ČESKÁ SPOLEČNOST
PRO PRÁVO
ŽIVOTNÍHO PROSTŘEDÍ

4/2025 (78)
Ročník XXV

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ČESKÉ PRÁVO ŽIVOTNÍHO PROSTŘEDÍ

vědecký časopis

Vydavatel: Česká společnost pro právo životního prostředí, z. s.
Evidenční číslo MK ČR E 11476
ISSN: 1213-5542
datová schránka s ID: 6wn3n53

Časopis je zařazen od roku 2014 na Seznamu recenzovaných neimpaktovaných periodických publikací Rady pro vědu, výzkum a inovace

Adresa redakce:
Náměstí Curieových 7, Praha 1, PSČ 116 40, tel.: 221 005 232
e-mail: stejskal@prf.cuni.cz
www.cspzp.com

Fotografie na obálce:
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Grafická úprava obálky:
RNDr. František Rozkot, CSc.

Sazba a technická redakce provedena
v nakladatelství Eva Rozkotová, Beroun
e-mail: eva@rozkotova.com

Tištěno na papíru splňujícím ISO 14001 a certifikáty EMAS, FSC, PEFC, ECF a C2C.

Náklad: 300 výtisků

Toto číslo vyšlo s finanční podporou projektu CoRe (Beyond Security—Role of Conflict in Resilience Building, CZ.02.01.01/00/22_008/0004595).

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EDITORIAL

MAIN TOPICS

Dear Readers,

It is our pleasure to present this issue of *České právo životního prostředí*, which appears, somewhat exceptionally, as a conference issue. It follows the 26th Czech–Polish–Slovak Conference on Environmental Law, devoted to Resource Independence in Central Europe, held at the Faculty of Law of Masaryk University in Brno on 3–5 September 2025. As the conference proceedings were conducted in English, the present issue has likewise been prepared in English.

The conference sought to provide a forum for the presentation of current legal research, the exchange of professional experience, and critical discussion of the challenges that resource independence and national self-sufficiency pose for environmental law in Central Europe. At a time shaped simultaneously by geopolitical instability, economic vulnerability, and intensifying environmental pressures, questions of access to energy, minerals, land, water, and food have acquired renewed urgency. The discussion therefore extended well beyond the language of self-sufficiency in any narrow sense and focused, rather, on the legal conditions under which resilience, sustainability, and environmental responsibility may be pursued in tandem.

We are honoured to continue the tradition of this conference and, at the same time, to acknowledge the legacy of a distinguished generation of environmental law scholars whose work has shaped the field in our region. In this respect, we wish particularly to express our gratitude in particular to Professor **Milan Damohorský**, Professor **Wojciech Radecki**, and Professor **Soňa Košičiarová**. The need to meet, to exchange views, and to engage collectively with questions of genuine legal and societal significance remains as pressing as ever.

A special part of the conference programme, which we wish to recall here with particular appreciation, was the laudatio dedicated to Associate Professor **Ivana Průchová** on the occasion of her landmark birthday. Ivana Průchová has played a formative role in establishing environmental law and land law within the curriculum of the Faculty of Law of Masaryk University. Equally remarkable has been her personal contribution to the development of younger generations of lawyers and scholars. Many of her former doctoral students, graduates, colleagues, and other academic associates now hold important positions in public administration, the judiciary, and professional practice. They continue to remember not only her intellectual authority and professional rigour, but also her kindness, attentiveness, and generosity. On behalf of all of us, dear Ivana, we wish you good health, personal happiness, and continuing fulfilment in both your professional and private life!

The contributions gathered in this issue reflect the breadth and complexity of the conference agenda. They open with broader reflections on the legal governance of resources: **Milan Damohorský** revisits the distinction between renewable and non-renewable natural resources and the future orientation of Czech natural-resources law; **Zbigniew Bukowski** analyses how the concept of the circular economy has been incorporated into Polish legislation, chiefly through EU-driven reforms; and **Ľudovít Máčaj**, **Matúš Michalovič** and **Maroš Pavlovič** examine food waste as a structural problem of agricultural and environmental governance, arguing for a more coherent legal framework capable of linking waste prevention, the Common Agricultural Policy, and resource efficiency.

Questions of strategic raw materials then come to the fore in **Aleksander Lipiński**'s analysis of the EU Critical Raw Materials Regulation and the shortcomings of Polish law, and in the article by **Vojtěch Vomáčka** and **Jiří Vodička**, which persuasively shows that Czech implementation cannot be reduced to the controversial issue of expropriation but requires a broader regulatory toolbox encompassing exploration, planning, permitting, environmental safeguards, and local participation. **Petr Jimramovský**, in turn, addresses the still insufficiently harmonised field of public administrative inspections in geological law, while **Filip Nawrot** explores the uneasy relationship between cross-border mining and the idea of a just energy transition.

A second cluster of articles turns to the intersections between mining, climate law, environmental assessment, construction, and post-mining restoration. **Lucie Zdráhalová** demonstrates, on the basis of Czech screening practice, that climate considerations remain systematically marginalised in EIA procedures for mining projects, while **Natálie Polanská** confirms, through a comparative analysis of Czechia, Slovakia, and Poland, that this deficiency is by no means confined to one jurisdiction. **Vojtěch Vomáčka**'s further contribution places Czech practice in the light of recent European case-law and argues that the failure to assess downstream emissions and climate vulnerability is no longer legally defensible. **Barbora Pospíšilíková** examines the builder's administrative liability in relation to the sustainable use of natural resources and highlights the fragmentation of the current legal framework; **Mořic Jurečka** considers the reclamation of mining areas through green infrastructure and nature-based restoration; and **Jan Leichmann** analyses the deep geological repository not merely as a technical solution for radioactive waste, but as a question of long-term energy sovereignty, legal foresight, and intergenerational legitimacy.

The papers show that the contemporary law of environmental protection is increasingly shaped by the need to reconcile security of supply, ecological limits, procedural integrity, and social acceptance.

And the doscussion does not end here… On behalf of the organisers from the University of Silesia, we are pleased to invite you to the 27th Czech–Polish–Slovak Scientific Conference on Environmental Protection Law, entitled ***The Effectiveness of Instruments within Broadly Understood Environmental Law***, to be held on 9–11 September 2026.

Further information is available on the conference website: [https://us.edu.pl/wydzial/wpia/polsko-czesko-slowacka-konferencja-naukowa-prawa-ochrony-srodowiska].

Jakub Hanák, Scientific Chair of the Conference
Lucie Zdráhalová, Chair of the Organising Committee

MAIN TOPICS

RENEWABLE AND NON-RENEWABLE NATURAL RESOURCES AND THEIR LEGAL REGULATION

Milan Damohorský

1. Introduction

In my brief contribution, I would like to discuss the concept of natural resources, their categorization, and the legal regulation of their use, using the Czech legal system as an example. I would also like to point out some legal issues from the perspective of *de lege ferenda*.

The Czech Act on the Environment defines natural resources as those parts of living or nonliving nature that humans use or can use to satisfy their needs.[1] These include both things in the material sense (minerals, wood, food obtained from plants and animals, etc.) and energy (electricity, gas, hot water, etc.).

Natural resources and their extraction and use are the only means by which humans satisfy their material needs. This has been the case throughout human history on planet Earth, and will continue to be so.[2] We take all material resources and goods for our biological, social, and economic life from nature. We have nothing else available to us as humanity. There is only one planet Earth, and the use of raw materials from other planets or other space objects is and will probably remain fiction and a wish for the future rather than reality for a long time to come.[3]

Natural resources can be classified into two categories: A) non-renewable and B) renewable. From a human (especially economic) perspective, both categories have their advantages and disadvantages in terms of their use.

According to the Czech Act on the Environment, renewable natural resources have the ability to partially or completely renew themselves, either naturally or with human assistance, as they are gradually consumed, while non-renewable natural resources are depleted through consumption.[4]

[1] Section 7(1) of Act No. 17/1992 Coll., on the environment.

[2] FLEISCHNER, THOMAS L. Natural History and the Deep Roots of Resource Management. *Natural resources journal*. 2005, Vol. 45, No. 1, pp. 1–13.

[3] NADDEO, Vincenzo. One planet, one health, one future: The environmental perspective. *Water environment research*. 2021, Vol. 93, No. 9, pp. 1472–1475. DOI: https://doi.org/10.1002/wer.1624.

[4] Section 7(2) of Act No. 17/1992 Coll., on the environment.

The advantage of non-renewable resources is that they are relatively easy to store and transport. They are also usually available when needed. However, they are distributed rather unevenly across Europe and the entire planet (oil, gas, coal, etc.), which can greatly advantage or disadvantage individual countries. On the other hand, there are negative aspects, as these are mostly fossil fuels that contain carbon (C), which contributes to climate change and global warming when burned or otherwise released into the environment. Of course, they also contribute to general air, water, and soil pollution.[5]

Nuclear energy also belongs to the group of non-renewable resources. However, the problem here is not the emission of greenhouse gases (if we disregard the water vapor produced during the cooling of the power plant), but the safety of operation and the safety of the subsequent permanent storage of spent nuclear fuel (nuclear waste).[6]

By contrast, renewable alternative energy sources are climate-neutral and climate-friendly. However, the production of equipment that converts solar, hydro, biomass, or wind energy into electrical energy also comes at a cost and imposes an environmental burden. Another disadvantage is that such sources are available only at certain times, i.e. only when the sun is shining, the wind is blowing, or there is sufficient water. This raises questions about storage and about overcoming the time gap between production and consumption. These problems can be addressed through technical systems such as batteries or pumped-storage power plants, etc.

Renewable (alternative) energy sources include wind, water, solar, geothermal, and biomass energy.[7] This also includes flora and fauna, from which we obtain food, textiles, and energy (oil, wood, etc.). However, these have their limits of renewability given by growth (the difference between birth and death rates). Even renewable natural resources have their limits of renewability. If, in the long term, the mortality of animal or plant populations exceeds their birth rate, the population gradually weakens and dies out. Renewable resources can thus relatively easily become non-renewable. On the contrary, so-called alternative resources (solar radiation, water, or wind) are, by their physical nature, essentially inexhaustible.

The human population is, of course, also a renewable resource, both in the biological sense (demographic trends) and in the social sense – the inventiveness of the human spirit and the labour force.

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[5] SCHOU, Poul. Polluting Non-Renewable Resources and Growth. *Environmental & resource economics*. 2000, Vol. 16, No. 2, pp. 211–227. DOI: https://doi.org/10.1023/A:1008359225189.

[6] BOUSTANY, Katia. The development of nuclear law-making or the art of legal „evasion". Nuclear law bulletin. 1998, pp. 39–53.

[7] Section 2(1)(a) of Act No. 165/2012 Coll., on supported energy sources and on amendments to certain acts.

2. Concepts and Principles in the Use and Protection of Natural Resources

Although the role of international and EU law in the protection and use of natural resources is gradually growing, national legislation, i.e. that of individual states, continues to play a key role, particularly due to the connection between resources and the territory of the individual states where they are located.

Czech legislation governing the use of natural resources is fragmented and is primarily contained in laws dealing with energy, atomic matters, and mining, and secondarily also in environmental and agricultural legislation.

