in the case of less serious offences and juveniles), such as criminalisation and

[15] D. Mašľanyová, E. Szabová et al., *Trestné právo hmotné. Všeobecná a osobitná časť*, Aleš Čeněk Publishing House, Plzeň 2021, p. 153.

[16] V. Čečot, N. Kánová, *Alternatívne tresty – jeden z moderných prostriedkov trestnej politiky demokratického štátu II*, in: *Restoratívna justícia a systém alternatívnych trestov*, (ed.) T. Strémy, Proceedings of the International Scientific Conference, Leges, Prague 2017, pp. 393, 394.

[17] Ibidem, pp. 398, 399.

[18] J. Záhora, *Pojem a účel trestu, systém trestov,* in: *Trestné právo hmotné. Všeobecná časť*, (eds.) J. Ivor et al., Iura Edition, Bratislava 2006, p. 356.

[19] A. Bajčíková, *Ako alternatívne trestanie...*, p. 7.

the associated criminal contagion, as well as the stigmatisation of the criminal label, which acts as an obstacle to the offender's social reintegration, or the destruction of positive links with family, friends and the home environment, the lack of consideration for the victim, and so on.[20] These emerging problems have prompted the criminal policy (not only) in the Slovak Republic to introduce alternative procedural procedures through the so-called alternative procedures in criminal proceedings, without the need to conduct procedurally, evidentially and time-consuming proceedings before the court, in the substantive area of enabling the substantive conditions for the imposition of alternative punishments as an option to imprisonment, respectively, the imposition of alternative sentences. Creating conditions for so-called alternatives to punishment that can ensure the offender's rehabilitation even without imposing a custodial sentence, thus reinforcing the principle of the auxiliary role of criminal repression.[21]

It should be stressed that the existence of such approaches does not in itself guarantee that alternative measures, whether of a substantive or procedural nature, will actually fulfil their purpose. The effective application of individual measures in the practice of law enforcement authorities and the courts must also take into account all the circumstances of the case, that is, the nature of the offence committed and its consequences, the motives and personality of the offender, his or her behaviour before, during and after the offence, the prospects for his or her future personal development, the legitimate interests of the victims and, last but not least, the interests of society itself.[22]

1.3. Alternative procedures in criminal law

There is no consensus in the literature on a single definition of alternative procedures (in Slovak original: *odklony*). For the purposes of this article, we will consider alternative procedure in the narrower sense of the word to be a *criminal procedural method that allows for an optional alternative procedure from the trial of a criminal case at the main hearing, usually by an out-of-court, less formal alternative procedure, as opposed to the usually demanding trial procedure, which, after the taking of evidence, ends with a decision of the court on guilt and punishment.* Under the Slovak Criminal Procedure Code[23] (hereinafter: CP), the following are among the alternative procedures:

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[20] V. Černíková, *Sociální ochrana. Kriminologický pohled na terciární prevenci*, Police Academy of the Czech Republic, Prague 2005.

[21] D. Mašľanyová, Š. Zeman, *Nástroje restoratívnej justície v aplikačnej praxi SR – vývojové trendy a postrehy*, in: *Restoratívna justícia a systém alternatívnych trestov...*, pp. 125, 126.

[22] Ibidem.

[23] Act No. 301/2005 Coll. Criminal Procedure Code, as amended.

- conditional discontinuance of criminal prosecution (§ 216–217 of the Criminal Procedure Code),
- conditional discontinuance of prosecution of a cooperating defendant (§ 218 to 219 of the Criminal Procedure Code),
- conciliation (§ 220 to 227 of the Criminal Procedure Code),
- plea bargaining (§ 232 to 233 and 331 to 335 of the Criminal Procedure Code), and
- a criminal warrant (§ 353 to 357 of the Criminal Procedure Code).[24]

Ultimately, the aim of restorative justice is also to relieve the courts of unnecessary delays in court proceedings, which contributes both to reducing the overall length of criminal proceedings as a whole and to reducing their financial burden. Although these objectives can be achieved in various ways, we consider the use of alternative procedures to be the most effective solution.[25] This is an instrument based on the principles of restorative justice and its application is (as a rule) associated not only with the immediate or conditional discontinuance of criminal prosecution but also with a form of educational influence on the person against whom the criminal proceedings are conducted and against whom the alternative procedure is applied. In this context, it is important to note that alternative procedure does not constitute an element of decriminalisation, since the act remains a criminal offence, but an alternative way of dealing with the case and the waiver of a formal conviction are sufficient to achieve the preventive purpose of criminal law. The focus of their use should be on pre-trial proceedings in particular, where a more significant remedial or preventive effect can be achieved if the accused voluntarily accepts responsibility for his or her unlawful acts at an early stage of the criminal proceedings, which not only contributes to his or her successful re-socialisation, but to a large extent prevents, or at least minimises the risk of stigmatisation of the offender.[26] A higher level of application of alternative procedures already in the pre-trial stage of criminal proceedings should also benefit the entire criminal justice system, as the number of cases heard by the court would be reduced, which brings with it a relief of the burden on the

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[24] Some authors, especially the Czech ones, such as Ščerba and others, do not classify plea agreements or penalty orders as deviations. They justify this mainly by the fact that both of these institutions also contain a statement of guilt and punishment and are in the nature of a condemnatory judgment, thus failing to meet the typical prerequisite of a deviation. They justify this mainly by the fact that both of these institutions also contain a verdict on guilt and punishment and are in the nature of a condemnatory judgment, thereby failing to meet the typical prerequisite for alternative procedure, which is to deviate from the typical course of criminal proceedings and therefore end differently than with a decision on guilt and the imposition of a punishment. See, for example, Š. Zeman, *Odklony ako nástroje*... [accessed 7 October 2025].

[25] M. Čelár, D. Gibalová, *Restoratívna justícia*... [accessed 6 October 2025].

[26] Š. Zeman, *Odklony ako nástroje*... [accessed 7 October 2025].

court system, a reduction in the time of hearing of individual cases and, last but not least, a non-negligible economic benefit, consisting in reducing the costs of criminal proceedings while increasing their efficiency.[27]

Thus, at the pre-trial stage, it is possible to decide, by way of the aforementioned alternative procedures, on a conditional discontinuance of the prosecution, on a conditional discontinuance of the prosecution of a cooperating defendant, on a conciliation, and thus to bring the case to a final conclusion without bringing it to trial. The plea bargain is also considered by Slovak criminal law theory, due to its simplified form, as an alternative procedure, but it is not an alternative to punishing the perpetrator of the crime, since its application results in the imposition of a sentence.[28]

The primary purpose of the concept of **conditional discontinuance of criminal prosecution** is to simplify the hearing of factually and legally simpler criminal cases before the court (if the proceedings are about an offence with a punishment rate of up to five years), or at the main hearing, which results in the acceleration and economy of the criminal proceedings.

Only the public prosecutor may conditionally discontinue the prosecution (at the request of the police officer or even without a request of the police officer), provided that the accused agrees to it and if the following conditions are cumulatively met:

a) the accused declares that he or she has committed the act for which he or she is being prosecuted and there are no reasonable doubts that his or her declaration was made freely, seriously and intelligibly;
b) the accused has made good the damage, if any, caused by the act, or has made an agreement with the victim for its compensation or has made other necessary arrangements for its compensation; and
c) having regard to the person of the accused, his or her previous life and the circumstances of the case, such a decision may be considered sufficient.[29]

The public prosecutor shall, in the order on conditional discontinuance of the prosecution, place the accused on probation for a period of one to five years, during which the accused shall be obliged to compensate the victim for the damage. In some cases, the prosecutor may, at his or her discretion, also impose reasonable restrictions and obligations on the accused, which the accused is obliged to comply with, as they are directed towards his or her rehabilitation to lead an orderly life. However, the prosecution may not be conditionally discontinued if death has been caused by the offence or if the prosecution is brought

[27] Ibidem.

[28] M. Žilinka, *K alternatívnym spôsobom vybavenia trestných vecí podľa zákona č. 301/2005 Z.z. Trestný poriadok*, https://www.epi.sk/odborny-clanok/K-alternativnym-sposobom-vybavenia-trestnych-veci-podla-zakona-c-301-2005-Zz-Trestny-poriadok.htm [accessed 25 September 2025].

[29] § 216 and further CPC.

for corruption or against a public official or a foreign public official for an offence related to the exercise of their powers and within the scope of their responsibility. From the above it can be stated that the decision to suspend the prosecution is based on two decisions of the prosecutor, namely, the decision to suspend the prosecution and the decision to certify it, if the accused, during the probationary period, has compensated the damage caused to the victim, has led an orderly life and, if other restrictions and obligations have been imposed on him or her, has also complied with them. It is a *sui generis* decision due to its temporary nature, since the issuance of this decision does not definitively end the criminal proceedings and does not decide on the guilt and punishment of the accused.[30]

In the context of **conditional discontinuance of prosecution of a cooperating defendant**,[31] the prosecutor may propose conditional discontinuance of prosecution of a defendant who has significantly contributed to the clarification of corruption, the offence of establishment, conspiracy and support of a criminal group or a criminal offence committed by an organised group or a criminal group or the offence of terrorism, or in the detection or conviction of the perpetrator of such an offence, and the interest of society in the clarification of such an offence clearly and demonstrably outweighs the interest of society and the victim in the prosecution of the accused for such an offence or for any other offence; the prosecution may not be conditionally discontinued in respect of an organiser, instigator or principal of an offence in the discovery of which he or she participated. The decision to discontinue the prosecution shall be taken by the pre-trial judge after presentation of the case file and hearing of the accused or other persons, as the case may be. In the order on conditional discontinuance of prosecution, the accused shall be placed on probation for a period of two to ten years.

The primary purpose of the institution of **conciliation** is to settle the relations between the entities which have been affected in any way by the commission of the offence, by removing all the harmful consequences on the part of the accused which have occurred in the commission of the offence, both in relation to the victim and to society as a whole. The application of this institution does not contravene Article 6 of the European Convention for the Protection of Human Rights and Fundamental Freedoms (hereinafter: the Convention), which guarantees the right to due process, since the accused voluntarily waives that right by agreeing to a settlement.[32]

Only the public prosecutor may approve a conciliation and discontinue the prosecution in proceedings for an offence for which the law provides for a pen-

[30] M. Čelár, D. Gibalová, *Restoratívna justícia…* [accessed 6 October 2025].

[31] § 218 CPC.

[32] M. Prokeinová, in: *Trestný poriadok II. § 196–569*, (eds.) J. Čentéš, L. Kurilovská, I. Šimovček, E. Burda et al., C.H.Beck, Bratislava 2021, p. 231.

alty of imprisonment not exceeding five years, with the consent of the accused and the victim, if the accused:

a) declares that he or she has committed the act for which he or she is being prosecuted and there is no reasonable doubt that his or her declaration was made freely, seriously and definitely;
b) has made good the damage, if any, caused by the offence, has entered into an agreement with the victim or his attorney for the compensation of the damage or has made other arrangements for the compensation of the damage, or has otherwise remedied the damage caused by the offence;
c) deposits to the account of the court and, in the preparatory proceedings, to the account of the public prosecutor's office, a sum of money designated to the Ministry for the protection and support of victims of crime under a special law, and that sum of money is not manifestly disproportionate to the seriousness of the offence committed; and
d) having regard to the nature and gravity of the offence committed, the extent to which the public interest has been affected by the offence, the person of the accused and his or her personal and financial circumstances, considers such a method of decision to be sufficient.

As in the case of a conditional discontinuance of criminal proceedings, a settlement may not be approved if the offence has caused the death of a person, if a prosecution for corruption is pending, or if a public official or a foreign public official is prosecuted for an offence committed in connection with the exercise of his or her powers and within the scope of his or her responsibility.[33]

In view of the above conditions, a precondition for the approval of a conciliation is an agreement between the injured and the accused as a bilateral legal act, which must be concluded before the consent of the subjects concerned is given, that is, the accused and the injured can only agree to the approval of a conciliation after a conciliation agreement has been concluded between them. If the prosecutor does not approve the settlement despite the fact that the accused has declared that he has committed the offence, this declaration cannot be considered as a confession or evidence in the subsequent proceedings, since his declaration only concerned the intended procedure of approving the settlement. At the same time, it is the duty of the prosecutor, assuming that the conciliation is not approved, to return to the accused the sum of money which was intended for the protection and support of the victims of crime.[34]

In practice, however, the above-mentioned institutes are rarely used. For example, *Správa generálneho prokurátora Slovenskej republiky o činnosti prokuratúry v roku 2020 a zistenia o stave zákonnosti v Slovenskej republike* (Report of the Prosecutor General of the Slovak Republic on the activities of the

[33] § 220 CPC.

[34] M. Čelár, D. Gibalová, *Restoratívna justícia…* [accessed 6 October 2025].

prosecutor's office in 2020 and observations on the state of legality in the Slovak Republic) (hereinafter: Report of the Prosecutor General) shows that in 2020 indictments were filed against 26,206 accused persons, while in the same period in 2020 conditional discontinuance of criminal prosecution under section 216 of the Criminal Procedure Code was imposed against 1,129 accused persons, which is 164 fewer accused persons than in 2019. The approval of a conciliation and the subsequent discontinuation of prosecution under Article 220 of the Criminal Procedure Code occurred in 2020 against 427 defendants, which is 64 fewer defendants than in 2019.[35] Prokeinová sees two reasons for this state of affairs with regard to conciliation: (I) the very nature of the institution – in addition to the accused, the consent of the victim is also required. Some victims resolutely refuse to agree to enter into a conciliation with the accused. In other cases, there are complex negotiations to reach an agreement between the accused and the injured party, the outcome of which may be favourable or unfavourable and no agreement is reached. To this end, an experienced probation and mediation officer plays a key role in order to increase the chances of a successful agreement between the accused and the victim. (II) In addition to compensation, the accused must deposit a sum of money designated to the Ministry for the protection and support of victims of crime under a special law.[36]

If the results of the investigation or summary investigation sufficiently justify the conclusion that the act is a criminal offence and was committed by the accused who has confessed to the commission of the act, has pleaded guilty and the evidence points to the truth of his or her confession, the public prosecutor may initiate **proceedings for a plea bargain** at the initiative of the accused or even without such an initiative. The prosecutor shall summon the accused and the injured party who has duly and timely filed a claim for compensation to the plea-bargaining procedure, and the law imposes a duty on the prosecutor to take care to protect the interests of the injured party even during his or her possible absence. If an agreement on guilt, punishment and other terms has been reached, the prosecutor shall submit to the court, within the scope of the agreement, a petition for approval of the plea agreement. If there is no agreement on compensation for damages, the public prosecutor shall draw the court's attention to this fact in the application for approval of the plea agreement and suggest that the court refer the injured party to a civil trial or other proceedings to claim compensation for damages or part thereof. If no plea agreement is reached, the public prosecutor shall make an entry to that effect in the case file. If, in the course of the plea bargaining procedure, the accused pleads guilty to the offence in its entirety but there is no plea bargain, the public

[35] *Správa generálneho prokurátora Slovenskej republiky o činnosti prokuratúry v roku 2020 a zistenia o stave zákonnosti v Slovenskej republike*, in: M. Čelár, D. Gibalová, *Restoratívna justícia…* [accessed 6 October 2025].

[36] M. Prokeinová, in: *Trestný poriadok II.…*, p. 241.

prosecutor shall file an indictment stating the offence admitted by the accused, its legal qualification, the plea of guilty and shall request the court to hold a main hearing and to decide on the sentence and other statements which have a basis in the guilty verdict. If, in the plea bargaining procedure, the accused pleads guilty only in part, the public prosecutor shall file an indictment stating the act admitted by the accused, its legal qualification and the plea of guilty to that extent, as well as the act and its legal qualification, which the accused has not admitted, and shall request the court to conduct the main hearing to the extent to which the accused has not admitted the commission of the act and to the further extent necessary, and to decide on guilt, punishment and other statements which have a basis in the guilty verdict. If the accused and the injured party have concluded an agreement on the guilt and punishment or on other sentences, the public prosecutor shall submit to the court a motion for approval of the agreement.

The draft plea agreement can be characterised as a special decision of the public prosecutor, which only the public prosecutor is entitled to submit to the court for approval if an agreement on guilt and punishment or other sentences has been reached at the end of the investigation or summary investigation. It can be concluded from the above that, although only the court can approve a plea agreement, the prosecutor ultimately has the decisive role in concluding it. The plea agreement procedure consists of two stages, namely the proceedings before the public prosecutor and the proceedings before the court.[37] Its aim is to contribute to simplifying, streamlining and shortening the duration of criminal proceedings, while at the same time relieving the courts of the need to hear criminal cases in the main hearing. Compared to conditional discontinuance of prosecution and amicable settlement, the institution of plea bargaining is the most frequently used, although in recent years there has been a decline in its use. The plea bargain has an advantage over the aforementioned alternative procedures because it is not limited to offences, but applies to all offences regulated in a special part of the Criminal Code.[38] In practice, however, the conclusion of a plea and sentence agreement under section 232 of the Criminal Procedure Code occurred in 2020 with only 1,356 defendants, which is 510 fewer defendants than in 2019.[39]

Finally, a **criminal warrant** may be issued by a single judge without a trial at the main hearing if the facts are reliably established by the evidence taken. A criminal warrant may impose:

a) a sentence of imprisonment of up to three years,

b) a sentence of prohibition of activity,

[37] M. Čelár, D. Gibalová, *Restoratívna justícia*... [accessed 6 October 2025].

[38] M. Prokeinová, in: *Trestný poriadok II.*..., pp. 276–286.

[39] *Správa generálneho prokurátora Slovenskej republiky*...

c) a fine,
d) a sentence of forfeiture of property,
e) a sentence of compulsory labour if the accused agrees to it,
f) a sentence of house arrest,
g) a sentence of expulsion,
h) a sentence of prohibition of residence,
i) a sentence of prohibition of participation in public events,
j) a measure of protection.[40]

The penalty of compulsory labour may be imposed by a criminal warrant only after a prior report has been requested from the probation and mediation officer on the possibilities of imposing and properly executing this penalty and the opinion of the accused on the imposition of this penalty. The penalty of house arrest may be imposed by a criminal order only after a prior request for a report from the probation and mediation officer on the possibilities of imposing and duly executing this penalty, including the opinion of the accused on the imposition of this penalty and an examination of the conditions for controlling the execution of this penalty by technical means.

A criminal warrant is a simplified form of a criminal conviction and is terminologically classified in the literature as a specific alternative procedure in criminal proceedings. Its main purpose is to contribute to the simplification and acceleration of criminal proceedings. Simplification results in particular from the manner of handling a criminal case outside the main hearing, which consists in the fact that the court does not decide on the basis of the taking of evidence at the main hearing, but only on the basis of the case file submitted to it together with the prosecutor's indictment, and it is issued *ex cathedra*, that is, without hearing the case at the main hearing and without the parties' participation. Unlike other alternative procedures, this one does not apply in the preparatory proceedings and is not decided by the public prosecutor. Nor does its procedural procedure correspond comparatively to other alternative procedures, nor does it correspond to the general definition of alternative procedure, according to which an alternative procedure is an alternative procedure from the typical course of criminal proceedings, which may, as a rule, result in the court's decision on the guilt of the accused. Its purpose is an attempt to rationalise the criminal justice system, taking into account the overall workload of judges due to the increase in crime, and an attempt to make the administration of criminal justice more efficient, in cases that are factually and legally simpler. This is particularly the case for petty crime, which allows the judiciary to concentrate on serious crime.[41]

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[40] § 353 CPC.

[41] D. Hamranová, in: *Trestný poriadok II. § 196–569*, (eds.) J. Čentéš, L. Kurilovská, I. Šimovček, E. Burda et al., C.H.Beck, Bratislava 2021, pp. 681–694.

2. Restorative justice in administrative law

From all the definitions and conceptual characteristics of restorative justice discussed above, it is clear that the concept of litigation is more typical of the field of adjudication where the parties to a dispute are entities with conflicting claims to rights, interests or duties and the impartial arbiter is a judge. The question of whether it is also possible to find fulfilment of the identifying features of a dispute in the context of the exercise of public administration has also been addressed by experts. According to Molitoris, the element of controversy is, in certain circumstances, an integral part of decision-making processes in public administration. In order to take account of the element of controversy in the exercise of public administration, controversy will, in principle, only need to be taken into account in the design of decision-making processes. In fact, controversy has a place only where the parties to a dispute formulate their opposing positions on the basis of their own decision, conditional on a range of factors and information which they have taken into account in their decision-making. If there is no objective alternative to the solution adopted and, for example, there can be no alternative to the wording of a piece of legislation, it is difficult to consider the scope for dispute. In the context of public administration, the legal basis for accessible dispute resolution is a *condictio sine qua non*, taking into account the principle of legality and the constitutional limitations of Article 2(2) of the Constitution of the Slovak Republic.[42] Thus, disputes in the field of public administration will generally be the result of disagreement with such an action or decision taken or intended to be taken by a public administration entity which, in the subjective opinion of the dissatisfied party, has violated or may violate the rights, duties or interests of specifically identified entities or the public. The potential for dispute in the broadest sense (i.e., notwithstanding the need for a formalised dispute procedure) can be identified in virtually any of the above decision-making processes.[43]

We see scope for the application of elements of alternative or restorative justice, for example, in the area of administrative punishment. Comparable reasoning appears in Slovak doctrinal discussions on environmental administrative enforcement, where Michalovič and Jenčo underline that efficient accountability mechanisms must go hand in hand with preventive and remedial functions of environmental administration, not merely with punitive control.[44] We also base the above on the decision-making of the European Court for Human Rights,

[42] Act No. 460/1992 Coll. Constitution of the Slovak Republic.

[43] P. Molitoris, *Konsenzuálne prostriedky...*, pp. 29, 30.

[44] M. Michalovič, J. Jenčo, *Koncepcia boja proti environmentálnej protiprávnej činnosti ako základný kameň revízie starostlivosti o životné prostredie v podmienkach SR*, in: *Bratislavské právnické fórum 2022: Increasing the effectiveness of combating illegal activities in the field*

according to which Article 6(1) of the Convention includes the notion of any accusation of a criminal nature, that is, not only criminal accusations in criminal proceedings, but also, under certain conditions, in administrative criminal proceedings (imposing liability for an administrative offence). Accordingly, the guarantee of rights or the right to a fair trial will also apply to the hearing of administrative offences, and thus rights typical and known from criminal proceedings will also be applied and included in administrative proceedings.

In view of the nature of criminal proceedings and the specific nature of the penalties imposed for criminal offences, the types of procedural derogations and the extent to which they are used in the field of administrative penalties will be narrower. It should be noted that there are significant differences between administrative and judicial punishment. They stem primarily from the different functions of administrative and criminal liability, as well as the functions of administrative law and criminal law as legal branches of the Slovak legal order. The application of liability for administrative offences is part of the exercise of public administration. While the main function of criminal law, in particular criminal justice, is to adjudicate guilt and punishment for criminal offences, public administration manages and administers public affairs, which encompasses many diverse activities. Judicial punishment primarily seeks redress in conjunction with direct or threatened punishment, whereas administrative punishment primarily seeks redress in a different way, and punishment is to be applied only in the alternative.[45] It is precisely the fact that the public administration's activity is primarily of a different nature than criminal one that should result in the widest possible application of such procedural procedures that allow for a "painless" resolution of the citizen's conflict with the law, minimising the harm to the rights of both the subjects affected by the violation of the law and the perpetrator of the administrative offence.[46]

According to Horvat, administrative law, as a special law of public administration, is that branch of law for which public service is typical. Public administration is often characterised as providing a service to the public. This leads to the clear conclusion that if criminal law regulates institutions that can be included under restorative justice, and if public administration is a public service, then administrative law should also deal with these institutions.[47]

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of environmental care, (eds.) M. Durec Kahounová, V. Sokolová, Comenius University in Bratislava, Bratislava 2022, pp. 12–24.

[45] Z. Hamuľáková, *Správne delikty právnických osôb – vybrané inštitúty a problémy*, Wolters Kluwer, Bratislava 2017, p. 166.

[46] P. Molitoris, *Konsenzuálne prostriedky...*, p. 106.

[47] M. Horvat, *Zamyslenie sa nad restoratívnou spravodlivosťou/justíciou a možnosťami jej využitia v správnom práve*, in: *Súčasné uplatňovanie prvkov restoratívnej justície*, (eds.) J. Medelský et al., Eurokódex, Žilina 2013, p. 33.

3. Substantive aspects of administrative liability in environmental care

3.1. Legal regulation of the obligations of legal entities and natural persons

The Slovak legislation on the imposition of liability for administrative offences in environmental care is to be found in a number of pieces of legislation. It consists of both substantive and procedural legislation.

The system of statutory environmental protection legislation is based on a distinction between general and sectoral legislation. This structural distinction reflects what Michalovič and Maslen describe as one of the defining features of Slovak environmental law, which supports its recognition as an autonomous branch – the existence of a general framework (*lex generalis*) complemented by component acts (*lex specialis*), ensuring coherence across environmental governance.[48] The general basis and *lex generalis* is Act No. 17/1992 Coll. on the Environment[49] (hereinafter: the Environment Act). Its importance lies primarily in its subsidiary application in the application of specific laws which are *lex specialis* to it. These laws are also referred to as component laws because they are aimed at protecting a particular component of the environment. According to section 2 of the Environment Act, its components are, in particular, air, water, rocks, soil and organisms.

Lex generalis, in addition to defining the basic concepts and principles, also determines the obligations of legal entities and natural persons in the protection of the environment.[50] Within the provisions on liability for breach of obligations in environmental protection, it regulates, in § 28 and § 29, sanctions or other measures for environmental damage and, in § 30, the power of state administration authorities to decide on interim measures and, at the same time, to propose remedial measures. The *lex specialis*, in terms of the substantive regulation of the sanctioning of administrative offences, mainly regulates the facts of administrative offences. This includes a considerable number of laws, such as:

- Act No. 79/2015 Coll. on Waste (hereinafter: Waste Act),
- Act No. 543/2002 Coll. on Nature and Landscape Protection, as amended,
- Act No. 220/2004 Coll. on the protection and use of agricultural land and amending Act No. 245/2003 Coll. on integrated pollution prevention and control and on amending and supplementing certain acts,

[48] M. Michalovič, M. Maslen, *Advocating for environmental law – grounds for its status as an independent branch of law in Slovak legal doctrine*, "Prawne Problemy Górnictwa i Ochrony Środowiska" 2024, no. 2, pp. 1–26, https://doi.org/10.31261/PPGOS.2024.02.06.

[49] S. Košičiarová, *Právo životného prostredia. Všeobecná časť,* Aleš Čeněk Publishing House, Pilsen 2022, p. 105.

[50] M. Vrabko et al., *Environmentálne právo*, C.H.Beck, Bratislava 2025, p. 73.

- Act No. 364/2004 Coll. on Water and on amending Act No. 372/1990 Coll. of the Slovak National Council on offences, as amended (Water Act), as amended (hereinafter: Water Act),
- Act No. 15/2005 Coll. on the Protection of Species of Wild Fauna and Flora by Regulating Trade Therein and on Amendments and Additions to Certain Acts, as amended,
- Act No. 326/2005 Coll. on forests, as amended,
- Act No. 274/2009 Coll. on hunting and on amending and supplementing certain acts, as amended,
- Act No. 305/2018 Coll. on Protected Areas of Natural Water Accumulation and on Amendments and Additions to Certain Acts, as amended,
- Act No. 216/2018 Coll. on Fisheries and on the amendment of Act No. 455/1991 Coll. on Trade Enterprise (Trade Licensing Act), as amended,
- Act No. 146/2023 Coll. on Air Protection and on Amendments and Additions to Certain Acts, as amended (hereinafter: Air Act).

These and several other laws constitute a specific substantive and, to a minimum extent, procedural framework for the enforcement of administrative liability in environmental care, which are offences and administrative offences of legal persons and natural persons authorised to conduct business.

Offences are legally defined in Act No. 372/1990 Coll. on offences, as amended (hereinafter: the Act on Offences). An offence is a culpable act which violates or endangers the interest of society and is expressly designated as an offence in this or another Act, unless it is another administrative offence punishable under special legislation or a criminal offence.[51] Thus, an offence must involve the culpable conduct of a natural person, the conduct must fulfil a material characteristic, that is, it must violate or endanger the interest of society, and it must be expressly designated as an offence in the Act on Offences or in another law. The specific facts of offences are laid down in a specific part of the Act on Offences and are also regulated by specific laws. Act on Offences regulates only one type of offence in the field of environmental protection, namely under the provisions of section 45. Its factual essence is formulated in such a way that this offence is committed by a person who, by violating generally binding legal regulations on environmental protection in a manner other than that resulting from the provisions of sections 21 to 44 of the Act on Offences, worsens the environment. It is therefore applicable in the alternative in cases where the act cannot be subsumed under the facts of an offence under a special provision. It can thus be described as residual or residual.

Administrative offences committed by legal persons and natural persons authorised to conduct a business constitute an administrative sanction based on strict liability, that is, irrespective of fault. As stated by Košičiarová, in the case

[51] Provisions of section 2(1) of the Act on Offences.

of the administrative offences in question, "violations of the law by statutory bodies, employees or members are attributed to the legal entity as a whole, and the natural person engaged in business is the subject of the administrative offence, regardless of whether he or she or his or her employee has violated the obligation."[52] As we have already mentioned, their legal regulation is part of several legal acts compared to offences.

3.2. Penalties for offences and penalties for administrative offences committed by legal persons and natural persons engaged in business

A sanction is a consequence of both an offence and other administrative offences that is intended to deter the offender from further unlawful behaviour. It is a means of public-power coercion imposed by the administrative authority in administrative proceedings under the law.

According to Article 11 Act on Offences, the penalties for offences are: reprimand, fine, prohibition of activity, forfeiture of property. The Act on Offences, as a unifying code, regulates not only the different types of sanctions for offences, but also the rules for their imposition. The *lex specialis* regulating the elements of the facts of offences may also regulate the sanctions in relation to them in a special way. The sanction for offences and penalties for administrative offences committed by legal persons and natural persons engaged in business (hybrid administrative offences) is primarily a pecuniary penalty. Its amount for specific administrative offences and the specific rules for their imposition are governed by the *lex specialis*, since there is no substantive code governing the different types of penalties for hybrid administrative offences. Therefore, the type and amount of the sanction depends on what the provision of the specific law provides for. In addition to a fine, the special laws provide, in rare cases, for a prohibition of an activity, forfeiture of an object as a sanction (the aim is to prevent the object from being used again to commit an administrative offence and to make it more difficult for the offender to commit such an act again), a reprimand or a warning of a breach of the law, or publication of the decision on the administrative offence.[53] They may also regulate, for example, the rules on the imposition of fines for recidivism. As stated by Košičiarová, "a public administration body may have a specifically defined power in the law to impose a further fine for an administrative offence if a legal entity or a natural person entrepreneur has repeatedly breached an obligation (the same or a different one) within a statutory time limit. In these cases, the authority penalises the so-called recidivism. This is a situation where the same offender

[52] S. Košičiarová, *Právo životného prostredia*..., p. 294.