The State plays a significant (even key) role in the protection and sustainable use of natural resources. The principle of State responsibility in this area is enshrined in the Czech Constitution, which states that the State shall ensure the sustainable use of natural resources and the protection of natural wealth.[8]

Some obligations are also regulated by the Czech Act on the Environment, which stipulates that anyone who uses natural resources is obliged to monitor this activity at their own expense and to be aware of its possible consequences.[9] With regard to economic instruments, the same Act stipulates that natural persons or legal entities shall pay taxes, fees, levies, and other payments for the economic use of natural resources, if so provided by special regulations.[10] On the other hand, the Act provides that special regulations shall determine when legal or natural persons who protect the environment or use natural resources in accordance with the principle of sustainable development may be given preferential treatment in terms of taxes and levies or the provision of loans and subsidies.[11]

The Act on the Environment was probably one of the first pieces of legislation in Czechoslovak history to enshrine the principle of economic incentives (both negative and positive) in the area of the extraction and use of natural resources, albeit only in general terms, leaving the details to be specified in separate legislation.

As regards the legal sources of natural resources law, these are contained in mining, energy, nuclear, and environmental laws. However, these regulations date from different periods and are not closely interlinked, which reduces their effectiveness.

The triad of Czech mining and geological law consists of outdated (albeit repeatedly amended) laws from the end of the socialist period, namely:

- Act No. 44/1988 Coll., on the protection and use of mineral resources (Mining Act),
- Act No. 61/1988 Coll., on mining activities, explosives, and state mining administration,

[8] Article 7 of the Constitution.

[9] Section 18 of the Act on the Environment.

[10] Section 31 of the Act on the Environment.

[11] Section 32 of the Act on the Environment.

- Act No. 62/1988 Coll., on geological works.[12]

The second Czech triad for energy law is:

- Act No. 406/2000 Coll., on energy management,
- Act No. 165/2012 Coll., on support for electricity production from renewable energy sources and on amendments to certain acts (Act on Supported Energy Sources),
- Act No. 458/2000 Coll., on business conditions and state administration in the energy sectors and on amendments to certain acts (Energy Act).[13]

Other Czech legal sources regulating natural resources include the Atomic Energy Act, the Forest Act, the Water Act, the Agricultural Land Protection Act, the Hunting Act, the Fisheries Act, and certain other legal regulations. However, we must not forget the laws governing cross-cutting issues, such as the Building Act, the Environmental Impact Assessment Act, the Integrated Pollution Prevention and Control Act, and the Unified Integrated Opinion Act.

Given that natural resources may be owned by various entities, private law, represented in particular by the Civil Code, comes into play.

The law is undoubtedly one of the means to help achieve a certain balance or, better still, harmony between economic needs, social security, and environmental sustainability in the use of natural resources. However, rather than administrative and punitive instruments, which of course exist and operate here as a last resort, this must be achieved primarily through conceptual and economic instruments.

3. Results and Discussion

Science, research, technology, and digitization are bringing new perspectives and new possibilities for the use of natural resources. The following objective facts and legal principles are evident for the future:

1. The reserves (quantity) of non-renewable resources are finite.
2. Non-renewable resources can only be used within the limits of their renewability.
3. The population of the planet and their consumption requirements are constantly growing.
4. The gap between resources and consumption is widening, and the imaginary scissors are opening further.
5. The burden on the planet, both in terms of the depletion of natural resources and the destruction and pollution of nature, is constantly growing.

[12] VÍCHA, O. *Horní zákon. Zákon o hornické činnosti, výbušninách a státní báňské správě. Komentář.* Praha: Wolters Kluwer, 2017.

[13] EICHLEROVÁ, K. a kol. *Energetický zákon. Komentář.* Praha: Wolters Kluwer, 2016.

6. Science and technology have only limited and partial capabilities to solve these problems.
7. There is a threat of collapse and dysfunction of natural and social systems on Earth.

The solution therefore lies primarily in diversifying sources, promoting savings, reducing demand and consumption of resources, and finally, significantly decentralizing their use and extraction.

4. Conclusion

When it comes to energy sources, there is a clear need for both the Czech Republic and the EU to move towards a mix of sources and to transition to renewable sources as quickly as possible, to a certain extent also nuclear sources, and in particular to savings in materials and energy. The wider introduction of the circular economy has considerable potential for saving materials and energy in terms of waste management.

In its much-discussed and much-maligned European Green Deal, the European Commission has clearly set itself the goal of decarbonisation, i.e. the relatively rapid phasing-out of the extraction and combustion of all carbon-based fossil fuels. Failure to address the issues of climate-change mitigation and adaptation would clearly result in immense financial and other costs.

Humanity's approach to the extraction and use of natural resources must be guided in the future by the principles of conservation, economy, mutual substitutability, functional replacement, and overall balance. We have nothing else with which to satisfy our material needs, and 'our natural-resources-use party is over'.

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Abstract

The present contribution deals with the contemporary issue of the utilisation of both non-renewable and renewable natural resources. The focus is directed towards the role of the Czech natural resources law, in addition to the economic, environmental and social consequences thereof. The conclusions propose several ideas for the future of the law.

Key words

renewable and non-renewable natural resources, environmental law

Acknowledgements

This article was written as part of the RUK – Cooperatio Law – Environmental Law programme and is the result of the work of the Department of Environmental Law at the Faculty of Law of Charles University.

THE CONCEPT OF THE CIRCULAR ECONOMY IN POLISH LEGISLATION

Zbigniew Bukowski

1. Introduction

Over the past several years, the concept of the circular economy has become firmly established in the legal acts and documents of the European Union and its Member States. This economy departs from the previously prevailing linear model of "take – use – dispose" and shifts towards a circular model. It is therefore distinct from the earlier classical (traditional) model.

The starting point for considering the beginnings of the implementation of this concept is the Seventh Environmental Action Programme of the European Union, adopted by Decision No. 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020, "Living well, within the limits of our planet."[1] It set out for the Union the objective of achieving by 2020 an intelligent and sustainable economy, conducive to social inclusion, by defining a number of policy areas and measures aimed at transitioning towards a low-emission and resource-efficient economy.

On the basis of the Seventh Programme, in 2014 the EU strategy on waste management was published – *Towards a Circular Economy: A Zero Waste Programme for Europe*[2]. This document was soon replaced: on 2 December 2015 the European Commission presented the Communication *Closing the Loop – An EU Action Plan for the Circular Economy*[3], which provided a strong foundation for introducing the circular economy concept into EU legislation[4].

A new impulse in implementing the circular economy concept was the European Green Deal[5]. Its consequence was the adoption in 2020 of the *New Circular*

[1] Official Journal of the European Union L 354 of 28 December 2013, pp. 171–200.

[2] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2014) 398 final, 2 July 2014.

[3] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2015) 614 final, Brussels, 2 December 2015.

[4] See: BUKOWSKI, Z., Gospodarka odpadami jako element gospodarki o obiegu zamkniętym w polityce i prawie Unii Europejskiej, in: Zarządzanie gospodarką odpadami, ed. ZABAWA, S., Poznań 2017, pp. 27–41.

[5] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: "The European Green Deal", Brussels, 11 December 2019, COM(2019) 640 final.

Economy Action Plan for a Cleaner and More Competitive Europe[6]. All these EU documents became the basis for preparing a number of legislative changes in EU law[7], which also resulted in changes in the legislation of the Member States.

Among the changes was the incorporation of the very notion of the circular economy into legal acts. From a theoretical and conceptual perspective, this notion should be treated as a programmatic term, setting out the goal towards which we strive – a closed loop of natural resources. The changes mainly consisted of introducing legal instruments intended to implement the circular economy concept.

The circular economy concept is, of course, already subject to scientific[8], including legal, analysis[9].

The purpose of this article is to analyse Polish law in terms of the implementation of the circular economy concept. The analysis will cover Polish legal acts related to this concept.

Beyond legal acts, attention should also be paid to policy documents related to the circular economy. In September 2019, the Roadmap for the Transformation Toward a Circular Economy was adopted. It was one of the projects under the Strategy for Responsible Development by 2020 (with a perspective to 2030). Its implementation was planned for 2021–2023. The main ministries responsible for carrying out its measures were: the Ministry of Development and Technology, the Ministry of Climate and Environment, the Ministry of Agriculture and Rural Development, the Ministry of Infrastructure, and the Ministry of Education and Science. It should be stressed that the implementation period of this document has expired, and no new one has yet been adopted (although work is underway).

The Productivity Strategy 2030, adopted in July 2022, also plays an important role. Its aim is to modernise the structure of the Polish economy, including by increasing the use of secondary and renewable raw materials, reducing industrial

[6] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: "A new Circular Economy Action Plan for a cleaner and more competitive Europe", COM(2020) 98 final, Brussels, 11 March 2020.

[7] For example, the amendment of the Waste Framework Directive. See: BUKOWSKI, Z., Nowelizacja dyrektywy odpadowej, in: Zarządzanie gospodarką odpadami, ed. MANCZARSKI, P., Poznań 2018, pp. 181–198.

[8] Handbook of the Circular Economy, eds. LAZAREVIC, D., FINNVEDEN, G., BRANDÃO, M., Edward Elgar Publishing 2022; Handbook of the Circular Economy. Transitions and Transformation, eds. ALEXANDER, A., PASCUCCI, S., CHARNLEY, F., De Gruyter 2023; KUMAR, A., The Circular Economy: Future of Sustainable Development, 2025; Circular Economy and Sustainable Development. A Necessary Nexus for a Sustainable Future, eds. STEFANAKIS, A. I., NIKOLAOU, I. E., Springer International Publishing 2024.

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waste generation, and supporting the transition towards a circular economy. However, these strategic documents will not be subject to further in-depth analysis.

2. The Circular Economy Concept in the Scope of Polish Waste Law

The most extensive introduction of instruments connected with the circular economy concept has taken place within waste management law. It is only in waste-related legislation that the term "circular economy" explicitly appears.

The term "circular economy" was introduced in the Waste Act of 14 December 2012 in relation to the scope of this Act. Article 1 of the Act states:

"The Act sets out measures to protect the environment, human life and health by preventing the generation of waste and reducing its quantity, as well as the negative impacts of waste generation and management, and by reducing the overall impact of resource use and improving the efficiency of such use, in order to transition to a circular economy."

This wording of Article 1 was introduced by the Act of 17 November 2021 amending the Waste Act and certain other acts (Journal of Laws 2021, item 2151). In its earlier version, Article 1 read:

"Article 1. The Act sets out measures to protect the environment, human life and health, preventing and reducing the negative impacts on the environment and human health arising from waste generation and management, and limiting the overall effects of resource use and improving the efficiency of such use."

These changes must be clearly linked with the transposition of EU law. The original wording of Article 1 of Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives was as follows:

"Article 1

Subject matter and scope

This Directive lays down measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use."

Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste (OJ L 150, 14.6.2018, pp. 109–140) amended the wording of Article 1 as follows:

"Article 1

Subject matter and scope

This Directive lays down measures to protect the environment and human health by preventing or reducing the generation of waste and its adverse impacts, and by reducing the overall impacts of resource use and improving the efficiency of such use,

which is crucial for the transition to a circular economy and for ensuring the Union's long-term competitiveness."

In the explanatory memorandum to the draft Act of 17 November 2021 amending the Waste Act and certain other acts, the change was presented as follows:

"In Article 1 of the Waste Act, the subject matter of regulation was supplemented by indicating that the measures established are of fundamental importance for the transition to a circular economy and for ensuring the EU's long-term competitiveness. Waste management should be based on the principles of the circular economy and support the pursuit of such an economy. The circular economy means an economic system in which the value of products, materials and other resources in the economy is maintained for as long as possible, their efficient use in production and consumption is increased, thereby reducing the environmental impacts of their use, and the generation of waste and the release of hazardous substances at all stages of their life cycle is minimised, including through the application of the waste hierarchy. Both the changes introduced in Article 1 of the Waste Act and in the individual provisions of this draft reflect these assumptions."