[53] M. Vrabko et al., *Environmentálne právo*..., p. 268.

commits an administrative offence under the same law again after the public authority has finally ruled on his or her previous administrative offence. The upper limit of the additional fine provided for by law is in principle higher, as the legislator considers recidivism to be a more serious offence."[54]

The basic objective of the legislation on administrative offences is to establish liability for the unlawful acts committed. The public administration thus has an important role to play, namely, to protect the interests of society. Legal theory uses the term *administrative punishment* to refer to the process of imposing sanctions and their enforcement by public authorities. Its social function is primarily repression, but it also has a protective and preventive function.[55] In the field of environmental protection, however, its most important task is to protect the environment from pollution or damage and to prevent the possible repetition of such conduct and the causing of ecological damage and harm under special regulations.

The repressive character of administrative punishment is exercised in relation to the perpetrator of the administrative offence by imposing a fair sanction.[56] On the basis of recent findings by independent inspection bodies, a penalty system based on fines appears to be unworkable. There are several reasons for this. One of them is the rapid development of legislation in the field of imposing liability for administrative offences against the environment and the frequent amendments to a considerable number of laws. These component laws, each protecting a specific element of the environment, contain numerous provisions defining administrative and environmental offences.[57] However, the findings of the Supreme Audit Office also point to a distortion in the performance of the SIŽP's activities due to the large number of proceedings on a number of complaints with minimal or no impact on the environment.[58] The evaluation of the

[54] S. Košičiarová, *Právo životného prostredia…*, p. 296.

[55] M. Vrabko et al., *Správne právo hmotné. Všeobecná časť*, C.H.Beck, Bratislava 2025, p. 200.

[56] Z. Hamuľáková, M. Horvat, *Základy správneho práva trestného*, Wolters Kluwer, Bratislava 2019, p. 17.

[57] For example, Act No. 79/2015 Coll. on Waste has amended 27 acts and regulates 30 offences in Article 115 and hundreds of provisions in Article 117 regulating the obligations, in case of violation of which the administrative authorities obligatorily impose a financial penalty for administrative offences on legal entities and natural persons engaged in business.

[58] Správa o výsledku kontroly 2024. Najvyššieho kontrolného úradu Slovenskej republiky: Prevencia znečisťovania životného prostredia a presadzovanie environmentálneho práva, p. 2. Available at the website of the Supreme Audit Office of the Slovak Republic (Najvyšší kontrolný úrad Slovenskej republiky), https://www.nku.gov.sk/sk/spravy-o-vysledkoch-kontrol-od-roku-2012?p_p_id=kisdataPortlet&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_r_p_mvcRenderCommandName=%2F&p_r_p_mvcRenderCommandName=%2F&_kisdataPortlet_q=&_kisdataPortlet_orderByCol=kontrolnaAkcia.evidencneCisloKA.keyword&_kisdataPortlet_orderByType=ASC&_kisdataPortlet_resetCur=false&_kisdataPortlet_delta=20&_kisdataPortlet_cur=26 [accessed 30 September 2025].

state of legality in the procedure and decision-making in the field of illegal waste disposal by the General Prosecutor's Office[59] shows that administrative authorities (municipalities, cities, environmental protection departments of district offices), among other shortcomings in their decision-making activities, impose minimal fines for offences and other administrative offences. This practice does not motivate offenders to comply with their legal obligations, as it is more financially advantageous for them to pay a relatively small fine than to ensure often costly measures in compliance with the law.[60]

However, in terms of the legal regulation of the level of the upper limit of fines and the criteria for their imposition, fines are set in most laws in a manner proportionate to the nature of the breach of legal obligations and their consequences. It can be concluded that they meet the requirements of the protection of an important public interest. An exception is made for monetary fines for offences, where the level set does not correspond to the requirement of effective protection[61] against unlawful activity.

In the case of hybrid administrative offences, fines in excess of 50,000 EUR or 100,000 EUR are no exception.[62]

4. Procedural aspect of administrative liability in environmental care

4.1. Administrative proceedings prior to the initiation of administrative offences proceeding

Public authorities are obliged to ensure compliance with legislation and the fulfilment of obligations arising from it. This obligation is carried out through administrative supervision procedures and administrative proceedings for administrative offences.

[59] Evaluation of the state of legality in the procedure and decision-making of public administration bodies in the field of illegal waste placement according to Act No. 79/2015 Coll. on Waste and the state of legality in the procedure of law enforcement authorities in the case of illegal waste management, https://www.genpro.gov.sk/fileadmin/Ine_dokumenty/Zhodnotenie_o_odpadoch_2024.pdf [accessed 28 September 2025].

[60] Z. Hamuľáková, *Správne delikty právnických osôb...*, p. 224.

[61] According to Article 45 of the Act on Offences a fine of up to 99 EUR may be imposed for an offence in the field of environmental protection.

[62] For example, under section 117 of the Waste Act, a fine of up to 350,000 EUR may be imposed, and under section 75(9) of the Water Act, a fine of up to 165,000 EUR may be imposed.

Administrative supervision is a specific type of control activity of public administration bodies. It is a procedure by which the actual situation is ascertained and subsequently compared with the situation required by law or obligations imposed by decisions on an administered entity. If infringements of legal provisions have been detected in the course of administrative supervision, the public administration body shall indicate them in the report on the result of the inspection. Although, in terms of substance, the implementation of administrative supervision in the field of environmental protection is regulated differently by specific regulations, in general, corrective measures or punitive measures may be imposed for breaches of legal provisions.

Corrective measures are aimed at protecting the environment and therefore the general remedy is the power of the administrative supervisory authority to require the elimination of identified deficiencies, for example:

– by imposing an obligation to refrain from a certain practice,
– ordering the closure or suspension of an operation,
– by withdrawing the authorisation.[63]

Sanctioning measures, unlike corrective measures, are intended to punish the unlawful conduct detected. Sanctioning measures are fines for infringements of obligations of a substantive nature arising from generally binding legislation or decisions.

4.2. Administrative proceedings for administrative offences

From a procedural point of view, the procedure for the sanctioning of both offences and hybrid administrative offences is of the nature of an administrative procedure. When deciding on Offences, the procedure of the administrative authorities is regulated by Act on Offences and, in the alternative, by Act No. 71/1967 Coll. on administrative procedure (hereinafter: the Administrative Procedure Code).[64] The Administrative Procedure Code is *lex generalis* in administrative proceedings in relation to special regulations. Therefore, in administrative proceedings concerning administrative offences other than offences, the Administrative Procedure Code is generally followed and the *lex specialis* may regulate the specifics (or deviations) of the procedure for their sanction. Administrative proceedings are thus a procedure in which administrative authorities impose administrative liability on administered natural persons and legal persons who have committed an unlawful act by violating social relations protected by administrative law, that is, by committing an adminis-

[63] S. Košičiarová, *Právo životného prostredia…*, p. 148.

[64] M. Vrabko et al., *Správne právo procesné. Všeobecná časť*, C.H.Beck, Bratislava 2019, p. 93.

trative offence. It results in a decision which has the character of an individual administrative act. In administrative proceedings, the administrative authorities are obliged, in accordance with the principle of the legality of their procedure, to carry out a number of procedural acts according to the circumstances of the facts. The formalised procedure obliges the administrative authorities to carry out, for example, acts relating to the establishment of the facts, including acts of taking evidence, responding to the objections and motions of the parties to the proceedings, carrying out a review of the decision in the case, etc. Among the alternative procedures in the framework of offences and other administrative offences proceedings, one may include, in particular, conciliation, block proceedings, and order proceedings.

Several administrators include among the significant alternative procedures in administrative offence proceedings, in particular, conciliation pursuant to Article 48 of the Administrative Procedure Code. Already in its basic rules,[65] the Administrative Procedure Code calls on the administrative authority to always try to conciliate the matter between the parties, provided that the nature of the case permits it. Conciliation can only be concluded in the case of contentious proceedings where the parties to the proceedings have conflicting interests in the outcome of the administrative proceedings. This presupposes the existence of at least two parties to the proceedings, and a settlement cannot be concluded between the parties to the proceedings and the administrative authority. In the decision, the administrative authority does not assess the subject matter of the proceedings itself, since this has already been agreed between the parties and the administrative authority cannot interfere with that agreement. It is for the administrative authority to assess whether the content of the settlement is not contrary to the law or the general interest. The content of the approved settlement shall then form part of the operative part of the decision approving the settlement.[66]

The Act on Offences contains a restorative element, particularly in its section 78, according to which, in the case of a libel offence, the district authority shall attempt to reconcile the offended party and the accused of the offence. The Act on Offences lists exhaustively which offences are eligible for conciliation. These are so-called motion offences,[67] which are not heard by the district office *ex officio*, but where a motion by the offended person, or his/her legal representative or guardian, is required to initiate proceedings. This is a concretisation of the principle of conciliation under Article 3(4) of the Administrative Procedure Code. Also in this case, the conciliation is not concluded between the party to the proceedings and the administrative authority, the administrative authority does

[65] Article 3(4) of the Administrative Procedure Code regulates the principle of conciliation.
[66] S. Košičiarová, *Správny poriadok. Komentár*, Heuréka, Šamorín 2004, p. 208.
[67] Provision of Article 68(1) of the Act on Offences.

not interfere in the content of the conciliation, but only assesses the fulfilment of the conditions for its conclusion. A conciliation may be concluded at any stage of the infringement proceedings. A conciliation under the Act on Offences does not have the character of a conciliation under the Administrative Procedure Code. It is not decided by way of a decision, but by way of an agreement between the parties to the proceedings, the result of which is that the administrative authority compulsorily discontinues the infringement proceedings. While in the case of a conciliation under the Administrative Procedure Code, the administrative authority does not have the *expressis verbis* status of a body which is obliged to propose to the parties to the proceedings to conclude a conciliation, under the Act on Offences, it must be such an initiating body.[68]

It is therefore clear that administrative law also provides for a number of important institutes which, by their nature, can be partly described as institutes of restorative justice. According to Horvat, restorative justice could find its application particularly in offences against property. However, its use in administrative offences committed by legal persons whose activities may significantly affect the life of the community (e.g., by negatively affecting the environment) could also be interesting.[69]

Block proceedings and order proceedings are summary forms of administrative offence proceedings. They are provided for in § 84–§ 87 of the Act on Offences and, in addition, in a number of special regulations and for proceedings for other administrative offences. In principle, both types of these proceedings are shortened by the evidence phase and thus allow for a quick, almost informal, decision on the case. In these summary proceedings, the administrative authority does not, for example, summon the accused of the administrative offence or other parties and subjects of the proceedings to an oral hearing, does not take evidence and, in the case of block proceedings, does not issue a written decision (in the case of order proceedings, it issues an order with the formalities of a decision).

Both forms of summary proceedings are also used in proceedings for administrative offences in environmental care, according to some special regulations, for instance, injunction proceedings according to section 55(16) of the Air Act. Extension to other component laws may be considered according to the specificities in a particular field of environmental protection.[70]

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[68] M. Srebalová et al., *Zákon o priestupkoch. Komentár*, C.H.Beck, Bratislava 2015, pp. 395–397; M. Horvat, *Zamyslenie sa nad restoratívnou...*, p. 36.

[69] M. Horvat, *Zamyslenie sa nad restoratívnou...*, p. 37.

[70] Z. Hamuľáková, V. Sokolová, D. Noskovičová, *Zákon o ochrane ovzdušia ako priekopník skrátených konaní správneho trestania v oblasti životného prostredia*, in: *Bratislava legal forum 2024: Procedural principles of the right to a fair trial in administrative punishment*, (eds.) S. Kiššová, I. Sloboda, V. Ťažká, Collection of papers from the International Scientific Conference, 17–19 September 2024, Comenius University in Bratislava, Bratislava 2024, pp. 14–29.

5. An alternative (restorative) approach to the sanctioning of administrative offences in terms of the "final forms of public administration" (Slovak: *finálne formy činnosti verejnej správy*)

Public authorities use appropriate forms of action to achieve their goals and objectives. Each of these is externally manifested in a specific final form of action. Several of them may also create new rights and obligations. The final forms of public administration activity must always have a legal basis and realise the interest protected by individual laws. Legal theory refers in particular to: normative administrative acts, decisions, certificates, *de facto* acts, internal acts and administrative agreements.[71]

From the point of view of the possibility of dealing with administrative offences within the framework of administrative supervision and administrative proceedings, we can summarize that these are:

– **Decisions**, that is, legal acts which apply the legal norms contained in normative legal acts to individual cases. They do not have a law-making character but, as a rule, they establish or declare specific rights and obligations or may have an impact on the rights and obligations of specific subjects. Decisions are made on specific matters; thus, public administration bodies decide them on the rights and obligations of specific natural persons and legal entities. They also impose penalties for administrative offences. A special type of decision imposing obligations is the order and penalty notices. These decisions are issued in simplified administrative procedures for administrative offences.[72] The form of the decision is also used to approve a conciliation pursuant to Article 48 of the Administrative Procedure Code. As mentioned above, the setting of this procedural institute corresponds more to the settlement of disputes between the parties to an administrative procedure. Moreover, in our opinion, its wider use in practice is complicated by the fact that the Administrative Procedure Code does not currently take into account all the specifics of administrative punishment. It was not conceived in the 1960s as a general legal regulation for all administrative proceedings for the purpose of punishing administrative offences.
– **Inspection reports**, which are a special type of legal acts[73] and usually the result of inspection and surveillance procedures. In the event of a finding of non-compliance of the inspected condition with the requirements determined by legal regulations or individual administrative acts, the administrative supervisory authority has the power to impose obligations on the inspected

[71] M. Vrabko et al., *Správne právo hmotné...*, pp. 139–150.
[72] Ibidem, pp. 167–168.
[73] Ibidem, p. 223.

person. Depending on the circumstances, it shall impose such obligations in particular by means of corrective measures and sanctions.[74]

- **Administrative agreements** are bilateral and multilateral administrative acts which create rights and obligations for their parties. They are characterised by the fact that at least one of the parties concludes them in the context of the exercise of public administration, that is, it must have the status of a public authority. Their participants may not be only persons of Slovak law but also foreign persons.[75]

One possibility for an effective procedure that could shift the emphasis from punishment to restorative elements of justice in environmental law could thus be the so-called restorative agreements. Their content should be concrete corrective measures or compensatory measures proposed to the offenders. Thus, unlike the issuance of a decision to impose a fine, the administrative authority would either approve or disapprove the content of the agreement. At the same time, it is now already possible to consider an IT system in which the offender would choose the content of the agreement from the means offered by the automated e-assistance programme or another specific IT solution.

It is already possible to consider the application of the type of administrative agreements in question in the administrative supervision phase or in the administrative procedure. The essential prerequisite is the willingness of the offender to cooperate and accept responsibility for the infringement. If the offender duly and timely complies with the content of the agreement, no fine will be imposed. If, however, the content of the agreement is not fulfilled, the administrative procedure would continue in its entirety.

The reason for considering the use of administrative agreements as a final form of action suitable for dealing with administrative offences in the field of environmental protection is, among other things, the fact that the punitive function of administrative punishment is not typical of public administration and is used specifically in the context of the imposition of tort liability. In fact, the public administration should resort to repressive means only when social relations cannot be protected in any other way. The aim of public administration in this area is to prevent and protect society from unlawful activity, to impose fair sanctions, to eliminate the consequences of unlawful activity in a cost-effective manner and to deter potential perpetrators from committing administrative offences.[76]

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[74] S. Košičiarová, *Právo životného prostredia…*, p. 149.

[75] M. Vrabko et al., *Správne právo hmotné…*, p. 150.

[76] Z. Hamuľáková, M. Horvat, *Základy správneho práva trestného*, Wolters Kluwer, Bratislava 2019, pp. 14–15.