The second statutory act in which the term circular economy appears is the Act of 4 September 1997 on Departments of Government Administration (consolidated text: Journal of Laws 2024, item 1370). This Act defines the scope of government administration departments and the competences of the minister responsible for each department. One such department is the climate department (separate from the environment department). This department covers climate and sustainable development matters, in particular in the following areas:

1. participation in shaping climate policy, including within the EU, particularly in negotiations concerning international climate and sustainable development policy;
2. implementation of EU climate policy, including the management of funds for ecological and climate transformation, in particular the management of greenhouse gas emission allowance auctions and the use of funds obtained thereby, taking into account national energy security, including security of energy, energy resources, and fuel supply;
3. protection and management of the environment and rational use of its resources, subject to Article 28;
4. ecological living conditions resulting from the protection of air, soil, protection against noise and electromagnetic fields;
5. control of compliance with environmental requirements and monitoring of the state of the environment;
6. greenhouse gas and other emissions management systems and emissions trading;

7. waste management, including as part of the circular economy;
8. support and promotion of ecological innovations and technologies, taking into account climate and energy transition goals;
9. achieving climate neutrality, in particular through the use of hydrogen technologies, biocomponents and liquid biofuels;
10. management and coordination of programmes for the dissemination, development and promotion of low- and zero-emission technologies, particularly renewable energy sources and transport;
11. socio-economic aspects of ecological and climate transformation;
12. energy efficiency;
13. development and use of renewable energy sources, including prosumer and distributed energy;
14. environmental education and promotion of ecological living conditions – within the department's scope.

Thus, waste management has been directly linked to the circular economy, indicating that waste management constitutes an element of the circular economy.

This provision, creating the climate department as a new department of government administration, was introduced by the Act of 23 January 2020 amending the Act on Departments of Government Administration and certain other acts (Journal of Laws 2020, item 284). This move was more political than substantive, as it aimed to divide the environment department into two separate departments, thereby enabling ministerial positions to be held by individuals from coalition parties forming the then government majority. Incidentally, this situation was short-lived, as after a few months the dualism of ministerial positions was abolished, while the separate departments remained, each headed by the minister responsible for climate and environment.

Among the key instruments introduced in recent years to implement the circular economy are:

- higher targets for preparing municipal waste for re-use and recycling,
- mandatory separate collection of biowaste,
- mandatory separate collection of construction and demolition waste and sorting of fractions from such waste generated by the producer,
- mandatory separate collection of textiles,
- provisions to prevent waste generation, including the planning instrument – the National Waste Prevention Programme,
- the planning instrument – the Food Waste Prevention Programme, as part of the National Waste Prevention Programme,
- a ban on the thermal treatment of selectively collected waste intended for reuse or recycling,

- tightening the system of entries in the electronic Database on Products and Packaging and on Waste Management,
- enabling the identification of municipal waste generated in individual premises of multi-dwelling residential buildings,
- stricter control of municipal waste management by municipal executive authorities,
- bans or restrictions on the use of single-use plastic products,
- tougher administrative fines for unlawful waste management.

This category of legal regulations also includes provisions aimed at introducing, as of 1 October 2025, a deposit-return system for packaging and packaging waste.

The most controversial issue in Poland at present, in the context of potential inclusion in the circular economy concept, is the thermal incineration of waste, particularly municipal waste. The trend towards building new municipal waste incineration plants is so strong (especially with co-financing from external or national sources) that if all plans in this respect were implemented, most municipal waste in Poland would have to be incinerated, making it impossible to achieve recovery and recycling targets.

3. The Circular Economy Concept in Polish Legal Acts Outside Waste Law

The concept of the circular economy also appears in legal acts outside the scope of waste management law. This concerns one type of legal act – executive regulations to acts in the field of financial assistance. Examples include the following legal acts and areas of financial assistance:

- Regulation of 7 November 2022 of the Minister of Funds and Regional Policy on financial assistance granted by the Polish Agency for Enterprise Development under the European Funds for a Modern Economy 2021–2027 programme (consolidated text: Journal of Laws 2025, item 748), in the field of investment aid for efficient resource management and supporting the transition to a circular economy (§ 4(1)(15));
- Regulation of 20 December 2022 of the Minister of Funds and Regional Policy on financial assistance granted by the Polish Agency for Enterprise Development under Priority 1 – Entrepreneurship and Innovation, and Priority 5 – Sustainable Tourism of the European Funds for Eastern Poland 2021–2027 programme (consolidated text: Journal of Laws 2024, item 1729), in the field of investment aid for efficient resource management and supporting the transition to a circular economy (§ 4(1)(1g));
- Regulation of 7 December 2023 of the Minister of Funds and Regional Policy on granting investment aid for efficient resource management and supporting the transition to a circular economy under regional programmes for 2021–2027 (Journal of Laws 2023, item 2664), in the field of investment

aid for efficient resource management and supporting the transition to a circular economy (§ 1(1));

- Regulation of 22 September 2023 of the Minister of Agriculture and Rural Development on detailed conditions for granting and paying financial assistance for operations under Priority 1 – Supporting sustainable fisheries and the restoration and protection of aquatic biological resources under the European Maritime, Fisheries and Aquaculture Fund 2021–2027, and the amount of such assistance (Journal of Laws 2023, item 2128), in the field of assistance under the measure "Environmental protection and reduction of the impact of fishing activities on the environment," granted for operations contributing to the protection and restoration of aquatic biodiversity or ecosystems, including in inland waters, linked to the implementation of a circular economy, including heat recovery (§ 32(7));
- Regulation of 13 January 2023 of the Minister of Funds and Regional Policy on granting financial assistance by the National Centre for Research and Development under the "European Funds for a Modern Economy 2021–2027" programme (Journal of Laws 2023, item 187), concerning investments in efficient resource management and supporting the transition to a circular economy (§ 2(1p));
- Regulation of 25 April 2024 of the Minister of Development and Technology on granting financial assistance by the Polish Agency for Enterprise Development for projects related to the circular economy under the National Recovery and Resilience Plan (Journal of Laws 2024, item 692), in the field of investment aid for efficient resource management and supporting the transition to a circular economy under investment A2.2.1 "Investments in the implementation of environmental technologies and innovations, including those related to the circular economy," specified in Component A "Resilience and competitiveness of the economy" of the National Recovery and Resilience Plan;
- Regulation of 15 February 2024 of the Minister of Climate and Environment on detailed conditions for granting horizontal State aid for environmental purposes by voivodeship environmental protection and water management funds (Journal of Laws 2024, item 213), in the field of investments in efficient resource management and supporting the transition to a circular economy (§ 4(11));
- Regulation of 8 July 2024 of the Minister of Development and Technology on granting de minimis aid and State aid for projects implemented under investment A2.2.1 "Investments in the implementation of environmental technologies and innovations, including those related to the circular economy" supported by the Recovery and Resilience Facility (Journal of Laws 2024, item 1042).

In these regulations, with respect to the types of investments eligible for financial support, reference is made to Article 47 of Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market pursuant to Articles 107 and 108 of the Treaty (OJ L 187, p. 1). That provision indicates that aid is granted for the following types of investments improving efficient resource management through one or both of the following actions:

- net reduction of the amount of resources used to produce a given quantity of output compared with the previously existing production process used by the beneficiary, or with alternative projects or activities listed in paragraph 7. The resources consumed include all material resources used, except energy, and the reduction is determined by measuring or estimating consumption before and after the aid measure, taking into account adjustments for external conditions affecting resource consumption;
- substitution of primary raw materials or feedstock with secondary raw materials or feedstock (reused or recovered, including through recycling).

Another area where changes related to the circular economy are evident is the bioeconomy, including regulations on fertilisers and fertilisation. In this field, the main changes were made directly at EU level through the adoption of Regulation (EU) 2019/1009 of the European Parliament and of the Council of 5 June 2019 laying down rules on the making available on the market of EU fertilising products, amending Regulations (EC) No 1069/2009 and (EC) No 1107/2009 and repealing Regulation (EC) No 2003/2003 (OJ L 170, 25.06.2019, p. 1, as amended). Provisions enabling the national implementation of this regulation were introduced by the Act of 29 September 2022 amending the Fertilisers and Fertilisation Act (Journal of Laws 2022, item 2364), which amended the Act of 10 July 2007 on Fertilisers and Fertilisation (consolidated text: Journal of Laws 2024, item 105, as amended). To this category of acts one may also add the Act of 13 July 2023 on Facilitating the Preparation and Implementation of Investments in Agricultural Biogas Plants and their Operation (Journal of Laws 2023, item 1597). It sets out special rules and procedures for the preparation and implementation of agricultural biogas plants, and rules on building permits and operation of such plants, with the aim of facilitating and accelerating such investments.

Another important area for the circular economy concept is water and wastewater management. Here too, key acts have been adopted at EU level. Of particular significance is Regulation (EU) 2020/741 of the European Parliament and of the Council of 25 May 2020 on minimum requirements for water reuse (OJ L 177, 5.6.2020, pp. 32–55). It lays down minimum requirements for water quality and monitoring, and risk management provisions, for the safe reuse of reclaimed water in integrated water resource management, with the aim of ensuring that

reclaimed water is safe for agricultural irrigation, thereby ensuring a high level of environmental, human and animal health protection, promoting the circular economy, supporting climate change adaptation, and contributing to achieving the objectives of Directive 2000/60/EC[10] by addressing in a coordinated way across the Union the problem of water scarcity and the resulting pressure on water resources, thus contributing to the proper functioning of the internal market.

In the Polish context, under Article 2(2) of this Regulation, the Ministry of Infrastructure, by decision of 22 June 2023 (Ref. DGWiŻŚ-7.704.3.2023), decided on a temporary derogation from the application of Regulation (EU) 2020/741 on minimum requirements for water reuse on the territory of the Republic of Poland.

An important role should also be attributed to the revised Council Directive 91/271/EEC of 21 May 1991 concerning urban wastewater treatment (OJ L 135, 30.5.1991, p. 40), which was recast as Directive (EU) 2024/3019 of the European Parliament and of the Council of 27 November 2024 concerning urban wastewater treatment (recast) (OJ L 2024/3019, 12.12.2024). However, the deadline for its transposition into national law is 1 August 2027.

4. Supreme Audit Office (NIK) assessment of circular economy implementation

The implementation of the circular economy concept in Poland was evaluated in a 2024 report by the Supreme Audit Office (NIK)[11]. NIK highlighted that Poland failed to transpose crucial EU directives on waste (2018/851), packaging (2018/852), and single-use plastics (2019/904) within the required deadlines.

The Supreme Audit Office (NIK) further pointed to a high risk that Poland will fail to achieve the EU-required level of preparing municipal waste for re-use and recycling, i.e. a minimum of 55% by 2025, as well as a significant risk of not meeting the landfill reduction targets (a maximum of 30% by weight in 2025–2029, 20% in 2030–2034, and 10% from 2035 onwards). It was assessed positively that, on a national scale, the amount of separately collected municipal waste has been steadily increasing[12].