6. Conclusions and future outlook

The *de lege lata* legal situation of administrative liability in the field of environmental protection is insufficient in terms of sanctioning mechanisms. Financial sanctions may appear to be the most appropriate way of sanctioning, specifically administrative offences of legal persons and natural persons engaged in business. It is clear from the experience of the administrative authorities in practice and from information from the key control bodies of the State that it is not sufficiently functional. In the legal order of the Slovak Republic, the punishment of administrative offences and criminal offences is clearly distinguished. However, there are also common features, one of which is alternative dispute resolution, which is implemented in various forms. In criminal law, the idea of restorative justice is developed through the institutes of alternative procedures from the trial of a criminal case at the main hearing, among which the legal theory ranks conditional discontinuance of criminal prosecution, conditional discontinuance of criminal prosecution of a cooperating defendant, conciliation, plea bargain, criminal warrant, as well as the substantive aspect of the regulation of alternative punishments in the criminal law. Apart from the fact that they are characterised by a certain form of educational effect on the person against whom criminal proceedings are conducted and against whom the alternative procedure is applied, their great positive effect is ultimately to relieve the courts and get rid of unnecessary delays in court proceedings, which contributes both to the reduction of the overall length of criminal proceedings as a whole, as well as to the reduction of their financial intensity. Although there are a number of differences in the nature of criminal proceedings and administrative proceedings, a number of representatives of the professional public, as well as practitioners, are now calling for the possibility of using alternative dispute resolution also in the area of administrative proceedings for administrative offences.

The theoretical debates are mainly directed towards the use of one of the procedural law institutes, which is conciliation. In our opinion, possible changes should focus primarily on strengthening the possibilities for public authorities to use several types of restorative measures in the context of liability for administrative offences. We see room for improvement of the current situation in the wider application of alternative solutions. Particularly in the form of legal regulation of administrative agreements of a restorative nature. Their use is already possible at the stage of the administrative supervision procedure or at the stage of the administrative proceedings. A restorative approach already in the course of administrative supervision appears to be the most appropriate way of protecting the environment in a timely manner. However, we propose to maintain the other alternative procedures in the administrative procedure, such as the block procedure and the injunction procedure.

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This article has been prepared as part of a coordinated research project jointly conducted within the Faculty of Law of Comenius University in Bratislava. The division of tasks between the research teams was intentional, while the present study by Srebalová and Hamuľáková focuses on the conceptual and normative foundations of restorative justice in environmental law, the subsequent contribution by Michalovič and Máčaj develops the practical and procedural dimension of the same research line. Their article, *Restorative justice in environmental administrative law – from concept to practice in Slovakia* proposes a model of restorative agreements to be tested under the Slovak Environmental Inspectorate (SIŽP) as part of the same project framework.[77] Together, both articles form a comprehensive analysis, moving from theory to practice, of how restorative justice principles can be integrated into Slovak environmental administrative law.

The synergistic effect of *de lege lata* and *de lege ferenda* means by strengthening restorative legal institutes can help to increase the effectiveness of the whole system of administrative punishment. We find room in the legislation for the proposed changes to the Environmental Act, whose *lex generalis* status vis-à-vis the component regulations could strengthen the consistency of the decision-making practice of administrative authorities operating in all environmental spheres. Such an approach would contribute to more effective enforcement of liability and increase the effectiveness of the system of administrative penalties.

Bibliography

Professional and academic publications

Bajčíková A., *Ako alternatívne trestanie formuje súčasnú podobu restoratívnej justície*, in: *Aktuálne výzvy mediácie a restoratívnej justície na Slovensku*, (ed.) G. Paľa, University of Prešov, Prešov 2024, pp. 41–47.

Čecot V., Kánová N., *Alternatívne tresty – jeden z moderných prostriedkov trestnej politiky demokratického štátu II.*, in: *Restoratívna justícia a systém alternatívnych trestov,* (ed.) T. Strémy, Proceedings of the International Scientific Conference, Leges, Prague 2017, pp. 392–401.

[77] M. Michalovič, Ľ. Máčaj, *Restorative justice in environmental administrative law – from concept to practice in Slovakia*, "Prawne Problemy Górnictwa i Ochrony Środowiska" 2027, no. 1, [in press].

Čentéš J., Kurilovská L., Šimovček I., Burda E. et al., (eds.), *Trestný poriadok II. § 196–569*, C.H.Beck, Bratislava 2021, pp. 231, 241, 276–286, 681–694.

Černíková V., *Sociální ochrana. Kriminologický pohled na terciární prevenci*, Police Academy of the Czech Republic, Prague 2005.

Hamuľáková Z., *Správne delikty právnických osôb – vybrané inštitúty a problémy*, Wolters Kluwer, Bratislava 2017.

Hamuľáková Z., Sokolová V., Noskovičová D., *Zákon o ochrane ovzdušia ako priekopník skrátených konaní správneho trestania v oblasti životného prostredia*, in: *Bratislava legal forum 2024*: *Procedural principles of the right to a fair trial in administrative punishment*, (eds.) S. Kiššová, I. Sloboda, V. Ťažká, Collection of papers from the International Scientific Conference, 17–19 September 2024, Comenius University, Bratislava 2024, pp. 14–29.

Hamuľáková Z., Horvat M., *Základy správneho práva trestného*, Wolters Kluwer, Bratislava 2019.

Hayes H., *Reoffending and restorative justice,* in: *Handbook of Restorative Justice*, (eds.) G. Johnstone, D. W. Van Ness, Willan, Cullompton, UK 2007, pp. 426–444.

Horvat M., *Zamyslenie sa nad restoratívnou spravodlivosťou/justíciou a možnosťami jej využitia v správnom práve*, in: *Súčasné uplatňovanie prvkov restoratívnej justície*, (eds.) J. Medelský et al., Eurokódex, Žilina 2013, pp. 25–38.

Hulmáková J., *Kriminalita mládeže*, in: *Základy kriminologie a trestní politiky*, (eds.) J. Kuchta, H. Válková et al., C.H.Beck, Prague 2005, pp. 265–298.

Košičiarová S., *Právo životného prostredia. Všeobecná časť*, Aleš Čeněk Publishing House, Pilsen 2022.

Košičiarová S., *Správny poriadok. Komentár*, Heureka, Šamorín 2004.

Kury H., Strémy T., *Restoratívna justícia a alternatívne tresty – nové výsledky*, in: *Restoratívna justícia a alternatívne tresty v teoretických súvislostiach*, (ed.) T. Strémy, Proceedings of the International Scientific Conference, Leges, Prague 2014, pp. 14–63.

Mašľanyová D., Szabová E. et al., *Trestné právo hmotné. Všeobecná a osobitná časť. 4th edn*., Aleš Čeněk Publishing House, Plzeň 2021.

Mašľanyová D., Zeman Š., *Nástroje restoratívnej justície v aplikačnej praxi SR – vývojové trendy a postrehy*, in. *Restoratívna justícia a systém alternatívnych trestov*, in: *Restorative justice and the system of alternative punishments*, (ed.) T. Strémy, Leges, Proceedings from an International Scientific Conference, Prague 2017, pp. 124–148.

Michalovič M., Máčaj Ľ., *Restorative justice in environmental administrative law – from concept to practice in Slovakia*, "Prawne Problemy Górnictwa i Ochrony Środowiska" 2027, no. 1, [in press]

Michalovič M., Maslen M., *Advocating for environmental law – grounds for its status as an independent branch of law in Slovak legal doctrine*, "Prawne Problemy Górnictwa i Ochrony Środowiska" 2024, no. 2, pp. 1–26, https://doi.org/10.31261/PPGOS.2024.02.06.

Michalovič M., Jenčo, J., *Koncepcia boja proti environmentálnej protiprávnej činnosti ako základný kameň revízie starostlivosti o životné prostredie v podmienkach SR*, in: *Bratislava legal forum 2022: Increasing the effectiveness of combating illegal activities in the field of environmental care*, (eds.) M. Durec Kahounová, V. Sokolová, Comenius University in Bratislava, Bratislava 2022, pp. 12–24.

Molitoris P., *Konsenzuálne prostriedky alternatívneho riešenia sporov v správnom konaní*, University of Pavol Jozef Šafárik in Košice, Košice 2016.

Srebalová M. et al., *Zákon o priestupkoch. Komentár*, C.H.Beck, Bratislava 2015.

Strémy T., Kurilovská L., Vráblová M., *Restoratívna justácia*, Leges, Prague 2015.

Vrabko M. et al., *Správne právo procesné. Všeobecná časť*, C.H.Beck, Bratislava 2019.

Vrabko M. et al., *Správne právo hmotné. Všeobecná časť*, C.H.Beck, Bratislava 2025.

Vrabko M. et al., *Environmentálne právo*, C.H.Beck, Bratislava 2025.
Záhora J., *Pojem a účel trestu, systém trestov,* in: *Trestné právo hmotné. Všeobecná časť*, (eds.) J. Ivor et al., Iura Edition, Bratislava 2006, pp. 354–357.
Zeman Š., *Restoratívna justícia ako aktuálna výzva pre trestný systém a niektoré možnosti inšpirácie*, "Bulletin of Slovak Advocacy" 2015, no. 9, pp. 27–37.

Legally binding and non-legally binding documents and legislation

Act No. 71/1967 Coll. Zákon o správnom konaní (správny poriadok) on administrative procedure (The Administrative Procedure Code).
Act No. 372/1990 Coll. Zákon o priestupkoch (Act on Offences), as amended.
Act No. 460/1992 Coll. Ústava Slovenskej republiky (Constitution of the Slovak Republic).
Act No. 17/1992 Coll. Zákon o životnom prostredí (Act on the Environment).
Act No. 543/2002 Coll. Zákon o ochrane prírody a krajiny (Act on Nature and Landscape Protection), as amended.
Act No. 220/2004 Coll. Zákon o ochrane a využívaní poľnohospodárskej pôdy a o zmene zákona č. 245/2003 Z.z. o integrovanej prevencii a kontrole znečisťovania životného prostredia a o zmene a doplnení niektorých zákonov (Act on the protection and use of agricultural land and amending Act No. 245/2003 Coll. on integrated pollution prevention and control and on amending and supplementing certain acts).
Act No. 364/2004 Coll. Zákon o vodách a o zmene zákona Slovenskej národnej rady č. 372/1990 Z. o priestupkoch v znení neskorších predpisov (vodný zákon) v znení neskorších predpisov (Act on Water and on amending Act No. 372/1990 Coll. of the Slovak National Council on offences, as amended (Water Act), as amended).
Act No. 15/2005 Coll. Zákon o ochrane druhov voľne žijúcich živočíchov a rastlín reguláciou obchodu s nimi a o zmene a doplnení niektorých zákonov v znení neskorších predpisov (Act on the Protection of Species of Wild Fauna and Flora by Regulating Trade Therein and on Amendments and Additions to Certain Acts, as amended).
Act No. 300/2005 Coll. Trestný zákon (The Criminal Code), as amended.
Act No. 301/2005 Coll. Trestný poriadok (The Criminal Procedure Code), as amended.
Act No. 326/2005 Coll. Zákon o lesoch (Act on forests), as amended.
Act No. 274/2009 Coll. Zákon o poľovníctve a o zmene a doplnení niektorých zákonov v znení neskorších predpisov (Act on hunting and on amending and supplementing certain acts, as amended).
Act No. 79/2015 Coll. Zákon o odpadoch (Act on Waste).
Act No. 305/2018 Coll. Zákon o chránených oblastiach prirodzenej akumulácie vôd a o zmene a doplnení niektorých zákonovon (Act on Protected Areas of Natural Water Accumulation and on Amendments and Additions to Certain Acts), as amended.
Act No. 216/2018 Coll. Zákon o rybárstve a o zmene zákona č. 455/1991 Z. o živnostenskom podnikaní (živnostenský zákon) v znení neskorších predpisov (Act on Fisheries and on the amendment of Act No. 455/1991 Coll. on Trade Enterprise (Trade Licensing Act), as amended.
Act No. 146/2023 Coll. Zákon o ochrane ovzdušia a o zmene a doplnení niektorých zákonov (Act on Air Protection and on Amendments and Additions to Certain Acts).

Internet sources

Čelár M., Gibalová D., *Restoratívna justícia a aplikácia odklonov v podmienkach SR z hľadiska teórie a praxe*, https://www.projustice.sk/bezpecnostne-vedy/restorativna-justicia-a-aplikacia-odklonov-v-podmienkach-SR-z-hladiska-teorie-a-praxe [accessed 6 October 2025].
General Prosecutor's Office of the Slovak Republic, Evaluation of the state of legality in the procedure and decision-making of public administration bodies in the field of illegal waste placement

according to Act No. 79/2015 Coll. on Waste and the state of legality in the procedure of law enforcement authorities in the case of illegal waste management, https://www.genpro.gov.sk/fileadmin/Ine_dokumenty/Zhodnotenie_o_odpadoch_2024.pdf [accessed 28 September 2025].
Supreme Audit Office of the Slovak Republic (Najvyšší kontrolný úrad Slovenskej republiky), Správa o výsledku kontroly 2024. Najvyššieho kontrolného úradu Slovenskej republiky: Prevencia znečisťovania životného prostredia a presadzovanie environmentálneho práva (Report on the result of the audit 2024 of the Supreme Audit Office of the Slovak Republic: Prevention of environmental pollution and enforcement of environmental law), p. 2, https://www.nku.gov.sk/sk/spravy-o-vysledkoch-kontrol-od-roku-2012?p_p_id=kisdataPortlet&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_r_p_mvcRenderCommandName=%2F&p_r_p_mvcRenderCommandName=%2F&_kisdataPortlet_q=&_kisdataPortlet_orderByCol=kontrolnaAkcia.evidencneCisloKA.keyword&_kisdataPortlet_orderByType=ASC&_kisdataPortlet_resetCur=false&_kisdataPortlet_delta=20&_kisdataPortlet_cur=26 [accessed 30 September 2025].
Zeman Š., *Odklony ako nástroje restoratívnej justície v slovenskom trestnom práve a ich reálne uplatňovanie v praxi*, https://www.epi.sk/clanok-z-titulky/odklony-ako-nastroje-restorativnej-justicie-v-slovenskom-trestnom-prave-a-ich-realne-uplatnovanie-v-praxi-aktualita.htm [accessed 7 October 2025].
Žilinka M., *K alternatívnym spôsobom vybavenia trestných vecí podľa zákona č. 301/2005 Z.z. Trestný poriadok*, https://www.epi.sk/odborny-clanok/K-alternativnym-sposobom-vybavenia-trestnych-veci-podla-zakona-c-301-2005-Zz-Trestny-poriadok.htm [accessed 25 September 2025].

Maria Srebalova, Zuzana Hamuľáková

Sprawiedliwość naprawcza w prawie ochrony środowiska – podstawy koncepcyjne i normatywne

Streszczenie

Artykuł koncentruje się na zagadnieniach prawa administracyjnego związanych z możliwością rozpatrywania deliktów administracyjnych w dziedzinie ochrony środowiska z wykorzystaniem podejścia naprawczego. W pierwszej kolejności przeanalizowano wybrane instytucje materialnoprawne i procesowe prawa administracyjnego oraz aspekty teoretyczne wspomnianego podejścia, a także dokonano oceny obowiązującego stanu prawnego. Następnie sformułowano wnioski, na podstawie których oceniono założenia obecnych regulacji prawnych pod kątem efektywniejszego zaangażowania sprawcy deliktu administracyjnego w usuwanie jego negatywnych skutków. W dalszej części artykuł obejmuje również postulaty *de lege ferenda*.

Słowa kluczowe: podejście naprawcze, delikty administracyjne, ochrona środowiska

Мария Сребалова, Зузанна Хумалякова

Восстановительное правосудие в праве охраны окружающей среды – концептуальные и нормативные основы

Резюме

Данная статья посвящена вопросам административного права, связанным с возможностью рассмотрения административных правонарушений в сфере охраны окружающей среды с использованием восстановительного подхода. В первую очередь анализируются отдельные материальные и процессуальные институты административного права, теоретические вопросы подхода и исследуется существующая правовая ситуация. Затем следуют выводы и на их основе оцениваются предположения действующей правовой системы с точки зрения более эффективного вовлечения лица, совершившего административное правонарушение, в устранение его негативных последствий. В дальнейшей части работы также представлены постулаты *de lege ferenda* (с точки зрения желательного закона).

Ключевые слова: восстановительный подход, административные правонарушения, охрана окружающей среды

Maria Srebalova, Zuzana Hamuľáková

Giustizia riparativa nel diritto della tutela dell'ambiente – fondamenti concettuali e normativi

Sommario

Il presente contributo si concentra su questioni di diritto amministrativo relative alla possibilità di trattare gli illeciti amministrativi in materia di tutela dell'ambiente mediante l'applicazione di un approccio riparativo. In primo luogo, si procede all'analisi di istituti selezionati del diritto amministrativo, sia di natura sostanziale sia procedurale, nonché delle questioni teoriche inerenti a tale approccio e dello stato attuale del diritto vigente. Successivamente, vengono formulate conclusioni che costituiscono la base per una valutazione delle premesse dell'attuale quadro normativo, alla luce di un più efficace coinvolgimento dell'autore dell'illecito amministrativo nella rimozione delle sue conseguenze negative. Nella parte finale del contributo sono altresì presentate proposte de lege ferenda.

Parole chiave: approccio riparativo, illeciti amministrativi, tutela dell'ambiente

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Enhancing energy performance of buildings in the EU in the era of digitalisation: Legal challenges and solutions for the national authorities of the EU Member States*

Abstract: According to the Energy Performance of Buildings Directive EU/2024/1275 (EPBD Recast 2024) the buildings are responsible for approximately 40% of final energy consumption and for 36% of energy-related greenhouse gas emissions in the EU. Digitalisation of the energy sector is among the key directions of the EU energy policy. Digitalisation can significantly contribute to increasing the energy performance of buildings. Digital tools will optimise the gathering, analysis, and management of data on energy consumption in buildings. Smart metering will provide energy consumers with more accurate data and, by these means, will encourage them to decrease their energy consumption and to introduce energy efficiency measures in their buildings. The digitalisation-related issues are specifically targeted by the EPBD Recast 2024. This article aims to analyse the legal issues and to elaborate possible solutions concerning the encouragement of digitalisation in the EU buildings sector by public authorities of the EU Member States in the light of the requirements stipulated by the EPBD Recast 2024.

Keywords: digitalisation, energy performance of buildings, smart metering, energy efficiency, climate change

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1. Introduction

We live in the era of digitalisation. Digital solutions optimise many processes in different spheres. In the recent years, digitalisation became a driver of energy transition in the European Union. Thus, two priority directions of the EU policy – digital transition and energy transition – have crossed and led to the digitalisation of the energy sector. According to Energy Performance of Buildings Directive EU/2024/1275 (hereinafter: EPBD 2024 Recast) the buildings are responsible for approximately 40% of final energy consumption and for 36% of energy-related greenhouse gas emissions in the EU. Sustainable built environment is considered as an important element of European Green Deal: a sustainable, climate-neutral, resilient, and competitive EU.[1] One of the largest opportunity areas for digitalisation is in buildings, where it is argued to have the potential to reduce energy use by as much as 10% globally by 2040 if applied throughout buildings value chain and life cycle.[2] Digital tools will optimise the gathering, analysis, and management of data on energy consumption in buildings. Smart metering will provide energy consumers with more accurate data and, by these means, encourage them to decrease their energy consumption and to introduce energy efficiency measures in their buildings. The use of data and digital solutions can help to improve the overall functioning of energy systems by fostering system integration and breaking down barriers between the production, transmission, distribution, and consumption of energy. They can also help to boost energy efficiency and savings in buildings, transport and industry by enabling and enhancing smart management of energy demand.[3] The issues of digitalisation are specifically targeted by the EPBD Recast 2024.

In the recent years, there has been growing interest to the issues of digitalisation of the energy sector in general and in the sphere of energy performance of buildings among representatives of different fields of knowledge (e.g., technical,[4]

[1] S. Dekeyrel, M. Fessler, *Digitalisation: An enabler for the clean energy transition: Discussion paper*, Vodafone Institute for Society and Communications, Sustainable Prosperity for Europe Programme, 31 January 2023, p. 6, https://archive.epc.eu/content/PDF/2023/Vodafone_DP_FINAL.pdf [accessed 6 October 2025].

[2] UNECE: *Improving Efficiency of Buildings through Digitalisation – Policy Recommendations from the Task Force on Digitalisation in Energ*y, 2021, https://unece.org/sed/documents/2021/06/working-documents/improving-efficiency-buildings-through-digitalization [accessed 9 October 2025].

[3] S. Dekeyrel, M. Fessler, *Digitalisation…*, p. 6.

[4] Z. Al-Waisi, M. Opoku Agyeman, *On the Challenges and Opportunities of Smart Meters in Smart Homes and Smart Grids*, pp. 1–6, https://scispace.com/pdf/on-the-challenges-and-opportunities-of-smart-meters-in-smart-5bgl8677rk.pdf [accessed 9 October 2025]; R. A. Goswami, G. Jadhav, *Smart metering system using AI techniques*, "International Journal of Scientific

economic,[5] political,[6] etc). Undoubtedly, legal issues of this problem are of high importance, considering that success of digitalisation of the energy system depends on adequate legal regulation and its implementation by respective public authorities. Legal aspects of the digitalisation of the energy sector attract attention of scholars.[7] Considering the recent changes in the EU legal regulation in the energy performance of buildings introduced by the EPBD Recast 2024, the special legal research in this sphere is requested.

This article aims to analyse the legal issues and to elaborate the possible solutions concerning the encouragement of digitalisation in the EU buildings sector by public authorities of the EU Member States in the light of the requirements stipulated by the EPBD Recast 2024.

Several research methods have been used for the purpose of this research. For instance, the system-functional method, methods of analysis and synthesis, and the method of theoretical generalisation were used to generalise current EU legal regulation in the field of digitalisation in the sphere of energy performance of buildings. Although this research is mainly focused on the legal issues of encouragement of digitalisation for the purposes of improvement of energy performance of buildings, the outcomes of the research in other field of studies (e.g., engineering, economic or policy studies) have been used, in particular, to analyse the benefits and risks of use of smart metering systems in the buildings' sector, that should be taken into consideration by public authorities.

The article is structured as follows. The first section thereof is devoted to the analysis of the digitalisation as a driver for improvement of energy performance of buildings, in particular, its benefits and possible risks. The second section presents the key developments in the EU legislation in the sphere of digitalisation related to the energy performance of buildings. The third section is devoted to the key tasks of public administration entities of the EU Member States arisen from the requirements of the EPBD Recast 2024. The main results have been summed up in the conclusions to this article.

Research in Engineering and Management" 2022, vol. 6, no. 10, pp. 1–14, https://scispace.com/pdf/smart-metering-system-using-ai-techniques-3510h66z.pdf [accessed 9 October 2025].

[5] T. Altenburg, D. Staegemann, K. Turowski, *Identifying the Economic Relevance of Smart Meter Reliability in Germany: A Cost-Benefit Analysis*, "Proceedings of the 20th International Conference on Smart Business Technologies (ICSBT)" 2023, pp. 203–208, https://www.scitepress.org/Papers/2023/121249/121249.pdf [accessed 9 October 2025].

[6] F. Heymann, S. Küfeoğlu, M. Galus, *Digitalisation, autonomy and the future of energy policy*, "Energy Research & Social Science" 2025, vol. 127, p. 1, https://doi.org/10.1016/j.erss.2025.104167 [accessed 9 October 2025].

[7] M. Rajavuori, K. Huhta, *Digitalization of security in the energy sector: evolution of EU law and policy*, "The Journal of World Energy Law & Business" 2020, vol. 13, no. 4, pp. 353–367, https://doi.org/10.1093/jwelb/jwaa030 [accessed 9 October 2025].

2. Digitalisation as a driver for improvement of energy performance of buildings

The energy sector is one of strategic sectors of each state. Energy policy is a priority sphere of the EU policy. It should be noted that digitalisation has penetrated the core of the energy sector's security paradigm only recently.[8]

Digitalisation of the energy system can be considered as a catalyst for the improvement of energy performance of buildings, in particular, because it leads to optimisation of the gathering, analysis, and management of data on energy consumption in buildings (smart energy management solutions); encouragement of energy savings and implementation of energy efficiency measures by energy consumers (smart management of energy demand); encouragement the decentralisation of energy systems (transition from fossil fuels to renewable sources of energy, shift from consumers to prosumers); enhancement of informed decision-making by all stakeholders. The key issues of the digitalisation of the EU energy sector are development and deployment of smart energy solutions, cybersecurity, data privacy, and consumers empowerment and protection.

Digitalisation in the buildings' sector can be used at all stages of building's lifecycle: construction, occupancy, and retrofitting. There are different instruments of digitalisation in the buildings' sector, for example, smart metering systems, digital twins, etc. Digital technologies are used for management of final energy consumption, calculation of energy performance of buildings, energy certification of buildings, inspections of buildings' air-conditioning, ventilation and heating systems, etc. For example, the certification procedure in the energy performance of buildings is optimised using software for energy performance of buildings, and certification of experts in energy performance of buildings. Introduction of databases of energy performance certificates can optimise the control system over the certification procedure.

Digital solutions in the buildings' sector have significant benefits. Smart electricity and gas meters installed in the households encourage optimisation and improvement of billing procedure, demand response and regulation, grid management, customer engagement, faster and easier service, integration with smart home technologies, promotion of energy efficiency measures, reduced environmental impact.[9]

However, as experts warn, "digitalisation of the energy sector will not automatically improve the energy system, and associated risks must be addressed from the start. The use of data and digital solutions can also have negative

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[8] Ibidem, p. 355.

[9] IBM, *What are smart meters?*, https://www.ibm.com/think/topics/smart-meter [accessed 9 October 2025].

side-effects for the security, sustainability and affordability of the European energy supply. Lastly, while digital technologies can be driver of energy efficiency, they can also be or become significant consumers of electricity."[10]

Digitalisation in the energy sector in general and in the sphere of energy performance of buildings in particular is connected with certain risks that should be mitigated:

- natural hazards (e.g., geomagnetic storms[11]);
- high costs of installation;
- interoperability and standardisation;
- data privacy;
- cyber security attacks;
- lack of digital skills of stakeholders.

In particular, the abovementioned risks can lead to the refusal of the final consumers to actively participate in the market. Experts pay attention that consumer participation, especially that of residential users in the retail energy market is not a given or exogenous factor. Therefore technology, incentives and information are mentioned as the key factors influencing active demand and the level of consumers' participation.[12]

Talking about the importance of digitalisation for energy sector, one should not forget about the importance of electricity for digitalisation: no digitalisation without electricity is possible. Therefore, digitalisation and energy transition are two policy directions that are closely connected and mutually beneficial.

While advancing the development of digitalisation technologies is an important dimension of improving the energy efficiency of building operations, regulatory measures and incentives are required for the widespread adoption and management of these technologies.[13]

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[10] S. Dekeyrel, M. Fessler, *Digitalisation…*, p. 6.

[11] Geomagnetic storm is a major disturbance of Earth's magnetosphere that occurs when there is a very efficient exchange of energy from the solar wind into the space environment surrounding Earth. These storms result from variations in the solar wind that produces major changes in the Earth's magnetosphere (source: https://www.swpc.noaa.gov/phenomena/geomagnetic-storms [accessed 9 October 2025].

[12] M. Llorca, G. Soroush, E. Giovannetti, T. Jamasb, D. Davi-Arderius, *Digitalisation and Economic Regulation in the Energy Sector*, in: *Danish Utility Regulator's Anthology Project Series on Better Regulation in the Energy Sector. Incentives and digitalization for flexibility in the green transition*, (eds.) L. Meeus, T. Jamasb, C. Smidt, Frederiksværk 2024, vol. 2, p. 18, https://forsyningstilsynet.dk/Media/638616385347937203/Danish%20Utility%20Regulator's%20Anthology_vol.2.pdf [accessed 9 October 2025].

[13] K. Otte, T. Stelmach, V. Chandan, A. Delgado, *Digitalisation for the Energy Efficiency of Buildings Operations: Lessons Learned from the EE Hub Digitalisation Working Group*, Pacific Northwest National Laboratory, Richland, Washington 2022, p. 2, https://energyefficiencyhub.org/wp-content/uploads/2022/10/DWGReport.pdf [accessed 9 October 2025].

To use the benefits of digitalisation for the purposes of improvement of energy performance of buildings efficiently and minimise possible risks, the adequate legislation and its correct implementation by designated public authorities is needed.

3. Digitalisation of the EU energy system: A general overview of the EU legal framework

3.1. Digitalisation in the focus of the EU energy directives

3.1.1. Preliminary remarks on digitalisation-related issues in the EU energy directives

Rapid development of the information technologies in general and in the EU energy sector in particular requires the adequate legal regulation. The legal framework on the digitalisation of the energy sector in general and in the sphere of energy performance of buildings have been developed gradually, which can be seen in the example of the EU directives on common rules for internal markets in electricity and gas, on energy efficiency, on promotion of the use of energy from renewable sources, and on energy performance of buildings, which is presented in sections that follow.

3.1.2. Digitalisation according to the Electricity and Gas Directives

The first[14] and the second[15] EU Directives concerning common rules for the internal market in electricity (hereinafter: Electricity Directive) did not include provisions related to the use of digital technologies. Such provisions appeared in the third Electricity Directive,[16] in 2009. Thus, according to para. 27 of the Preamble to this Directive Member States were obliged to encourage the introduction of smart grids for the purposes of decentralised generation and energy

[14] Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity (OJ L 27, 30 January 1997, p. 20) (no longer in force).

[15] Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC (OJ L 176, 15 July 2003, p. 0037) (no longer in force).

[16] Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (OJ L 211, 14 August 2009, p. 55) (no longer in force).

efficiency. Also, as referred to in para. 55 of the Preamble to this Directive, the introduction of intelligent metering systems should be done based on an economic assessment. If according to such assessment the introduction of such metering systems was concluded as economically reasonable and cost-effective only for consumers with a certain amount of electricity consumption, Member States should be able to take this into account when implementing intelligent metering systems. According to Article 3(11) of this Directive, the Member States (their designated regulatory authorities) shall promote energy efficiency, in particular, through strong recommendations to electricity undertakings to introduce intelligent metering systems or smart grids, where appropriate. Additionally, in Annex I to this Directive titled "Measures of consumer protection" the consumer-centric principle was introduced that included, in particular, the obligation of the Member States to ensure the implementation of intelligent metering systems to assist the active participation of consumers in the electricity supply market. It was stated that the economic assessment of all the long-term costs and benefits to the market and the individual consumer or which form of intelligent metering is economically reasonable and cost-effective and which timeframe is feasible for their distribution may be conducted prior to the implementation of those metering systems. Where roll-out of smart meters is assessed positively, at least 80% of consumers shall be equipped with intelligent metering systems by 2020. Also, the principle of interoperability of metering systems was stipulated by this Annex. Thus, it was stated that the Member States (competent authority they designate) shall ensure the interoperability of those metering systems to be implemented within their territories and shall have due regard to the use of appropriate standards and best practice and the importance of the development of the internal market in electricity.