NIK also indicated that, according to data from Statistics Poland (GUS), the share of municipal waste recovery in Polish municipalities increased from 57% in 2018 to 61% in 2022, which was mainly the result of a rise in composting and

[10] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327 of 22.12.2000, p. 1).

[11] Informacja o wynikach kontroli „Wdrażanie gospodarki o obiegu zamkniętym", Najwyższa Izba Kontroli, Nr 1/2025/P23/013/KGP, Warszawa 2025, https://www.nik.gov.pl/plik/id,30907,vp,33980.pdf

[12] In 2018, more than 3.6 million tonnes of municipal waste were separately collected (29% of total generated municipal waste), whereas in 2022 – 5.4 million tonnes (40%).

anaerobic digestion (from 8% in 2018 to 14% in 2022), since the recycling rate remained at a similar level (26% in 2018 compared to 27% in 2022).

A negative trend identified in the report is that, according to Eurostat data, the use of recycled materials in Polish industry significantly decreased during the audited period—from 76 million tonnes in 2018 to 46 million tonnes in 2023. This translated into a decline in the circular material use rate from 10.5% in 2018 (10th place among EU Member States) to 7.5% in 2023 (16th place in the EU)[13].

5. Conclusion

This analysis shows that Polish circular economy legislation remains secondary to EU legal acts. Domestic regulations either transpose EU directives or enable the implementation of directly applicable EU regulations. There are currently no purely national instruments specifically designed to advance the circular economy.

Timely and complete transposition of EU legislation is therefore essential. As NIK pointed out, Poland missed transposition deadlines and still has not incorporated all required provisions — for example, extended producer responsibility rules are still under development.

From a practical perspective, achieving municipal waste re-use and recycling targets appears to be the most pressing issue. These obligations fall primarily on municipalities and are backed by very high financial penalties. In view of the difficulties identified by NIK, temporary reductions in these penalties are now being prepared in legislation.

[13] For comparison, the circular material use rate for the EU was 11.6% in 2018 and 11.8% in 2023.

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Abstract

This article analyses the implementation of the circular economy concept in Polish legislation. It shows that the concept has been introduced primarily through EU-driven changes, especially in waste law, financial-support regulations, the bioeconomy, and water and wastewater management. The article also refers to the 2024 report of the Supreme Audit Office (NIK), which points to delays in transposition and serious risks in achieving EU waste targets. It concludes that Polish regulation remains largely derivative of EU law and that the key challenge lies in timely transposition and effective implementation.

Key words

Circular economy; Poland; waste law; EU law; recycling; waste management; transposition; NIK.

FOOD WASTE AND LEGAL RESPONSIBILITY IN EU AGRICULTURAL AND ENVIRONMENTAL LAW

Ľudovít Máčaj, Matúš Michalovič, Maroš Pavlovič

1. Introduction

Food waste is one of the most significant challenges facing contemporary society. The fact that food waste is generated is neither abnormal nor unexpected. It is a natural occurrence that a certain proportion of food remains unused, deteriorates and consequently has to be disposed of. However, the real problem arises for a different reason. In a world that still experiences food shortages in some regions, where famine has by no means been eradicated, it is striking that such a large proportion of food continues to be wasted. Yet this issue is not only social in nature but also ecological, as food waste has a considerable environmental impact, generates substantial amounts of carbon dioxide and thus significantly contributes to the acceleration of climate change. Therefore, we believe it is essential to address this problem. We are convinced that one of the most effective means of doing so lies within the framework of the European Common Agricultural Policy (CAP). It includes a range of conditions whose fulfilment supports agriculture in the European Union and thereby allows us to influence its direction and development in the near future.

In our view, this objective can best be achieved through the instruments of environmental law and the protection of natural resources. In this article, we will therefore examine the following themes: food waste as a legal and environmental challenge; the EU framework and the role of the Common Agricultural Policy; and the link between environmental law and the circular economy, before turning to future directions in terms of legal and practical tools. The research question guiding this article is: *How can EU agricultural and environmental law help to reduce food waste more effectively?*

2. Food waste as a legal and environmental challenge

Food loss and waste constitute a serious challenge in contemporary society. They are not only social and, to some extent, moral issues, but also economic ones. Moreover, they possess a significant environmental dimension, as such waste contributes to the overall generation of waste and its associated impacts. According to FAO, *food loss and waste (FLW) also account for 8–10 percent of global greenhouse gas emissions (GHGs), contributing to an unstable climate and extreme weather events such as droughts and flooding.*[1]

[1] FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS – UNITED NATIONS ENVIRONMENT PROGRAMME. *Tackling food loss and waste: a triple win opportunity.* Rome: FAO, 29 September 2022].

Consequently, the underlying causes of food loss and food waste are not identical, as they stem from distinct stages of the agri-food chain and from different systemic shortcomings. Their occurrence may be attributed to a combination of legal, technical and environmental factors, including inadequate timing of harvest, ineffective quality control and sorting, unfavourable climatic conditions, insufficient or inefficient processing and packaging capacities, and improper storage arrangements for food intended for human consumption.[2] This figure corresponds to almost five times the total emissions produced by the aviation sector. Such a level of emissions is considerable, and it is therefore understandable that they must be addressed as effectively as possible. However, in contrast to sectors such as industry or transport, there is no straightforward mechanism for reducing or eliminating emissions arising from food waste.

It also represents a high share of the overall food market. On a global scale, approximately 1.05 billion tonnes of food waste were produced in 2022, with households accounting for about 60 % of this volume, food services for 28 %, and retail for the remaining 12 %. In aggregate terms, this means that nearly one fifth (19 %) of all food made available to consumers was ultimately discarded across the retail, hospitality and household sectors.[3] Therefore, it may be argued that this issue concerns not only waste management, but the overall governance of food, nutrition, and the agri-food sector as a whole. This remarkable volume corresponds to approximately one fifth of all food intended for consumption. Within this total, around 60 % originates from households, 28 % from the food service industry, and 12 % from the retail sector.[4] Therefore, meaningful change in this field can occur only where consumers themselves take an active role and demonstrate a genuine willingness to engage.

Although the problem of food waste is most characteristic of developed countries, the divide between those who generate food waste and those who suffer from food shortages is not a divide between states, but rather between different segments of the population. Nevertheless, this issue is also highly pronounced in Europe. At present, food waste within the European Union is responsible for approximately 16 % of the greenhouse gas emissions generated by the food system, representing an estimated market value of around EUR 132 billion.[5]

[2] YOU, S., SONNE, C., PARK, Y.-K., KUMAR, S., LIN, K.-Y. A., OK, Y. S. and WANG, F.: Food loss and waste: a carbon footprint too big to be ignored. *Sustainable Environment,* 2022, vol. 8, no. 1, p. 1.

[3] EUROPEAN COMMISSION. *Food waste – Food safety.* Brussels: European Commission, [online] 2025.

[4] CARVALHO, R., LUCAS, M. R. and MARTA-COSTA, A. Food Waste Reduction: a Systematic Literature Review on Integrating Policies, Consumer Behavior, and Innovation. *Sustainability,* 2025, vol. 17, no. 7, art. 3236, p. 1.

[5] BRUNS, H., DE LAURENTIIS, V., GARCÍA HERRERO, L. and LISTORTI, G.: Behavioural insights to reach European Union consumer food waste reduction targets. *Food Policy,* 2024, vol. 128, art. 102725.

It may therefore be stated that food waste constitutes a relatively significant environmental protection issue which, despite its scale and importance, has not received adequate attention. In the following chapter, we shall examine more closely how the European Union addresses this matter within its legislative framework.

3. EU framework and the role of the Common Agricultural Policy (CAP)

However, food waste also encompasses numerous legal dimensions. EU law has long addressed food waste within the framework of waste regulation, most notably through the Waste Framework Directive 2008/98/EC (as amended by Directive 2018/851), which introduced a waste hierarchy giving priority to prevention. Food waste, as such, has not been the subject of any specific regulation or particular legislative focus at either the European or national level, despite its clear and undeniable links to the law.

At the same time, it must be acknowledged that this issue transcends the boundaries of a single branch of law. It is not confined to the regulation of waste management; indeed, it may be stated that it extends even beyond the scope of environmental law. Food waste lies at the intersection of environmental law, agricultural law, consumer protection, and competition law.

Nevertheless, a comprehensive legal framework in this area is still lacking. The earliest regulatory efforts consisted mainly of various soft law instruments, which did not impose direct obligations on individuals or legal entities. The current approach of the European Union, shifting progressively from soft law and policy strategies towards binding preventive obligations, is increasingly regarded as essential.

However, there exists a strong ethical and structural legal mandate for the future adoption of specific legislation in this field. Food waste undermines the principles of sustainable development and intergenerational equity, both of which are firmly embedded in the primary law of the European Union — most notably in Article 3(3) of the Treaty on European Union (TEU) — as well as in international environmental law, exemplified by Principle 3 of the Rio Declaration on Environment and Development, which explicitly addresses the need to safeguard the environment for present and future generations.

European environmental law already enshrines several general principles, such as the duty to prevent environmental harm and the polluter pays principle, both of which may be interpreted as applicable to the agri-food chain. Another key aspect concerns the attribution of responsibility for food waste, which should be understood as both structural and institutional rather than solely consumer-driven. Nevertheless, as noted above, food waste cannot be effectively eliminated without the active engagement of end consumers.

A crucial step, therefore, lies in integrating the fight against food waste into the broader framework of European legislation and policy. This includes aligning

food-waste prevention with the objectives of the Common Agricultural Policy (CAP), the European Green Deal, and the Circular Economy Action Plan, as well as with other non-legislative initiatives designed to promote sustainable resource management across the Union.

In this part of the article, we focus on the influence of the Common Agricultural Policy (CAP) on land use, agricultural production, and food distribution. We are of the view that the relationship between the CAP and food waste may represent one of the key avenues through which this undesirable phenomenon could be effectively mitigated.

The CAP remains the largest single component of the European Union budget, although its share has gradually declined over the past decades, standing at approximately 24.6 % in 2023.[6] Through its instruments, the CAP significantly affects how agricultural land is utilised and which crops are cultivated, sometimes resulting in overproduction and surplus food, particularly through the system of direct payments granted to farmers.

Historically, instruments such as market interventions and export refunds were intended to manage overproduction and stabilise agricultural markets. Nevertheless, these mechanisms have also been criticised for reinforcing structural surpluses and, consequently, perpetuating food waste "by design". This critique has been central to the broader debate concerning the CAP's market orientation and its compatibility with sustainability objectives.[7]

Following the 2013 reform, a set of greening obligations was introduced with the aim of encouraging more sustainable farming practices and aligning direct payments with environmental priorities. These measures sought to integrate biodiversity protection, soil improvement, and climate considerations into agricultural policy.[8] However, their implementation has varied among Member States, and their tangible effect on reducing food waste remains open to further evaluation. It therefore appears that the CAP holds considerable potential to contribute to food-waste prevention, both by shaping production patterns and by promoting a more balanced and sustainability-oriented use of land and agricultural resources within the European Union.

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[6] EUROPEAN COMMISSION – Directorate-General for Agriculture and Rural Development. *CAP expenditure – how the budget of the Common Agricultural Policy is spent.* Brussels: European Commission, [online] November 2024.

[7] GIULIANI, A. and BARON, H.: The CAP (Common Agricultural Policy): a Short History of Crises and Major Transformations of European Agriculture. *Forum for Social Economics,* 2023, vol. 52, no. 5, p. 1.

[8] HRISTOV, J., CLOUGH, Y., SAHLIN, U., SMITH, H. G., STJERNMAN, M., OLSSON, O., SAHRBACHER, A. and BRADY, M. V.: Impacts of the EU's Common Agricultural Policy "Greening" Reform on Agricultural Development, Biodiversity, and Ecosystem Services. *Applied Economic Perspectives and Policy,* 2020, vol. 42, no. 4, p. 718.

However, we consider that one of the major practical challenges lies in the underused potential of the Common Agricultural Policy (CAP) instruments. Despite its considerable policy scope, the CAP still lacks a mandatory component specifically dedicated to food-waste prevention. At present, no binding provision at the EU level directly addresses this issue.

Funds available under the CAP's rural development pillar could, in principle, be used to support short supply chains, food-donation initiatives, or improvements in storage infrastructure. Nevertheless, such measures remain optional for the Member States under Regulation (EU) 2021/2115, which provides a high degree of flexibility in national implementation.

The current conditionality regime under the CAP places strong emphasis on environmental and climate-related standards; however, it does not explicitly target food-waste reduction. This omission reflects a broader gap between the Union's sustainability ambitions and the operational design of its agricultural instruments.

However, the Common Agricultural Policy (CAP) is closely interconnected with other key policies of the European Union, most notably the European Green Deal and the Union's broader Climate Agenda. The European Green Deal sets the overarching objective of achieving climate neutrality by 2050 and places the Farm to Fork Strategy at its core, as a central instrument for promoting sustainable food systems.

The Farm to Fork Strategy, which forms an integral part of the Green Deal, seeks to make Europe's food systems fair, healthy, and environmentally sustainable. Its key objectives include halving the use of pesticides and antimicrobials, increasing the share of agricultural land under organic farming, reducing food waste, promoting sustainable diets, and improving animal welfare, while simultaneously ensuring food security and equitable economic returns for farmers.

Among its quantitative targets, the Farm to Fork Strategy sets a goal of reducing food waste by 50 % by 2030. Additional targets for the same year include a 50 % reduction in pesticide use, a 50 % reduction in nutrient losses, a 20 % reduction in fertiliser use, and achieving 25 % of total agricultural land under organic cultivation.[9]

Within this framework, the CAP Strategic Plans for the period 2023–2027 allow Member States to design and implement eco-schemes that promote resource-efficient farming and reduce food losses along the supply chain. However, the actual extent of such measures depends on the national drafting and implementation of these plans, reflecting the flexibility granted to Member States under Regulation (EU) 2021/2115.

[9] MOSCHITZ, H., STOLZE, M., MICHELSEN, J. et al.: How can the EU Farm to Fork Strategy deliver on its organic promises? Some critical reflections. *Organic Agriculture,* 2021, vol. 11, no. 4, p. 31.

4. Food Waste Prevention

An important element of food-waste prevention lies in the integration of preventive measures into the broader framework of resource and waste legislation. The jurisprudence of the Court of Justice of the European Union (CJEU) has demonstrated how the legal interpretation of waste concepts can significantly influence food-waste management. In Case C-195/05, Commission v Italy (2007), the Court held that food by-products used as animal feed could still be classified as "waste" within the meaning of the Waste Framework Directive. This judgment illustrates how an overly broad definition of waste may, in practice, hinder food donation and reuse activities.

The Waste Framework Directive (Directive 2008/98/EC), which enshrines the principle of the waste hierarchy, establishes prevention as the highest priority in waste management. The Directive is currently under revision to include binding reduction targets specifically addressing food waste, signalling the Union's intention to strengthen its regulatory approach in this area.

Furthermore, food-waste prevention can be embedded within land-use planning and environmental governance mechanisms, for instance through the incorporation of waste-law mandates or the implementation of EU guidelines promoting food donation, redistribution, and reuse. Such measures could ensure that the prevention of food waste becomes an integral part of sustainable resource management at both European and national levels.

Another pressing issue concerns the search for effective implementation pathways in Slovakia and the wider Central European region. Slovakia is currently preparing a Circular Economy Roadmap aimed at reducing pressure on natural resources and promoting the efficient use of materials and food within production and consumption cycles.

The principal legal instrument governing this area is Act No. 79/2015 Coll. on Waste (the Waste Act). Under Slovak legislation, the management of food waste is legally regarded as a part of general waste management and does not enjoy any special legal status. The national framework is linked to the objectives of the Slovak Republic's 2030 Strategy, according to which at least 60 % of municipal waste must be reused or recycled by 2030, while landfilling is to be reduced to 10 % by 2030.[10]

Despite these objectives, Slovakia's current performance remains low: only around 5 % of secondary materials are reused, which clearly demonstrates the need for stronger legal and policy instruments. Planned measures include a potential ban on landfilling retail food waste, as well as the simplification of rules governing food redistribution and composting.

[10] TAUŠOVÁ, M., KOWAL, B., DOMARACKÁ, L., ČULKOVÁ, K., JANIČKAN, M. and WIECEK, D.: Position of Slovakia in EU from the View of Material Recovery of Waste in Circular Economy. *Acta Montanistica Slovaca,* 2023, vol. 28, no. 3, p. 597.

These steps, if properly implemented and aligned with the forthcoming Circular Economy Action Plan and EU waste-law revisions, could mark a crucial shift towards a more resource-efficient and sustainable food system in Slovakia and across the Central European region.

5. National Legal Initiatives and Future Proposals

A crucial element of the current debate on food-waste prevention concerns ongoing policy reforms aimed at strengthening legal accountability. The European Commission has proposed the introduction of legally binding food-waste reduction targets for all Member States by 2030, as part of the forthcoming revision of the Waste Framework Directive and the broader EU Action Plan for the Circular Economy.

In February 2025, the European Parliament and the Council of the European Union reached a provisional political agreement establishing these binding targets. Under the proposed framework, Member States will be required to achieve, by 2030, a 10 % reduction in food waste generated during processing and manufacturing, and a 30 % per capita reduction in the retail, restaurant, food service, and household sectors.

Following formal adoption, Member States will have a period of twenty months to transpose the amended Directive into their respective national legal systems. This reform marks an important step towards transforming policy commitments into enforceable legal obligations and may represent a turning point in the Union's approach to sustainable food governance.

In *France*, the *Anti-Waste and Circular Economy Law* (*Loi n° 2020-105 du 10 février 2020 relative à la lutte contre le gaspillage et à l'économie circulaire*, 2020) introduced a landmark prohibition on the disposal of edible unsold food by supermarkets. Retailers are legally required to donate such food either to charitable organisations or for use as animal feed. This legislation provides a clear example of how binding legal obligations can promote food reuse and redistribution instead of disposal.

In Hungary, the *Project Wasteless* initiative (*Maradék nélkül*), launched in 2016 under the EU LIFE Programme and coordinated by the National Food Chain Safety Office (NÉBIH), represents a well-established example of an integrated national approach to food-waste prevention. The project combines systematic measurement of household food waste with extensive public awareness and education campaigns. According to a replication study applying the EU FUSIONS methodology, the average Hungarian citizen generated approximately 68 kg of food waste per year in 2016, of which about 33 kg was avoidable. These findings provide a reliable empirical basis for policy development and confirm the importance of combining legal instruments, policy tools, and behavioural interventions to achieve measurable progress in reducing household food waste.[11]

[11] KASZA, G., DORKÓ, A., KUNSZABÓ, A. and SZAKOS, D.: Quantification of Household Food Waste in Hungary: a Replication Study Using the FUSIONS Methodology. *Sustainability,* 2020, vol. 12, no. 8, p. 6.

In order to address the problem of food waste effectively, coordinated action is required at all levels of governance — not only at the level of the European Union, but also within national and local frameworks. Strengthening support for local initiatives such as food banks, community kitchens, and programmes promoting the reuse of surplus food represents a crucial element of this effort.

Equal attention must be paid to the legal interpretation of the notion of waste. a more flexible and context-sensitive understanding of this concept could facilitate food donation and reuse, while still ensuring that disposal, where necessary, is carried out safely and in accordance with environmental standards.

Preventive measures should remain at the heart of all strategies, with priority given to reducing waste before it occurs rather than merely managing its consequences. Finally, long-term success will depend on building public awareness and developing the necessary knowledge and skills among citizens, legal practitioners, and public officials alike.

6. Conclusion

In this article, we have examined the issue of food waste, focusing in particular on the ways in which it may be regulated both within the legislation of the European Union and in the national legal frameworks of the Member States. We have concluded that it represents a significant phenomenon that transcends the boundaries of environmental law and, by its very nature, extends into other branches of legal regulation. In response to the research question formulated at the beginning, we can state: EU agricultural and environmental law can reduce food waste more effectively by creating a coherent and enforceable framework that links prevention, redistribution, and sustainable production across the agri-food chain. Strengthening CAP through targeted eco-schemes and integrating explicit food-waste reduction goals into the Waste Framework Directive would provide clear and binding obligations for Member States. Greater coordination between EU and national measures, including food donation, short supply chains, and public awareness initiatives is essential. Embedding prevention as a legal principle within both agricultural and environmental governance could transform these policies from declaratory strategies into tangible instruments for waste reduction.

We are convinced that addressing the issue of food waste will become increasingly relevant in the coming years.

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Abstract

Food waste constitutes not only an ethical and socio-economic dilemma but also a major environmental and legal concern with tangible effects on soil, water and biodiversity. Despite the European Union's ambitious environmental goals, the legal dimension of food-waste prevention remains fragmented and insufficiently embedded within agricultural and resource-governance frameworks. The Common Agricultural Policy (CAP) continues to shape production patterns and land-use practices across Europe, yet its instruments still prioritise productivity and rural development over the full life-cycle of natural resources. This paper examines how the intersection of environmental law, the CAP, the European Green Deal and the circular-economy agenda can reinforce legal responsibility for food-waste reduction and promote more resource-efficient food systems. By analysing EU-level obligations, national measures and the new CAP Strategic Plans, it identifies legal opportunities to integrate waste prevention into land-use planning, conditionality schemes and environmental permitting. The paper argues that food waste should be recognised as a structural governance issue rather than an outcome of consumer behaviour. a coherent legal framework linking agricultural incentives, environmental duties and waste policy could significantly enhance resource independence, climate resilience and the long-term sustainability of European agriculture.

Key words

Common Agricultural Policy, environmental law, food waste, legal responsibility, resource efficiency

Acknowledgements

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

Funded by the European Union. Views and opinions expressed are, however, those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Funded by the European Union

EU CRITICAL RAW MATERIALS REGULATION 2024/1252 AND SOME PROBLEMS OF POLISH LAW

Aleksander Lipiński

1. Introduction

Raw materials of mining origin are essential for many traditional and modern technologies, including those related to renewable energy, the digital transition, defence and other strategic sectors. Unfortunately, mineral deposits are unevenly distributed. As a consequence, at least part of the demand for extracted raw materials must be met through imports from other countries, which may entail economic, political and transport-related risks. Demand for these raw materials is also likely to grow. Access to certain raw materials, and above all to mineral deposits, has likewise become an instrument of political competition.

2. EU Critical Raw Materials Regulation 2024/1252

Awareness of these problems gave rise to the so-called EU Raw Materials Initiative. Its result was the adoption of Regulation (EU) 2024/1252 of the European Parliament and the Council of 11 April 2024 establishing a framework for the secure and sustainable supply of critical raw materials and amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020 (Text with EEA relevance).[1] The comprehensive and detailed provisions of the regulation do not allow for a discussion of the details. Further comments are therefore purely indicative.