The abovementioned provisions concerning the digitalisation of the electricity market found their development in the further Electricity Directive of 2019[17] that is currently in force. This Directive introduces, in particular, such terms related to the digitalisation of the electricity sector as "digitalisation," "smart meter," "smart metering systems," "smart charging," "smart distribution grids," "information technology," "electronic communication," "communication network," "interoperability," "electronic billing," "data protection," "remote reading," "cybersecurity." It should be noted that the Directive uses terms "electronic meter" and "smart meter" that are not synonyms. Thus, according to the definitions presented in point 22 of Article 2 the term "conventional meter" means an analogue or electronic meter with no capability to both transmit and receive data. The term "smart metering system" is defined as an electronic

[17] Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (recast) (OJ L 158, 14 June 2019, p. 125).

system that is capable of measuring electricity fed into the grid or electricity consumed from the grid, providing more information than a conventional meter, and that is capable of transmitting and receiving data for information, monitoring, and control purposes, using a form of electronic communication. Thus, smart meter can be defined as an electronic meter with functions to measure electricity fed into the grid or electricity consumed from the grid, and to receive and transmit data for information, monitoring, and control purposes by means of electronic communications. The Directive stipulates the obligations of the EU Member States related to the encouragement of the installation of smart metering systems. As in the previous version of the Electricity Directive, this Directive defines that the consumers shall be active participants of the electricity market. Therefore, Member States (their respective authorities) shall encourage the regular provisions of accurate billing information based on actual electricity consumption by means of smart metering. It will help consumers to regulate their electricity consumption and costs (para. 49 of the Preamble). Also, smart metering systems enable distribution system operators to have better understanding of their grids, to reduce their costs, and to offer consumers lower distributions tariffs due to those savings (para. 52 of the Preamble). As for the previous Electricity Directive, this Directive stipulates the obligation of the respective national authorities to decide concerning the deployment of smart metering systems based on the economic assessment. However, this Directive goes further and stipulates the obligation of national authorities to encourage the review of such assessments on a regular basis (in response to significant changes in the underlying assumptions, or at least every four years), taking into consideration the fast technological development (para. 53 of the Preamble). It should be stressed that this Directive pays special attention to the issues of cybersecurity and stipulates the obligations of the Member States to establish transparent rules under which data can be accessed under non-discriminatory conditions and ensure the highest level of cybersecurity and data protection as well as the impartiality of the entities which process data (para. 57 of the Preamble). The obligations of the respective public authorities of the EU Member States concerning the deployment of smart metering systems are specifically regulated by Articles 19–24 as well as by Annex II of the Directive.

The development of legal framework on digitalisation in the gas sector is analogous to such development in the electricity sector. Like the Electricity Directive, the first[18] and the second[19] Gas Directives did not include provisions

[18] Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas (OJ L 204, 21 July 1998, p. 1) (no longer in force).

[19] Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC (OJ L 176, 15 July 2003, p. 57) (no longer in force).

related to the digitalisation of the gas market. The third Gas Directive of 2009[20] introduces the intelligent metering systems and stipulates the obligations of the EU Member States on this matter. Thus, according to para. 52 of the Preamble to this Directive, the introduction of intelligent metering systems should be possible based on an economic assessment. If the introduction of such metering systems is concluded as economically reasonable and cost-effective only for consumers with a certain amount of gas consumption, it should be taken into consideration during the implementation of the intelligent metering systems. As referred to in Article 8 (3) of this Directive, Member States (their designated regulatory authorities) shall strongly recommend that the natural gas companies optimise the use of gas, in particular, via introducing intelligent metering systems or smart grids where appropriate. The implementation of intelligent metering systems is considered as measures on consumer protection according to Annex I to this Directive, since such systems encourage the active participation of consumers in the gas supply market. It is stated that the implementation of those metering systems may be subject to an economic assessment of all the long-term costs and benefits to the market and the individual consumer or which form of intelligent metering is economically reasonable and cost-effective and which timeframe is feasible for their distribution. The Member States or any competent authority they designate, shall ensure the interoperability of those metering systems to be implemented within their territories and shall have due regard to the use of appropriate standards and best practice and the importance of the development of the internal market in natural gas.

Fourth Gas Directive that is currently in force[21] follows the approach to digitalisation used in the fourth Electricity Directive, to encourage consistency and predictability in legal regulation in the energy market. Like the fourth Electricity Directive, the fourth Gas Directive demonstrates a significant development in the issues of digitalisation. First, it provides the definitions of such terms as "smart metering systems," "interoperability," "best available techniques" (in relating to smart metering), and uses such terms as "smart meters," "electronic billing," "remote reading," "information technology," "cyber security," and "data protection." The deployment of natural gas smart metering systems is in the focus of the current Gas Directive. According to para. 48 of the Preamble to this Directive the national decisions on the deployment of such systems shall be based on the cost-benefit assessments reviewed regularly (at least every four

[20] Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC (OJ L 211, 14 August 2009, p. 94) (no longer in force).

[21] Directive (EU) 2024/1788 of the European Parliament and of the Council of 13 June 2024 on common rules for the internal markets for renewable gas, natural gas and hydrogen, amending Directive (EU) 2023/1791 and repealing Directive 2009/73/EC (recast) (OJ L 2024/1788, 15 July 2024, p. 1).

years) to consider the rapid technological developments. Principles of such cost-benefit analysis are stipulated in Annex II to this Directive. It should be noted that limited introduction of smart metering systems in the gas sector (e.g., pilot projects or testing phases) is not considered as deployment of such systems within the meaning of the Directive. The principle of active participation of final gas consumers in the gas market shall be encouraged. In particular, it is stated in para. 49 of the Preamble to this Directive that the smart metering systems should not represent a barrier to switching supplier; final customers should be encouraged with the timely access to their consumption data, to regulate their consumption behaviour. In this respect, special attention should be paid to the issues of interoperability of systems. Consumer groups should be advised on how to use smart meters to benefit from them for the purposes of energy efficiency. Even if there are no systematic deployments of gas smart metering system in the Member State, the consumers should be provided with the opportunity to install the smart meters upon their request, under the fair and reasonable conditions, with provision of all necessary information (para. 50 of the Preamble to this Directive). Special requirements on smart metering systems in the natural gas system are stipulated by Article 17 of the Gas Directive, in the hydrogen system – by Article 18 of this Directive. Functionalities of smart metering systems in the natural gas system are regulated by Article 19 of this Directive. Article 20 of the Gas Directive is devoted to entitlement to a smart meter for natural gas. Considering the possible risks to the digital systems in the gas sector, special attention is paid to the mechanisms of cybersecurity and data protection (para. 51 of the Preamble to the Directive).

3.1.3. Digitalisation according to the Energy Efficiency Directive

The Directive 2006/32/EC on energy end-use efficiency and energy services[22] mentioned the importance of use of cost-effective technological innovations such as smart meters (para. 26 of the Preamble) and digital control systems as examples of eligible energy efficiency improvement measures in residential and control systems (Annex III).

In the Directive on energy efficiency[23] that replaced the previous Directive 2006/32/EC the terms "smart meter," "smart grid," "smart metering system" / "intelligent metering system," "electronic billing information" were introduced.

[22] Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC (Text with EEA relevance) (OJ L 114, 27 April 2006, p. 64).

[23] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC Text with EEA relevance (OJ L 315, 14 November 2012, p. 1) (no longer in force).

In point 28 of Article 2 of this Directive "smart metering system" or "intelligent metering system" was defined as an electronic system that can measure energy consumption, providing more information than a conventional meter, and can transmit and receive data using a form of electronic communication. This Directive stipulated obligations of the EU Member States related to the installation and use of smart meters. It was stated in para. 26 of the Preamble that cost-effective innovations such as smart meters should be taken into consideration. In order to protect consumer rights, it was stipulated that smart meters (where have been installed) should not be used by companies for unjustified back billing.[24] This Directive stipulated the obligation of the Member States to encourage the roll-out of smart meters for electricity[25] and gas,[26] where it was assessed positively (para. 27 of the Preamble).

The Energy Efficiency Directive (EU) 2023/1791 (Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (Recast). OJ L 231, 20 September 2023), that is currently in force, also uses a set of digitalisation-related categories, such as "smart solutions," "smart and sustainable technologies," "smart buildings," "smart metering system," "intelligent metering system," "smart meters," "smart grid," "electronic billing information," "electronic bills," "digital platforms," "digital tools," "digital procurement," "interoperable devices," "remotely readable devices," "remotely readable meters," "remotely readable heat cost allocators," "cybersecurity," etc. In particular, as referred to in para. 69 of the Preamble to this Directive, promotion of smart and sustainable technologies in efficient district heating and cooling system is considered as a tool to achieve the cumulative end-use energy savings. The potential for energy savings using smart technologies and processes across all industrial, residential and commercial water cycles and applications should be fully explored and realised whenever cost-effective, and the energy efficiency first principle should be considered (para. 75 of the Preamble to this Directive). This Directive specifically targets rollouts of smart meters for natural gas (Article 13). It is stressed in the Directive that newly installed heat meters and heat cost allocators should be remotely readable to ensure cost-effective, and frequent provision of, consumption information (para. 97 of the Preamble to this Directive). This obligation is specified in Article 16 of this Directive. Meters and heat cost allocators which are not remotely readable, but which have already been installed, shall be rendered remotely readable or replaced with remotely

[24] Back billing or "catch up" billing means that energy supplier sends to the energy consumer a bill for energy consumed but was not charged in the previous periods.

[25] 80% of electricity consumers should be equipped with the smart metering systems by 2020.

[26] In relation to gas, a timetable for the implementation of intelligent metering systems should be stipulated by the Member States (competent authority they designate).

readable devices by 1 January 2027, save where the Member State in question shows that this is not cost-efficient. It is important to note that remotely readable devices do not require access to individual apartments or units to be read. Special requirements of this Directive are devoted to the exemplary role of the public sector in energy efficiency. For this purpose, the establishment of digital platforms for the aggregated energy consumption data from the public sector is prescribed (para. 35 of the Preamble).

Thus, the Energy Efficiency Directive follows the same approach to rollouts of smart metering systems as previously analysed Electricity and Gas Directives.

3.1.4. Digitalisation in the Directive on the Promotion of the Use of Energy from Renewable Sources

Transition from fossil fuels to renewable energy services is considered among the key energy efficiency measures in buildings. Therefore, digitalisation of such processes is of high importance. The first EU Directive on promotion of energy from renewable energy sources (hereinafter: RED) – EU Directive 2009/28/EC[27] – does not include special provisions relating to the digital technologies. The RED 2018/2001[28] that repealed the previous RED emphasised the obligations of the EU Member States to increase the level of renewable energy sources in buildings via establishment of minimum standards and recognised the importance of development of intelligent networks, storage facilities and interconnections to increase a share of renewable energy in the electricity system (Article 3, 5(c) of this Directive), however, lacked special provisions on digitalisation. Such provisions have been introduced by Directive (EU) 2023/2413 (RED-III).[29] Like abovementioned current Electricity, Gas, and Energy Efficiency Directives, the RED-III introduces, in particular, such terms as "smart metering system" (in the meaning of the Electricity Directive), "smart recharging," "smart management," "smart grids," "intelligent networks," "interoperability," "data access," and "data protection." It is stated in the Directive that the EU Member States shall ensure that manufacturers of domestic and industrial batteries enable real-time access to basic battery management system information, including battery

[27] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (OJ L 140, 5 June 2009, p. 16).

[28] Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) (OJ L 328, 21 December 2018, p. 82).

[29] Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources and repealing Council Directive (EU) 2015/652 (OJ L, 2023/2413, 31 October 2023, p. 1).

capacity, state of health, state of charge and power set point, to battery owners and users, as well as to third parties acting, with explicit consent, on the owners' and users' behalf, such as building energy management undertakings and electricity market participants, under non-discriminatory terms, at no cost and in accordance with the data protection rules (Article 20a (3)). Also, this Directive stipulates the obligations of the EU Member States (designated authorities) to ensure that new and replaced non-publicly accessible normal power recharging points installed in their territory can support smart recharging functionalities and, where appropriate, the interface with smart metering systems deployed by Member States (Article 20a (4)).

3.1.5. Digitalisation according to the Energy Performance of Buildings Directive

The Energy Performance Directive (hereinafter: EPBD) is the special EU legal act that introduces the organisational and legal instruments in the sphere of energy performance of buildings. The first EPBD[30] did not include any provisions relating to digital solutions. The second EPBD[31] introduced the instrument of electronic monitoring and control system for the inspections of heating and air conditioning systems (Arts. 14–15). It was stated that the usage of such instrument may reduce the frequency of such inspections or lighten them.

Digitalisation in the sector of buildings is considered as a central issue in the newly adopted EPBD 2024 (Recast).[32] It is a logical development of the EU energy legislation that follows the approach previously used in the Electricity, Gas, Energy Efficiency and Renewable Energy Directives. It is a timely response to the rapid developments and usage of digital technologies in the buildings sector. This Directive introduces in the field of energy performance of buildings such categories as "digital solutions," "digital technologies," "digitalisation of the energy system," "smart grids," "smart-ready buildings," "smart-ready systems," "high-capacity communication networks," "smart homes," "smart buildings services," "smart-readiness indicator," "information and communication technologies," "building automation," "digital building twin," "smart meters," and "sensors." Digitalisation goes though all key instruments prescribed by the Directive: setting minimum energy performance requirements and energy performance standards, introduction of renewable energy sources in buildings, energy certification and renovation passports, infrastructure for sustainable mobility, financial incentives, inspections of technical systems, independent

[30] Directive 2002/91/EC of The European Parliament and of the Council of 16 December 2002 on the energy performance of buildings (OJ L 1, 4 January 2003, p. 65) (no longer in force).

[31] Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (recast) (OJ L 153, 18 June 2010, p. 13).

[32] Directive (EU) 2024/1275 of the European Parliament and of the Council of 24 April 2024 on the energy performance of buildings (recast) (OJ L, 2024/1275, 8 May 2024, p. 1).

control system, one-stop shops and support for vulnerable categories of consumers. EPBD 2024 Recast stipulates a set of obligations of the EU Member States (their designated authorities) on encouragement of conditions necessary for efficient, reliable and safe use of digital solutions in all procedures in the sphere of energy performance of buildings. The issues of cyber security and privacy protection are of high importance for public administration entities of the EU Member States.

3.2. Legal framework on digitalisation of the energy system

Considering the aforementioned factors, digitalisation is now in the focus of the key EU Directives related to the energy performance of buildings – EPBD, Electricity Directive, Gas Directive, Energy Efficiency Directive, and RED. All of them include provisions related to the use of digital technologies, in particular, smart grids, smart metering systems, stress their importance for active participation of final consumers in the market, etc. However, the regulation of digitalisation issues in different legal acts is considered by scholars as fragmented. More comprehensive approach to digitalisation of the energy system is currently provided by the *Digitalising the energy system – EU action plan*.[33] It is stated in such EU action plan[34] that a deep digital and sustainable transformation of the EU energy system is needed to end the EU's dependence on Russian fossil fuels, tackle the climate crisis and ensure affordable access to energy for all. The switch to renewable sources in buildings (in particular, installation of solar photovoltaic (PV) panels on roofs of all commercial and public buildings by 2027 and on all new residential buildings by 2029) is considered as an important solution. It is stressed that all consumers should have the smart meters installed in their homes, which is still not the case in some EU Member States. It should be noted that in 2011 the European Commission issued the Communication "Smart Grids: from innovation to deployment"[35] and in 2012 – the Recommendation on preparations for the roll-out of smart metering systems.[36] However, as European Commission pays attention, according to the EU Agency for the Cooperation of Energy Regulators

[33] S. Dekeyrel, M. Fessler, *Digitalisation…*, p. 17.

[34] European Commission, *Digitalising the energy system – EU action plan* (Communication) COM/2022/552 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52022DC0552 [accessed 9 October 2025].

[35] European Commission, *Smart Grids: from innovation to deployment* (Communication) COM/2011/0202 final, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX-:52011DC0202 [accessed 9 October 2025].