Its objective is to improve the functioning of the internal market by establishing a framework to ensure that the Union has access to a secure, resilient and sustainable supply of critical raw materials, including by fostering sustainability, efficiency and closed-loop circulation throughout the value chain (Art. 1(1)). In other words, it is primarily about reducing the risks associated with the supply of critical raw materials to the EU market[2]. This refers to all risks – political, economic, transportation-related, and others.

These objectives are to be pursued, inter alia, through the exploration, identification and extraction of critical raw materials, as well as through their recovery from waste. This also applies to carriers of those raw materials.

[1] OJ L 1252.3.5.2024 with amendments.

[2] HOLLIS, J., CAPUCINE, A., BERTRAND, G., CABIDOCHE, G., de OLIVEIRA, D., DOBNIKAR, D., TERAN, K. and TULSTRUP, J., EuroGeoSurveys Mineral Resources Expert Group. The Geological Survey Organisations in delivering Critical Raw Materials autonomy through a Geological Service for Europe. Przegląd Geologiczny, vol. 73, no. 3, 2025, pp. 215–228.

Raw materials (Art. 3–4):

– strategic raw materials are listed in Annex I, Section 1;
– critical raw materials are listed in Annex II, Section 1.

The Commission:

– is empowered to adopt delegated acts amending both annexes in order to update the lists of strategic and critical raw materials;
– shall review and, if necessary, update the lists of strategic and critical raw materials by 24 May 2027 and every three years thereafter.

The criteria for such updates are set out in the Regulation (Arts. 3–4).

At present:

– Strategic raw materials currently include, inter alia, copper, gallium, germanium, lithium (battery grade), graphite (battery grade), rare earth elements and tungsten.
– Critical raw materials currently include, inter alia, baryte, coking coal, copper, feldspar, gallium, germanium, helium, lithium and rare earth elements (both heavy and light).

According to Art. 10 of Geological and Mining Act[3] all deposits of the above-mentioned minerals are covered by "mining property" that belongs to the State Treasury. It does not refer to the strategic and critical materials or their carriers existing in wastes, *inter alia* in mining wastes.

By 24 May 2025, each Member State had to draw up a national programme for general exploration targeted at critical raw materials and carrier minerals of critical raw materials. Those programmes shall:

- be reviewed at least every five years and updated if necessary;
- include measures to increase the information available on the Union's occurrences of critical raw materials. As appropriate, they shall include the following measures:
- mineral mapping at a suitable scale;
- geochemical campaigns, including campaigns aimed at establishing the chemical composition of soils, sediments or rocks;
- geoscientific surveys, such as geophysical surveys;
- processing of the data gathered through general exploration, including through the development of predictive maps;
- reprocessing existing geoscientific survey data in order to identify previously unidentified mineral occurrences containing critical raw materials and carrier minerals of critical raw materials.

[3] Act of 9 June 2011, Dz.U.2024, item 1290 with amendments (GMA).

The concept of a "strategic project", as determined by the European Commission, is of key importance. Its aim is to contribute to the security of supply of strategic raw materials in the Union. The Regulation stipulates that strategic projects implemented in the Union shall be granted the status of projects of the highest possible national importance, if such status exists in national law, and shall be treated accordingly in the permit-granting procedure. This means that decision-making enabling the implementation of such projects should be facilitated, in particular by shortening the time limits for issuing permits.

3. Situation in Poland

There have been media reports that in May 2025 Poland has submitted programme for the exploration of strategic raw materials to the European Commission[4]. It has not been published in any way. Work on improving it is ongoing.

It is predicted that KPPSK will be approved by way of a resolution of the Council of Ministers and treated as a "governmental programme". However, such a resolution may be regarded only as an internal source of law, binding solely on entities subordinated to the Council of Ministers. It does not have binding force for other entities, especially those conducting business activities in the field of geology, and it cannot serve as the legal basis for decisions addressed to them (Article 93 of the Polish Constitution). One of the foundations of the Polish constitutional system is the principle of the freedom of economic activity, including activities subject to licensing. Recognition of such a programme as a governmental programme means that the tasks specified therein will be financed from the State budget. To date, there is no information that KPPSK has been approved by the Council of Ministers.

The principle of the freedom of economic activity, *inter alia*, means that any legal entity may undertake economic activity, including geological research and mining of minerals, of course after obtaining the relevant permits (license). It can be assumed that the state will order and finance geological research on these raw materials. However, there is no obstacle to an interested investor covering the cost of such activities themselves. Geological and Mining Act[5] stipulates that whoever covers the cost of geological exploration, has the right to use the geological information obtained as a result of it. Having the right to geological information greatly facilitates obtaining a license for mineral extraction.

Numerous obstacles making these objectives difficult to achieve must be mentioned. Only some of them has been indentified[6]. First of all, it is widely known that geological surveys are costly and their results are uncertain. Most

[4] Krajowy Program Poszukiwań Surowców Krytycznych. (KPPSK).

[5] Act of 9 June 2011, Dz. U. 2024, item 1290 with amendments (GMA).

[6] GALOS, K. and SZAMAŁEK, K. Main factors influencing the implementation of the EU Critical Raw Materials Act in Poland. Przegląd Geologiczny, vol. 73, no. 3, 2025, pp. 208–214.

often, these surveys are undertaken when existing geological knowledge leads to the conclusion that there is a high probability of mineral deposit. It is also no secret that geological activity often meets opposition from local communities. As a result, the achievement of the programme's goals may be difficult. Legal requirements also create an obstacle to conducting all geological surveys, including critical and strategic raw materials. Their deposits are covered by mining property belonging to the State Treasury. Their exploration and identification requires a prospecting license granted by the minister competent for the environment.

Obtaining such a licence requires a competitive procedure (Arts. 28i–28l of the GMA) lasting several months and, in practice, at least one year. Moreover, a party to such a procedure may create numerous obstacles, resulting in delays in the grant of the licence. One example is the long-standing dispute over the right to explore copper deposits in Lower Silesia.

A prospecting license is not subject to environmental impact assessment requirements, but such an assessment may be required before approval of a plan for a mining plant conducting geological operations[7]. This applies to:

- the exploration or identification of mineral deposits in marine areas;
- operations carried out using the underground method;
- operations carried out using the drilling method; the details depend on the location and depth of drilling.

This solution is more restrictive than that required by Directive 2011/92/EU. At the same time, it means that obtaining a licence does not guarantee that the project will be implemented. It may turn out that, despite obtaining a licence, the outcome of the environmental impact assessment will lead to the refusal to approve the operation plan. It is widely known that obtaining an environmental decision usually takes many years.

There are also many other legal obstacles that make it impossible to obtain permits efficiently in order to start mineral extraction, including the extraction of critical and strategic raw materials. Examples include an overcomplicated spatial-planning system and the sluggishness of public authorities, including those responsible for geology and mining.

Among other problems, Regulation 2024/1252 provides for increased recovery of critical and strategic raw materials from waste, including mining waste. In Poland, this activity is regulated by the Waste Act 2012. It provides that the extraction of waste from landfills requires a permit. However, depending on the circumstances, waste-recovery processes require, or may require, an environmental impact assessment and

[7] The risks associated with certain geological surveys mean that Polish law applies the provisions on mining operations (Article 86 of the GMA) to such activities.

therefore an environmental decision. This solution should again be regarded as more restrictive than that provided for in Directive 2011/92/EU.

The Regulation is directly binding on all Member States, but achieving its objectives requires the development and implementation of an adequate legislative framework, first of all in relation to:

- geology and mining;
- waste recovery.

Current legal arrangements are clearly inadequate. Although the exploration and extraction of minerals, including critical raw materials, and waste recovery are regulated by law, the existing framework does not enable the objectives of Regulation 2024/1252 to be achieved. The procedures laid down by law are complicated, lengthy and do not encourage the activities regulated by them. It is necessary to create incentives for investors. It is also no secret that the management of mining waste does not always comply with legal requirements. Thermally active coal-waste dumps are one example. Operators required to draw up extractive waste management plans must provide the competent authority with a preliminary economic assessment concerning the potential recovery of critical raw materials from:

- the extractive waste stored in the facility; and
- the extractive waste being generated or, where considered more effective, from the extracted volume before it becomes waste.

This obligation must be fulfilled by 26 May 2026 (Art. 26 of Regulation 2024/1252).

Recently, a draft act on ensuring access to raw materials for the domestic economy, including critical raw materials[8] has been published. Its main objective is to identify the bodies responsible for implementing the tasks specified in the regulation and to create some (only some) mechanisms to facilitate their achievement. Most of these tasks are to be performed by the minister responsible for the environment operating with the help of the Chief Geologist of the Country.

One of the key concepts of the Regulation is the "critical raw materials project". It means any planned facility, or any planned significant extension or repurposing of an existing facility, that is active in the extraction, processing or recycling of critical raw materials. The European Commission decides whether a project is to be regarded as strategic.

If a project involving critical raw materials is deemed strategic, the draft law stipulates that it will be treated as a public-purpose investment within the meaning of the Act of 21 August 1997 on Real Estate Management. This will facilitate the

[8] https://legislacja.gov.pl/projekt/12401805/katalog/13154217#13154217 (access on 24 October 2025).

acquisition of real estate necessary for its implementation and may also facilitate certain administrative decisions.

Unfortunately, it fails to recognize many obstacles that may hinder the efficient management of critical and strategic raw materials. For example, it was not noted that some obstacles could be removed without amending the act of Parliament; it is sufficient for the Polish list of projects requiring or potentially requiring an environmental impact assessment[9] not to exceed the requirements of European law.

The draft law also defines the objectives of the State's raw materials policy; it is to be approved by a resolution of the Council of Ministers. In particular, it should specify:

1) an assessment of the situation regarding the management of mineral deposits and raw materials;
2) priority areas for state action in the field of geology and raw materials;
3) a forecast for individual raw materials, covering a period of not less than 10 years;
4) a list of raw materials that are key to the national economy.

The Regulation stipulates the need to accelerate procedures for obtaining decisions authorising the implementation of any, and not only strategic, projects involving critical raw materials. This applies, among other things, to a "comprehensive decision". It means a decision, or a set of decisions, taken by Member State authorities that determines whether a project promoter is authorised to implement a critical raw materials project, without prejudice to any decision taken in the context of appeal proceedings.

Current legal situation does not allow for the efficient pursuit of activities related to the exploration, prospecting, and extraction of all mineral deposits. Practice shows that proceedings for obtaining a license for the exploration, prospecting, and extraction of minerals can take many years. The shortcomings of the current legal regulations are widely known, but for unknown reasons, public authorities are not taking steps to remedy them. At the same time, work is underway to amend the Geological and Mining Act[10]. However, knowing the mechanisms of law-making, it is doubtful whether the anticipated changes will allow for the quick and effective creation of solutions enabling the implementation of the objectives of the regulation 2024/1252.

Over two years ago, the concept of a "strategic deposit" was introduced into the Geological and Mining Act. Recognising a deposit as such was intended to ensure its protection in local development plans. However, the shortcomings of this

[9] This list is specified by a regulation of the Council of Ministers.