[36] Commission Recommendation 2012/148/EU of 9 March 2012 on preparations for the roll-out of smart metering systems (OJ L 73, 13 March 2012, p. 9).

(ACER) Market Monitoring Report (energy retail and consumer protection volume), 54% of European households had an electricity smart meter at the end of 2021, while in 13 EU countries, the penetration rate was over 80% at the end of 2022.[37] Therefore, the deployment of smart metering systems shall be intensified. The action plan *Digitalising the energy system* includes a set of actions that shall be done by the European Commission according to the above-mentioned directives. In particular, the European Commission approved Commission implementing Regulation (EU) 2023/1162 of 6 June 2023 on interoperability requirements and non-discriminatory and transparent procedures for access to metering and consumption data,[38] that has introduced a reference model, containing a role model, an information model and a set of procedures necessary to support data access and exchange among market participants.[39] Two additional implementing acts (on interoperability requirements, and non-discriminatory and transparent procedures for access to data required for demand response and customer switching) are in the process of preparation. Also, it should be noted that the EU requirements on measuring instruments are stipulated by Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (recast).[40] However, as professionals stress, the essential and instrument-specific requirements established in the late 20th century may not fully address the specific measurement tasks arising in areas such as energy transition, climate change mitigation, and the circular economy.[41] Therefore, the European Commission prepared the draft amendment to the above-mentioned Directive 2014/32/EU – Proposal for a Directive of the European Parliament and of the Council amending Directive 2024/32/EU as regards electric vehicle supply

[37] European Commission, *Smart grids and meters*, https://energy.ec.europa.eu/topics/markets-and-consumers/smart-grids-and-meters_en [accessed 9 October 2025].

[38] Commission implementing Regulation (EU) 2023/1162 of 6 June 2023 on interoperability requirements and non-discriminatory and transparent procedures for access to metering and consumption data (OJ L 154, 15 June 2023, p. 10).

[39] Florence School of Regulation, *Promoting energy consumer data exchange and interoperability: where do we stand? Highlights from the event 'Fostering Interoperability across Borders: The Case of Energy Consumer Data'*, 6 October 2025, https://fsr.eui.eu/promoting-energy-consumer-data-exchange-and-interoperability-where-do-we-stand/ [accessed 9 October 2025].

[40] Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (recast) (OJ L 96, 29 March 2014, p. 149).

[41] P. Klenovský, M. Wouters, *The European single market for measuring instruments*, "OIML Bulletin" 2024, vol. LXV, no. 3, p. 15, https://www.oiml.org/en/publications/oiml-bulletin/online-bulletin-1/2024-07/the-european-single-market-for-measuring-instruments [accessed 9 October 2025].

equipment, compressed gas dispensers, and electricity, gas and thermal energy meter.[42]

Also, it should be emphasised that digitalisation of the energy sector in general and in the sphere of energy performance of buildings in particular shall be in accordance with GDPR[43] (data protection) and NIS2 Directive (cybersecurity).[44] The European Commission in its Recommendation (EU) 2019/553 of 3 April 2019 on cybersecurity in the energy sector aims at helping stakeholders keep in mind the specific requirements of the energy sector when implementing internationally recognised cybersecurity standards. The European Commission suggests the EU Member States to include the recommendations into their national cybersecurity framework via strategies, laws, regulations and other administrative provisions.[45]

Experts stress, that the EU needs a coherent policy and investment framework at the European level to guide and incentivise needed action. The European Green Deal with its vision and objectives provides the strategic direction, and it is now time to ensure that the concrete measures are aligned with the set goals.[46]

As was mentioned above, the digitalisation of the energy sector in general and for the purposes of improving the energy performance of buildings in particular is conducted in frames of two priority directions of the EU policy: energy transition and digital transition. Therefore, the legal framework in this field consists of legal acts of energy legislation and of legislation on digitalisation. In turn, energy legal acts on digitalisation include energy legal acts that regulate digitalisation in the concrete sphere (electricity, gas, energy efficiency, energy performance of buildings, promotion of renewable energy sources) and legal

[42] European Commission, Proposal for a Directive of the European Parliament and of the Council amending Directive 2024/32/EU as regards electric vehicle supply equipment, compressed gas dispensers, and electricity, gas and thermal energy meter. Brussels, 9.11.2024. COM (2024) 561 final. 2024/0311(COD), https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52024PC0561 [accessed 9 October 2025].

[43] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation) (OJ L 119, 4 May 2016, p. 1).

[44] Directive (EU) 2022/2555 of the European Parliament and of the Council of 14 December 2022 on measures for a high common level of cybersecurity across the Union, amending Regulation (EU) No 910/2014 and Directive (EU) 2018/1972, and repealing Directive (EU) 2016/1148 (NIS 2 Directive). PE/32/2022/REV/2 (OJ L 333, 27 December 2022, p. 80).

[45] Y. Vashchenko, *Energy Sector Digitalisation: Issues of Cybersecurity in the EU and Ukraine*, in: *Legal Issues of Digitalisation, Robotization and Cyber Security in the Light of EU Law*, (ed.) N. Šišková, Kluwer Law International B.V., Alphen aan den Rijin, the Netherlands, 2024, p. 325.

[46] S. Dekeyrel, M. Fessler, *Digitalisation...*, p. 7.

acts on digitalisation of the energy system (action plan on digitalising the energy system). The EU Electricity, Gas, Renewable Energy, Energy Efficiency, and Energy Performance of Buildings Directives have been developed gradually with the provisions on digitalisation and currently include many new and updated instruments. The recent changes in digitalisation as a tool for improving the energy performance of buildings introduced by the EPBD Recast 2024 shall be correctly transposed and implemented by the national authorities of the EU Member States.

4. Encouragement of digitalisation of the sector of buildings as a task of public authorities

Public authorities of the EU Member States participate in the relations in the sphere of energy performance of buildings in two statuses: as subjects that perform regulatory and administrative functions and as addressees of such decisions (public authorities that own or occupy buildings). Therefore, the key tasks of public authorities in the sphere of digitalisation in energy performance of buildings include:

- transposition of EU legal requirements on digitalisation in the sphere of energy performance of buildings,
- encouragement of the fulfilment of legal requirements on digitalisation in the sphere of energy performance of buildings by all addressees,
- fulfilment of requirements on energy performance of buildings owned or occupied by public authorities,
- optimisation of buildings sector-related decision-making processes via use of digital solutions.

EBPD requirements were transposed into national legislation or by approval of special legal acts (e.g., Law 555/2005 Col. on Energy Efficiency of Buildings of the Slovak Republic[47]) or by amendments to existing construction and/or energy legislation (e.g., in Estonia – via changes to the Building Code[48]), and by respective by-laws. The changes introduced by the EPBD Recast 2024, including related to the digitalisation, shall be transposed by national authorities

[47] Law 555/2005 Col on Energy Efficiency of Buildings of the Slovak Republic, https://www.slov-lex.sk/ezbierky/pravne-predpisy/SK/ZZ/2005/555/ [accessed 9 October 2025].

[48] Building Code of Estonia, https://www.riigiteataja.ee/en/eli/526022021001/consolide [accessed 9 October 2025].

by 29 May 2026 (with certain exceptions) by amendments to existing legal acts or by approval of new ones.

According to EPBD Recast 2024 the national authorities of the EU Member States shall adopt the national building renovation plans. Draft national building renovation plans are to be accessed by the European Commission to encourage the fulfilment of requirements and their comparability. Such plans are closely connected with the National Integrated Energy and Climate Plans introduced by Regulation (EU) 2018/1999[49] and in the future will be part of them. The drafts of the first national building renovation plans are to be submitted to the European Commission by 31 December 2025 and the final plans – by 31 December 2026, following the recommendations provided by the European Commission. As referred to in Annex I to this Directive that stipulates the template of national building renovation plans, such plans shall include, among other things, the targets and actions on the promotion of smart technologies and infrastructure for sustainable mobility in buildings. The European Commission explained that in relation to smart technologies, it is expected that the EU Member States will report the national state of implementation of the Smart Readiness Indicator (SRI).[50] Smart Readiness Indicator – is a new instrument introduced by the EBPD Recast 2024 that should be used to measure the capacity of buildings to use information and communication technologies and electronic systems to adapt the operation of buildings to the needs of the occupants and the grid and to improve the energy efficiency and overall performance of buildings (para. 56 of the Preamble to EPBD Recast 2024).

The EPBD Recast 2024 requirements on digitalisation are related, for example, to the following administrative procedures conducted by the public administration entities of the EU Member States: regulatory procedures, certification and standardisation, control, sanctioning procedures. Regulatory procedures related, for instance, to the establishment of the regulatory framework for the introduction of smart technologies in the buildings' sector. Certification and standardisation are necessary, in particular, for the encouragement of interoperability of smart devices and networks, and cyber security protection. Certification of the experts in energy performance of buildings is another example

[49] Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21 December 2018, p. 1).

[50] European Commission, *National Building Renovation Plans*, https://energy.ec.europa.eu/topics/energy-efficiency/energy-performance-buildings/national-building-renovation-plans_en [accessed 9 October 2025].

of the certification administrative procedure. The EPBD Recast 2024 stipulates requirements on control over the certification and inspections in the sphere of energy performance of buildings. The fulfilment of the requirements in the sphere of digitalisation of the energy sector shall be enforced via sanctioning procedures.

National authorities on encouragement of digitalisation in the buildings sector under EPBD 2024 Recast shall:

- encourage the use of digital technologies for analysis, simulation and management of buildings, including regarding deep renovations;
- ensure direct access to building systems' data by interested parties;
- facilitate the full interoperability of services and of the data exchange within the Union;
- encourage the use of the smart readiness indicator for large buildings with a high energy demand and consider the possibility of its use for other buildings;
- encourage the consideration of the digital building twin, where available, in particular, for the smart readiness indicator;
- encourage the cyber security issues;
- set up a national database for the energy performance of buildings.

Digital technologies in the buildings' sector facilitate the monitoring of the building stock. Therefore, it was decided to set up national databases for the energy performance of buildings. EPBD Recast 2024 stipulates requirements on national databases for energy performance of buildings (Article 22 of the EPBD). Such databases may be established as an independent platform or as a set of interconnected databases. In some EU Member States, databases of energy performance certificates have been already set up and implemented effectively (e.g., Denmark[51]). So, such integrated national database on energy performance of buildings can consists, for example, of databases of energy performance certificates, certified experts in energy performance of buildings, renovation passports,[52] and of reports of inspections of heating, air-conditioning and ventilation systems (as demonstrated in Figure 1).

[51] Danish databases of energy performance certificates are accessible through: https://sparenergi.dk/energim%C3%A6rke/find-boligens-energimaerke; https://boligejer.dk/find-energimaerkerapporter [accessed 9 October 2025].

[52] As referred to in Article 12 (7) of the EPBD Recast 2024 Member States shall ensure that the renovation passport can be uploaded to the national database for the energy performance of buildings.

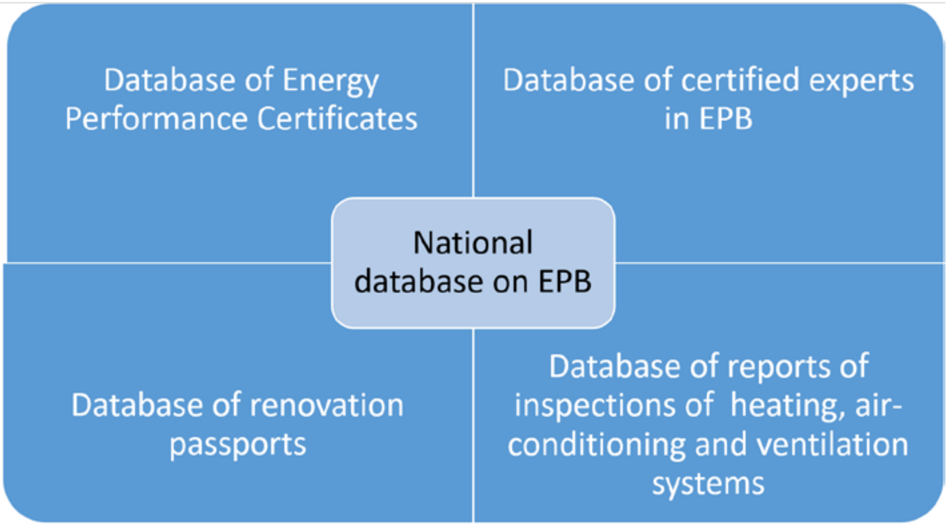

Figure 1. National database on Energy Performance of Buildings (EPB)

Successful implementation of EPBD requirements on digitalisation requires a set of policy actions from public administration entities.

In particular, it is important to encourage a fruitful cooperation of all experts involved in the digitalisation in buildings' sector. When the first EBPD (Directive 2002/91/EC) was approved in 2002, it was necessary to prepare experts in energy performance of buildings – experts with knowledge and skills in both – construction and energy. Digitalisation in the buildings' sector requires active involvement of IT specialists. It is a task of public administration entities to encourage a platform for active cooperation of construction specialists, energy specialists, and IT specialists.

Rapid development of digital technologies requires permanent advanced training of experts in digitalisation in buildings. Therefore, public administration entities shall encourage the high-quality training platforms (e.g., on the base of higher education institutions) for such specialists.

As was mentioned above, EPBD Recast 2024, following the approach of Electricity and Gas Directives, stipulates the principle of active participation of consumers. At the same time, lack of adequate knowledge and skills leads to consumers' refusal to introduce smart technologies (e.g., smart meters). In order to tackle this problem, public authorities shall encourage the improvement of skills of energy consumers in energy efficiency and digitalisation. The key role in this direction shall be played by local authorities, following the principle of deconcentration of public administration.

It should be noted that the officials of public authorities (especially, local authorities) also can lack necessary skills in digitalisation in buildings' sector. Therefore, special platforms should be established to develop necessary skills and to exchange the best practices among public authorities. It will also contribute to the fulfilment of the obligation of public authorities to play an exemplary role.

Affordability is one of the key elements of the right to access to energy services. All energy law instruments mentioned above include special provisions related to the protection of vulnerable categories of energy consumers. In case of digitalisation, initial installation of smart devices (e.g., smart meters) is very costly investment. Therefore, special programmes of support for vulnerable categories of energy consumers shall be in place.

Considering the importance of digitalisation in the buildings' sector for the energy performance of building, energy security, and climate change mitigation, it is important for public administration entities to encourage further research in digitalisation in buildings' sector.

5. Conclusions

Digital transition and energy transition are among the key directions of the EU policy. Digitalisation of the energy sector is a result of their intersection. Digitalisation is considered as a driver of energy transition via establishment of conditions for efficient use of renewable energy sources.

The buildings sector has a high potential to reduce energy consumption and energy-related greenhouse gas emissions, and digital technologies can play a role of a catalyst in these processes.

Considering that digitalisation of the energy system in general and for the purposes of the improving of energy performance of buildings has been started in the recent years, the EU legal framework in this sphere is just in the process of development. The legal regulation of digitalisation in the energy sector started from the fragmentary regulation for the purposes of the special legal acts of the EU energy legislation (e.g., Electricity, Gas, Energy Efficiency, Renewable Energy, and Energy Performance of Buildings Directive) and continues based on intersectoral approach (e.g., action plan on *Digitalising the energy sector*).

Digital tools in the field of energy performance of buildings are in the focus of the EPBD Recast 2024, which follows the approach stipulated by the current EU Electricity, Gas, and Energy Efficiency Directives. The key issues of digitalisation of the energy sector are development and deployment of the smart energy solutions (e.g., smart metering systems), cybersecurity, data privacy, and consumer empowerment and protection. Consumer-centric approach is one of the key principles of the current EU energy legislation, including EPBD Recast 2024.

Public authorities of the EU Member States participate in the relations in the sphere of energy performance of buildings in two statuses: as subjects that perform regulatory and administrative functions and as addresses of such decisions (public authorities that own or occupy buildings should play an exemplary role as regards energy performance of buildings).

Public authorities shall encourage the use of digital technologies for analysis and management of buildings, including with regard to deep renovations, ensure direct access to building systems' data by interested parties, facilitate the full interoperability of services and of the data exchange within the Union, encourage the use of the smart readiness indicator for large buildings with a high energy demand and consider the possibility of its use for other buildings, encourage the consideration of the digital building twin, where available, in particular for the smart readiness indicator, encourage the cyber security issues and the protection of vulnerable categories of energy consumers, set up a national database for the energy performance of buildings.

Public authorities shall also encourage a fruitful cooperation of all experts involved in the digitalisation in buildings' sector, regular training of experts in digitalisation in buildings, improvement of skills of energy consumers relevant to energy efficiency and digitalisation, development of skills and exchange of the best practices among public authorities (national, regional and local), and further research and development of smart technologies.

Bibliography

Professional and academic publications

Altenburg T., Staegemann D., Turowski K., *Identifying the Economic Relevance of Smart Meter Reliability in Germany: A Cost-Benefit Analysis*, "Proceedings of the 20th International Conference on Smart Business Technologies (ICSBT 2023)," pp. 203–208. https://www.scitepress.org/Papers/2023/121249/121249.pdf [accessed 9 October 2025].

Goswami R. A., Jadhav G., *Smart metering system using AI techniques*, "International Journal of Scientific Research in Engineering and Management" 2022, vol. 6, no. 10, pp. 1–14, https://scispace.com/pdf/smart-metering-system-using-ai-techniques-3510h66z.pdf [accessed 9 October 2025].

Heymann F., Küfeoğlu S., Galus M., *Digitalisation, autonomy and the future of energy policy*, "Energy Research & Social Science" 2025, vol. 127, pp. 1–13, https://doi.org/10.1016/j.erss.2025.104167 [accessed 9 October 2025].

Klenovský P., Wouters M., *The European single market for measuring instruments*. "OIML Bulletin" 2024, vol. LXV, no. 3, pp. 1–15, https://www.oiml.org/en/publications/oiml-bulletin/online-bulletin-1/2024-07/the-european-single-market-for-measuring-instruments [accessed 9 October 2025].

Rajavuori M., Huhta K., *Digitalization of security in the energy sector: evolution of EU law and policy*, "The Journal of World Energy Law & Business" 2020, vol. 13, no. 4, pp. 353–367, https://doi.org/10.1093/jwelb/jwaa030 [accessed 9 October 2025].

Vashchenko Y., *Energy Sector Digitalisation: Issues of Cybersecurity in the EU and Ukraine*, in: *Legal Issues of Digitalisation, Robotization and Cyber Security in the Light of EU Law*, (ed.) N. Šišková, Kluwer Law International B.V., Alphen aan den Rijin, the Netherlands 2024, pp. 315–334.

Legally binding and non-legally binding documents and legislation

Building Code of Estonia, https://www.riigiteataja.ee/en/eli/526022021001/consolide [accessed 9 October 2025].

Commission implementing Regulation (EU) 2023/1162 of 6 June 2023 on interoperability requirements and non-discriminatory and transparent procedures for access to metering and consumption data (OJ L 154, 15 June 2023), https://eur-lex.europa.eu/eli/reg_impl/2023/1162/oj/eng [accessed 9 October 2025].

Commission Recommendation 2012/148/EU of 9 March 2012 on preparations for the roll-out of smart metering systems (OJ L 73, 13 March 2012), https://eur-lex.europa.eu/eli/reco/2012/148/oj/eng [accessed 9 October 2025].

Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) (OJ L 328, 21 December 2018), https://eur-lex.europa.eu/eli/dir/2018/2001/oj/eng [accessed 1 May 2026].

Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (recast) (OJ L 158, 14 June 2019), https://eur-lex.europa.eu/eli/dir/2019/944/oj/eng [accessed 1 May 2026].

Directive (EU) 2022/2555 of the European Parliament and of the Council of 14 December 2022 on measures for a high common level of cybersecurity across the Union, amending Regulation (EU) No 910/2014 and Directive (EU) 2018/1972, and repealing Directive (EU) 2016/1148 (NIS 2 Directive). (OJ L 333, 27 December 2022), https://eur-lex.europa.eu/eli/dir/2022/2555/oj/eng [accessed 1 May 2026].

Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources and repealing Council Directive (EU) 2015/652 (OJ L, 2023/2413, 31 October 2023), https://eur-lex.europa.eu/eli/dir/2023/2413/oj/eng [accessed 1 May 2026].

Directive (EU) 2024/1275 of the European Parliament and of the Council of 24 April 2024 on the energy performance of buildings (recast) (OJ L, 2024/1275, 8 May 2024), https://eur-lex.europa.eu/eli/dir/2024/1275/oj/eng [accessed 1 May 2026].

Directive (EU) 2024/1788 of the European Parliament and of the Council of 13 June 2024 on common rules for the internal markets for renewable gas, natural gas and hydrogen, amending Directive (EU) 2023/1791 and repealing Directive 2009/73/EC (Recast) (OJ L 2024/1788, 15 July 2024), https://eur-lex.europa.eu/eli/dir/2024/1788/oj/eng [accessed 1 May 2026].

Directive 2002/91/EC of The European Parliament and of the Council of 16 December 2002 on the energy performance of buildings (OJ L 1, 4 January 2003) (no longer in force), https://eur-lex.europa.eu/eli/dir/2002/91/oj/eng [accessed 1 May 2026].

Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC (OJ L 176, 15 July 2003) (no longer in force), https://eur-lex.europa.eu/eli/dir/2003/54/oj/eng [accessed 1 May 2026].
Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC (OJ L 176, 15 July 2003) (no longer in force), https://eur-lex.europa.eu/eli/dir/2003/55/oj/eng [accessed 1 May 2026].
Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC (Text with EEA relevance) (OJ L 114, 27 April 2006) (no longer in force), https://eur-lex.europa.eu/eli/dir/2006/32/oj/eng [accessed 1 May 2026].
Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (OJ L 140, 5 June 2009), https://eur-lex.europa.eu/eli/dir/2009/28/oj/eng [accessed 1 May 2026].
Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (OJ L 211, 14 August 2009) (no longer in force), https://eur-lex.europa.eu/eli/dir/2009/72/oj/eng [accessed 1 May 2026].
Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC (OJ L 211, 14 August 2009) (no longer in force), https://eur-lex.europa.eu/eli/dir/2009/73/oj/eng [accessed 1 May 2026].
Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (recast) (OJ L 153, 18 June 2010), https://eur-lex.europa.eu/eli/dir/2010/31/oj/eng [accessed 1 May 2026].
Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC Text with EEA relevance (OJ L 315, 14 November 2012) (no longer in force), https://eur-lex.europa.eu/eli/dir/2012/27/oj/eng [accessed 1 May 2026].
Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (recast) (OJ L 96, 29 March 2014), https://eur-lex.europa.eu/eli/dir/2014/32/oj/eng [accessed 1 May 2026].
Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity (OJ L 27, 30 January 1997) (no longer in force), https://eur-lex.europa.eu/eli/dir/1996/92/oj/eng [accessed 1 May 2026].
Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas (OJ L 204, 21 July 1998) (no longer in force), https://eur-lex.europa.eu/eli/dir/1998/30/oj/eng [accessed 1 May 2026].
Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast) (OJ L 231, 20.9.2023), https://eur-lex.europa.eu/eli/dir/2023/1791/oj/eng [accessed 1 May 2026].
European Commission, COM (2024) 561 final (Proposal for a Directive of the European Parliament and of the Council amending Directive 2024/32/EU as regards electric vehicle supply equipment, compressed gas dispensers, and electricity, gas and thermal energy meter), https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52024PC0561 [accessed 9 October 2025].

European Commission, *Digitalising the energy system – EU action plan* (Communication) COM/2022/552 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52022DC0552 [accessed 9 October 2025].

European Commission, National Building Renovation Plans, https://energy.ec.europa.eu/topics/energy-efficiency/energy-performance-buildings/national-building-renovation-plans_en [accessed 9 October 2025].

European Commission, Smart grids and meters, https://energy.ec.europa.eu/topics/markets-and-consumers/smart-grids-and-meters_en [accessed 9 October 2025].

European Commission, Smart Grids: from innovation to deployment (Communication) COM/2011/0202 final, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0202 [accessed 9 October 2025].

Law 555/2005 Col on Energy Efficiency of Buildings of the Slovak Republic, https://www.slov-lex.sk/ezbierky/pravne-predpisy/SK/ZZ/2005/555/ [accessed 9 October 2025].

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation) (OJ L 119, 4 May 2016), https://eur-lex.europa.eu/eli/reg/2016/679/oj/eng [accessed 1 May 2026].

Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21 December 2018), https://eur-lex.europa.eu/eli/reg/2018/1999/oj/eng [accessed 1 May 2026].

Internet sources

Al-Waisi Z., Opoku Agyeman M., *On the Challenges and Opportunities of Smart Meters in Smart Homes and Smart Grids*, pp. 1–6, https://scispace.com/pdf/on-the-challenges-and-opportunities-of-smart-meters-in-smart-5bgl8677rk.pdf [accessed 9 October 2025].

Dekeyrel S., Fessler M., *Digitalisation: An enabler for the clean energy transition: Discussion paper*, Vodafone Institute for Society and Communications. Sustainable Prosperity for Europe Programme, 2023, pp. 27, https://archive.epc.eu/content/PDF/2023/Vodafone_DP_FINAL.pdf [accessed 6 October 2025].

Florence School of Regulation, *Promoting energy consumer data exchange and interoperability: where do we stand? Highlights from the event 'Fostering Interoperability across Borders: The Case of Energy Consumer Data'*, 6 October 2025, https://fsr.eui.eu/promoting-energy-consumer-data-exchange-and-interoperability-where-do-we-stand/ [accessed 9 October 2025].

Llorca M., Soroush G., Giovannetti E., Jamasb T., Davi-Arderius D., *Digitalisation and Economic Regulation in the Energy Sector* in: *Danish Utility Regulator's Anthology Project Series on Better Regulation in the Energy Sector. Incentives and digitalization for flexibility in the green transition*, (eds.) L. Meeus, T. Jamasb, C. Smidt, Frederiksværk 2024, pp. 17–27, https://forsyningstilsynet.dk/Media/638616385347937203/Danish%20Utility%20Regulator's%20Anthology_vol.2.pdf [accessed 9 October 2025].

Otte K., Stelmach T., Chandan V., Delgado A., *Digitalisation for the Energy Efficiency of Buildings Operations: Lessons Learned from the EE Hub Digitalisation Working Group*. Pacific Northwest National Laboratory, Richland, Washington 2022, https://energyefficiencyhub.org/wp-content/uploads/2022/10/DWGReport.pdf [accessed 9 October 2025].

Yuliia Vashchenko

Zwiększanie efektywności energetycznej budynków w UE w erze cyfryzacji: wyzwania prawne i rozwiązania dla organów krajowych państw członkowskich UE

Streszczenie

Zgodnie z dyrektywą Parlamentu Europejskiego i Rady (UE) 2024/1275 w sprawie charakterystyki energetycznej budynków (EPBD Recast 2024) budynki odpowiadają za ok. 40% końcowego zużycia energii oraz za 36% emisji gazów cieplarnianych związanych z energią w Unii Europejskiej. Cyfryzacja sektora energetycznego stanowi jeden z kluczowych kierunków polityki energetycznej UE, gdyż może w istotny sposób przyczynić się do poprawy charakterystyki energetycznej budynków. Narzędzia cyfrowe umożliwią optymalizację gromadzenia danych dotyczących zużycia energii, ich analizy i zarządzania nimi. Inteligentne systemy pomiarowe (*smart metering*) zapewnią odbiorcom energii precyzyjniejsze dane, co z kolei będzie sprzyjać ograniczaniu zużycia energii oraz wdrażaniu środków poprawy efektywności energetycznej w budynkach.

Zagadnienia związane z cyfryzacją zostały wyraźnie uwzględnione w dyrektywie EPBD Recast 2024. Celem niniejszego artykułu jest analiza problemów prawnych oraz opracowanie potencjalnych rozwiązań wspierających cyfryzację w sektorze budynków w Unii Europejskiej przez organy publiczne państw członkowskich w świetle wymogów, jakie wynikają z dyrektywy EPBD Recast 2024.

Słowa kluczowe: cyfryzacja, charakterystyka energetyczna budynków, inteligentne opomiarowanie, efektywność energetyczna, zmiana klimatu

Юлия Ващенко

Повышение энергоэффективности зданий в ЕС в цифровую эпоху: правовые проблемы и решения для национальных органов власти в государствах-членах ЕС

Резюме

Согласно Директиве (ЕС) 2024/1275 Европейского парламента и Совета об энергетической эффективности зданий (EPBD Recast 2024), в Европейском Союзе на здания приходится приблизительно 40% конечного потребления энергии и 36% выбросов парниковых газов, связанных с энергетикой. Цифровизация энергетического сектора – одно из ключевых направлений энергетической политики ЕС, поскольку она может внести значительный вклад в повышение энергетической эффективности зданий. Цифровые инструменты позволяют оптимизировать сбор, анализ и управление данными о потреблении энергии. Системы интеллектуального учета (*smart metering*) предоставят потребителям энергии более точные данные, что, в свою очередь, будет способствовать сокращению потребления энергии и внедрению мер по повышению энергоэффективности зданий.

Вопросы, связанные с цифровизацией, были рассмотрены в Директиве EPBD Recast 2024. Цель данной статьи – проанализировать правовые вопросы и разработать возможные решения для поддержки цифровизации в строительном секторе Европейского союза государственными органами государств-членов в свете требований, вытекающих из пересмотренной Директивы EPBD Recast 2024.

Ключевые слова: цифровизация, энергетическая эффективность зданий, интеллектуальный учет, энергоэффективность, изменение климата

Yuliia Vashchenko

Migliorare l'efficienza energetica degli edifici nell'UE nell'era della digitalizzazione: sfide giuridiche e soluzioni per le autorità nazionali degli Stati membri dell'UE

Sommario

Ai sensi della direttiva (UE) 2024/1275 del Parlamento europeo e del Consiglio relativa alla prestazione energetica degli edifici (EPBD Recast 2024), gli edifici sono responsabili di circa il 40% del consumo finale di energia e del 36% delle emissioni di gas a effetto serra legate all'energia nell'Unione europea. La digitalizzazione del settore energetico rappresenta uno degli assi portanti della politica energetica dell'UE, in quanto può contribuire in modo significativo al miglioramento della prestazione energetica degli edifici. Gli strumenti digitali consentiranno di ottimizzare la raccolta, l'analisi e la gestione dei dati relativi al consumo energetico. I sistemi di misurazione intelligenti (smart metering) forniranno ai consumatori di energia dati più precisi, il che a sua volta favorirà la riduzione del consumo energetico e l'attuazione di misure volte a migliorare l'efficienza energetica negli edifici.

Le questioni relative alla digitalizzazione sono state chiaramente incluse nella direttiva EPBD Recast 2024. Lo scopo del presente articolo è analizzare le questioni giuridiche ed elaborare potenziali soluzioni a sostegno della digitalizzazione nel settore degli edifici nell'Unione Europea da parte delle autorità pubbliche degli Stati membri alla luce dei requisiti derivanti dalla direttiva EPBD Recast 2024.

Parole chiave: digitalizzazione, prestazione energetica degli edifici, misurazione intelligente, efficienza energetica, cambiamento climatico

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Więcej informacji

Egzemplarz bezpłatny

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