[10] See P. M. WOJTULEK, S. MAZUREK, Europejski *Critical Raw Materials Act* – jakie zmiany dla prawa geologicznego i górniczego w Polsce może przynieść projektowane rozporządzenie w sprawie surowców krytycznych? Przegląd Geologiczny vol. 72, nr 1, 2024, p. 5–12.

regulation have meant that no mineral deposit has yet been granted that status. This leads to a paradoxical conclusion: a mineral deposit containing a strategic raw material within the meaning of Regulation 2024/1252 is not necessarily a "strategic deposit" within the meaning of the Geological and Mining Law.

There are many indications that achieving the objectives of the Regulation will, above all, require the creation of new legal rules, significant financial outlays and, most importantly, time.

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Abstract

Regulation (EU) 2024/1252 of the European Parliament and of the Council of 11 April 2024 establishing a framework for the secure and sustainable supply of critical raw materials requires EU Member States to undertake geological surveys aimed at identifying deposits of minerals classified as critical and strategic raw materials. Member States must develop programmes for such surveys and submit them to the European Commission, while also adopting measures to accelerate the procedures for obtaining permits for the exploration, prospecting and extraction of such minerals. This also concerns environmental impact assessment procedures. Critical and strategic raw materials may also be found in waste, including mining waste. It is therefore necessary to identify their occurrence and to adopt measures

enabling their efficient recovery. Although the Regulation is directly binding on Member States and does not require transposition into national law, achieving these objectives requires substantial changes to Polish law. At present, Polish law contains many shortcomings that discourage potential investors. Obtaining the decisions necessary to undertake the relevant activities requires lengthy procedures, the outcome of which is difficult to predict.

Key words

Strategic and critical raw materials; geological exploration; waste recovery; simplification of procedures; Poland.

LEGAL INSTRUMENTS FOR SECURING CRITICAL RAW MATERIALS IN THE CZECH REPUBLIC: A PATH TO A BROADER REGULATORY TOOLBOX?

Vojtěch Vomáčka, Jiří Vodička

1. Introduction

The EU's decarbonisation strategy, electrification of transport and digitalisation have transformed access to minerals from a largely technical issue into a core question of economic security and geopolitical resilience. For the Czech Republic, a country with a long mining tradition and several prospective deposits of lithium, manganese, graphite and other minerals, this is not merely an abstract European debate. It raises very concrete questions: which deposits should be developed, under what conditions, how quickly and with what impact on local communities and the environment.

Until recently, Czech legal and political discussion around mining policy was dominated by one topic: expropriation of land for mining purposes. The abolition of the mining expropriation title in 2013, its re-introduction in 2024 and the constitutional controversies around this move have attracted significant attention. That perspective, however, seems rather narrow. The 2024 EU Critical Raw Materials Regulation (2024/1252) requires Member States to create an enabling environment for domestic projects across the entire value chain – extraction, processing and recycling – while respecting environmental standards and public participation, thus securing the resources for the green and digital transitions. Expropriation is only one, and arguably the most intrusive, element in a much broader set of legal instruments needed to meet those obligations.

This article therefore deliberately shifts the focus. Instead of reconstructing in detail the historical debate on expropriation, it examines the wider legal toolbox that the Czech Republic must assemble to implement the Regulation: exploration and data generation, spatial planning, permitting procedures, special fast-track regimes, environmental impact assessment, participation rights and, only in the background, expropriation. The guiding question is not whether expropriation is in principle legitimate, but how different instruments can be combined to secure access to critical raw materials in a manner that is constitutionally defensible, environmentally responsible and politically sustainable.

The argument is structured as follows. Section 2 summarises the main features of the Critical Raw Materials Regulation and identifies the points where it creates concrete expectations towards Member States. Section 3 analyses the existing Czech framework, in particular the legal concepts of "critical minerals" and "deposits of

strategic importance" in the Mining Act (No. 44/1988 Coll.)[1] and the emerging practice around them. Section 4 turns to permitting procedures for mining projects linked to critical raw materials and assesses their capacity to satisfy the Regulation's requirements on speed, coordination and legal certainty. Section 5 focuses on spatial planning and local self-government, highlighting the growing importance of sub-national actors for the acceptability and feasibility of mining projects. Section 6 develops a more normative perspective and sketches how an integrated toolbox for implementing the Regulation could look in the Czech context. Section 7 offers concluding remarks on future challenges.

Throughout the article, examples such as the prospective lithium projects in the Krušné hory (Ore Mountains) and manganese extraction in Chvaletice serve to illustrate how European requirements intersect with national law, local politics and social expectations.

2. The EU Critical Raw Materials Regulation: Objectives and Obligations

2.1 Critical and strategic raw materials: lists and benchmarks

Regulation (EU) 2024/1252 is the first binding EU-level instrument dedicated specifically to critical raw materials. It replaces earlier soft-law initiatives (communications and action plans[2]) with a directly applicable framework that combines industrial policy, internal market regulation and elements of security of supply. Besides the general aim of the Regulation to address the EU's current challenges concerning raw material independence and the shift to a circular economy[3] (along with related topics such as decarbonisation, digitalisation, and defence), the Regulation is part of a global trend towards increasing self-sufficiency and protectionism in specific sectors. Similar steps have been taken in the USA, Korea, Canada, and China (including export-restricting measures).[4]

[1] For general information about Czech mining law, see VÍCHA, O., Czech mining law in a nutshell, Prawne Problemy Górnictwa i Ochrony Środowiska, 2/2021, pp. 1–17, https://doi.org/10.31261/ppgos.2021.02.09.

[2] For example, 2008 Raw Materials Initiative, COM(2008) 699 final or 2020 Action Plan on Critical Raw Materials, COM/2020/474 final.

[3] Critical raw materials play, and will continue to play, a vital role in the EU's economy. Therefore, a shift towards a circular economy is necessary to satisfy the EU's growing demand. At the same time, the EU should introduce a legal framework that expands producers' responsibility, enhances the recovery and recycling of critical raw materials, and, where possible, reduces the need for such materials; see VAN GAALEN, J. M. and SLOOTWEG, J. C., From critical raw materials to circular raw materials, ChemSusChem, 2/2024, vol. 18, p. e202401170, https://doi.org/10.1002/cssc.202401170.

[4] HOOL, A., HELBIG, C. and WIERINK, G., Challenges and opportunities of the European Critical Raw Materials Act, Mineral Economics, 3/2023, vol. 37, pp. 661–668, https://doi.org/10.1007/s13563-023-00394-y. See also VESA, S., Critical Raw Materials in the Anthropocene: Regulatory Perspectives on their Promise and Pitfalls, in Bristol University Press eBooks, 2025, pp. 94–120, https://doi.org/10.51952/9781529232912.ch005. See also ARREAZA, A. G., Natural resource sovereignty and economic development in the WTO in light of the recent case law involving raw materials and

The Regulation operates with two concentric categories. The list of critical raw materials covers 34 substances identified as economically and strategically important, exposed to high supply risk. a smaller subset is defined as strategic raw materials, indispensable for key technologies in the green and digital transitions as well as for defence and space applications. These lists are not static; they must be regularly reviewed in light of technological and geopolitical developments.[5] This dynamic element is central: the Regulation is not a fixed mineral canon, but a mechanism for continuously reassessing which materials are critical to the Union's resilience.

Beyond classification, the Regulation formulates quantitative benchmarks to be reached at Union level by 2030.[6] In simplified terms, it seeks to ensure that a substantial proportion of the Union's annual consumption of strategic raw materials is processed and recycled within the EU, while avoiding excessive dependence on a single third country for extraction. These targets are not directly binding on individual Member States, but they set the policy horizon against which national reforms will be measured. For a country such as the Czech Republic, with limited current extraction of critical materials but significant geological potential, the Regulation therefore functions as both a pressure and an opportunity.

2.2 Strategic projects, one-stop shops and time-limited permitting

A key innovation of the Regulation is the concept of "strategic projects". Projects along the value chain – extraction, processing, recycling and, in certain cases, substitution – may be recognised as strategic if they meet criteria relating to their contribution to Union supply, technological relevance, environmental performance and social acceptance. Recognition is granted at Union level and entails several legal consequences.

First, strategic projects benefit from streamlined and time-limited permitting procedures. The Regulation requires Member States to designate a single national competent authority – a "one-stop shop" – responsible for coordinating and facilitating all permits and authorisations upon which the project depends. For extraction projects, the overall duration of the permitting procedure is capped in years rather than decades. The aim is not to abolish substantive requirements (such as environmental impact assessment or compliance with nature conservation law), but to compress and coordinate procedures that are often fragmented across multiple authorities and stages.

rare earths, Review of European Comparative & International Environmental Law, 3/2017, vol. 26, pp. 266–275, https://doi.org/10.1111/reel.12209.

[5] The Commission updates the list of strategic raw materials through delegated acts.

[6] The Regulation uses the term 'benchmarks', which, from a terminological perspective, signals a shift towards a more lenient legal framework compared to 'targets' or 'binding targets' (cf. 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)

Secondly, the Regulation grants strategic projects priority status and the highest national significance possible, where such a status exists in national law. This means that all relevant authorities must treat strategic projects as matters of urgency when resolving disputes or deciding on issues pertaining to permits – in accordance with the time limits prescribed in the Regulation.[7]

Furthermore, the Regulation requires that strategic projects be treated as being in the public interest, at least in a general sense if environmental impacts or specific environmental obligations in EU environmental law[8] are concerned. This does not automatically override all competing interests – the text leaves considerable discretion to Member States when balancing conflicting objectives – but it provides a clear signal for national authorities and courts that critical raw materials projects cannot be treated as ordinary industrial ventures.

2.3 National exploration programmes and monitoring duties

The Regulation is not limited to project-based measures. It also requires Member States to adopt national programmes for geological exploration of critical raw materials. These programmes should expand and update knowledge about the occurrence and characteristics of relevant deposits, including through mapping, geophysical and geochemical campaigns and improved data sharing. Without such information, rational planning of mining projects and infrastructure is impossible.

Moreover, the Regulation establishes a framework for monitoring and risk assessment. Member States must collect data on production, imports, exports, stocks and demand, and cooperate in Union-wide risk assessments, including stress tests for supply chains. This monitoring dimension is easily overlooked in legal debate, yet it is crucial: the ability to react to disruptions depends on an accurate and timely picture of where vulnerabilities lie.

Taken together, the Regulation thus lays down three distinct but interrelated expectations towards Member States: to know their geological potential, to plan and permit projects in a coordinated and timely way, and to monitor supply chains and risks. The following sections examine how far the Czech legal order already responds to these expectations and where adjustments are needed.

[7] BOGOJEVIĆ, S., The European Green Deal, the rush for critical raw materials, and colonialism, *Transnational Legal Theory*, 4/2024, vol. 15, pp. 600–615, https://doi.org/10.1080/20414005.2024.2399408

[8] Article 6(4) and Article 16(1), point (c), of Directive 92/43/EEC, Article 4(7) of Directive 2000/60/EC and Article 9(1), point (a), of Directive 2009/147/EC or in Union legislative provisions regarding the restoration of terrestrial, coastal and freshwater ecosystems.

3. The Czech Legal Framework for Critical Raw Materials

The aims of the legal framework are formulated in the Czech Raw Material Policy for Minerals and Their Resources (2017), issued by the Ministry of Industry and Trade of the Czech Republic. This policy responds to the European Commission's revised list of critical and supercritical minerals from 2014.

Based on the Commission's list and the national policy, several critical minerals were identified in Czechia, specifically graphite and tungsten (wolfram).[9] At the same time, the policy suggests prioritising the recovery of critical raw materials from former ore mining waste (tailings and sludge ponds). This approach is significant because, by prioritising the use of mining waste, the state may avoid resorting to more intrusive legal instruments—such as expropriation—thereby minimising the interference with property rights (as described further below).

Additionally, the policy prioritises the economical use of resources, the maximum possible recycling of used commodities, and efforts to achieve the highest possible material productivity. However, these objectives must not remain in the realm of political proclamations; they must trickle down into other policies and binding legal obligations. The ultimate aim is to achieve a sustainable balance between the economic efficiency of material consumption and the environmental impact of material flows.

3.1 Ownership of mineral resources and the notion of "critical minerals"

Czech mining law retains the traditional dualism between "reserved" *(vyhrazené)* and "non-reserved" (*nevyhrazené*) deposits. Reserved deposits – including most metallic ores, energy minerals and certain industrial minerals – are in the ownership of the State regardless of the ownership of the surface. Non-reserved deposits belong to the owner of the land.

Against this background, the Mining Act introduces a third category: "critical minerals". The provision currently lists a broad group of substances, ranging from radioactive minerals and hydrocarbons to minerals used for the production of metals, certain types of limestone and specific non-reserved construction materials where they occur on deposits treated as reserved. The concept was developed before the adoption of the EU Regulation and reflects Czech concerns about energy security and construction materials more than the Union's classification of critical and strategic raw materials.

This divergence is more than terminological. The Czech category of "critical minerals" is broader and structured differently than the EU lists. Some EU critical raw materials are not clearly covered; conversely, certain Czech "critical minerals"

[9] Both minerals are listed in Annex I – Strategic raw materials and Annex II – Critical raw materials of the regulation 2024/1252.

have limited relevance under the EU framework. For the purposes of implementing the Regulation, this misalignment creates problems of coherence and legal certainty. It is already recognised in legislative discussions, and a proposal to re-align the Mining Act terminology with the EU classification has been prepared. Whether this alignment will be purely formal, or whether it will be used to recalibrate policy priorities, remains to be seen.

3.2 Deposits of strategic importance and government designation

In 2024 the Czech legislator introduced the concept of "deposits of strategic importance" into the Mining Act.[10] a deposit attains this status only if two conditions are met: It must concern a "critical mineral" within the meaning of the Act. Furthermore, the Government must designate the specific deposit by regulation, based on its exceptional importance for raw material or energy security or for the realisation of projects covered by the act on the acceleration of construction of strategic infrastructure.

In theory, this mechanism allows the State to single out a small number of deposits whose development is vital for national interests. In practice, several weaknesses appear.

The first is the timing and selectivity of governmental designation. For more than a year after the re-introduction of the expropriation title, no implementing regulation was adopted. Only in 2025 did the Government designate two deposits – one of them the manganese deposit at Chvaletice – as deposits of strategic importance. Other potential critical raw materials projects, such as lithium in the Ore Mountains, remain in an uncertain position. The political sensitivity of such decisions is obvious; however, legal uncertainty undermines the predictability that both investors[11] and affected communities require.

The second weakness is the lack of systematic connection between Czech "deposits of strategic importance" and EU "strategic projects". The Mining Act's mechanism is purely national and operates independently from the Union's procedure for recognising strategic projects. In principle, a Czech deposit may be designated as strategic without ever obtaining Union-level recognition, and vice versa. From the point of view of the Critical Raw Materials Regulation, this parallelism risks fragmenting policy and complicating coordination. It would be more rational to design national mechanisms with the Union procedure in mind, so that they mutually reinforce rather than compete.

[10] Amendment No. 465/2023 Coll.

[11] Severočeské doly a.s. (owned by ČEZ, a.s.) and European Metals (UK) Limited.

3.3 Expropriation as an exceptional instrument

The new § 32b of the Mining Act re-introduces expropriation for mining purposes, but only for deposits of strategic importance and for certain underground structures such as CO_2 storage. Expropriation is to be carried out under the general Expropriation Act (No. 184/2006 Coll.), with some modifications deriving from the Act on the Acceleration of Strategic Infrastructure (No. 416/2009 Coll.).[12]

This article does not revisit the rich constitutional debate about the compatibility of this solution with the Charter of Fundamental Rights and Freedoms[13], nor the question whether delegation of the identification of specific strategic deposits to a governmental regulation satisfies the requirement that expropriation be "on the basis of law". For present purposes, two more pragmatic observations suffice.

First, expropriation is in practice a last resort. Almost all mining projects depend, before any expropriation is considered, on a complex web of planning decisions, permits, consents and contractual arrangements. Second, the EU Critical Raw Materials Regulation does not require Member States to introduce a special expropriation regime for strategic projects. What it does require, however, is a functioning enabling environment in which potential conflicts over property and land use are anticipated and managed. The following sections therefore turn to those less visible, but more frequently used, instruments: permitting and spatial planning.

4. Permitting Procedures for Mining Critical Raw Materials

4.1 General structure of mining permitting

Mining projects in the Czech Republic are subject to a multi-stage permitting architecture, involving several legal regimes and authorities. At a simplified level, three clusters of decisions can be distinguished:

1) There are decisions under mining legislation *sensu stricto*: exploration licences, the establishment or modification of a mining area (*dobývací prostor*) and permits for mining operations under the Act on Mining Activities (No. 61/1988 Coll.). These decisions are primarily handled by the Czech Mining Authority and regional mining offices.
2) Mining projects usually require land-use and building permits under planning and building law, including, where applicable, environmental impact assessment (EIA). The recodification of public construction law and the entry into force of the new Building Act have modified institutional competences and procedural structures, but have not eliminated the need to integrate mining projects into the general construction framework.

[12] ŽIDEK and HANÁK (2025), p. 253.

[13] Constitutional Act No. 2/1993 Coll., Charter of fundamental rights and freedoms.

3) a range of sectoral permits and consents may apply, including nature and landscape protection, water law, waste management and protection of agricultural land. For projects involving critical raw materials, obligations under EU environmental directives – such as the EIA, Habitats and Water Framework Directives[14] – are often decisive.

This fragmented permitting architecture is not unique to the Czech Republic; similar complexity characterises most Member States. From the perspective of the Critical Raw Materials Regulation, however, such fragmentation is problematic if it results in duplication, inconsistent conditions or excessive duration of procedures. The Czech response has been to introduce special provisions for critical minerals and deposits of strategic importance.

4.2 Fast-track procedures for critical minerals and strategic deposits

The Mining Act and the Act on Mining Activities now contain specific provisions intended to simplify and accelerate permitting for critical minerals and deposits of strategic importance. For example, the Act provides for special rules on the establishment of mining areas for critical minerals and strategic deposits and for simplified or time-bound procedures when authorising mining activities in such areas.

These provisions mirror, to some extent, the logic of the EU Regulation. Projects considered crucial for raw material security should not be allowed to drift in administrative limbo. At the same time, the Czech legislator has so far limited these simplifications primarily to mining law decisions themselves. The broader permitting chain – in particular, spatial planning, building permits and sectoral environmental authorisations – has been only indirectly affected. There is, as yet, no fully fledged national "one-stop shop" with authority to coordinate the entire permitting process for a strategic project in the sense of the EU Regulation.

This partial approach creates the risk that acceleration at one stage will merely shift bottlenecks to others. a mining area may be established relatively quickly, but land-use decisions or environmental consents can still take many years, especially where public opposition is strong. From the point of view of Union law, the Czech Republic will eventually have to address this by designating a single coordinating authority and ensuring that all relevant procedures can be completed within the maximum time-limits set by the Regulation.

[14] Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment
Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora
Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

4.3 Environmental law constraints and safeguards

Any attempt to streamline permitting for critical raw materials must confront the reality that many of the relevant environmental requirements are determined not by national law, but by EU directives and international commitments. That is particularly true for environmental impact assessment, nature and landscape protection and water management.

In practice, mining projects connected with critical raw materials will frequently be subject to mandatory EIA. For projects near or within Natura 2000 sites, an appropriate assessment of impacts on the integrity of the site will be necessary, with the full weight of EU case-law concerning alternatives, mitigation measures and "imperative reasons of overriding public interest". This applies regardless of whether the project is classified as strategic under EU or national law. The Critical Raw Materials Regulation does not create new exemptions or derogations from these environmental regimes.

For the Czech legislator, this has two important implications. First, any national fast-track or "special" procedures must be designed so as to preserve the substance of environmental assessments and public participation – otherwise they risk incompatibility with EU law. Secondly, the quality of early-stage environmental assessment becomes even more important when time-limits are imposed on the overall permitting procedure: poor documentation and inadequate baseline data will generate conflict and litigation that cannot be readily compressed.

4.4 Public participation, administrative review and judicial protection

The Critical Raw Materials Regulation does not abolish existing guarantees of public participation; it presupposes that national permit-granting processes comply with Union environmental law and with the Aarhus acquis. The Regulation explicitly frames permit-granting as the place where environmental, social and safety concerns must be integrated into decision-making on critical raw materials projects, while at the same time calling for streamlined and predictable procedures for "Strategic Projects".

From the perspective of Czech mining law this creates a familiar tension. On the one hand, the Union demands faster and more coordinated handling of projects. On the other hand, EU law requires that the public concerned – including affected individuals, municipalities and environmental organisations – can effectively participate at a stage when all options are still open. The way in which Czech administrative courts have approached participation in proceedings on the delimitation of a mining area (*stanovení dobývacího prostoru*) is therefore central to assessing whether the national framework can accommodate the new EU requirements.

Under Czech law, the delimitation of a mining area is formally an act under the Mining Act, but the Supreme Administrative Court has consistently characterised it as the functional equivalent of a land-use decision. Earlier case-law built this link through the explicit cross-reference in § 27(6) of the Mining Act to the concept of "change in land use" under § 80(2)(b) of the 2006 Building Act (Act No. 183/2006 Coll.). More recent judgments have maintained the same approach even after the partial decoupling introduced by the 2023 amendment of the Mining Act and the transition to the new Building Act (No. 283/2021 Coll.): as long as proceedings were initiated under the former regime, the delimitation of a mining area must still be treated as a decision on land use with corresponding environmental and participatory guarantees.[15]

This doctrinal continuity is important, because it closes off the route sometimes suggested by authorities and operators: to reclassify the delimitation phase as a purely internal, "pre-project" act with no direct external effects, and thus with a much narrower circle of participants.

The case-law shows that this restrictive reading has been expressly rejected. In the early strand of decisions on the relationship between mining law and environmental impact assessment, the Supreme Administrative Court held that it is not permissible to separate the delimitation of the mining area and the subsequent extraction into entirely self-standing projects simply in order to avoid environmental scrutiny. In a leading judgment concerning the Hvozdečko quarry, the Court conceded that the act of designating a mining area is not itself a "project" within the meaning of the EIA Directive, but stressed that, as a matter of substantive law, it already crystallises the basic parameters of the future extraction and must therefore be accompanied by an adequate assessment of its environmental implications.[16]

This reasoning was later generalised into a broader doctrinal statement: the principle of prevention and the precautionary principle require that all questions which can meaningfully be assessed at the delimitation stage must be addressed there; only those questions that genuinely depend on the concrete technical design of extraction may be left to the subsequent mining permit.[17]

The same logic has been applied to participation rights. Authorities have repeatedly argued that there is no room for an extensive circle of participants

[15] Judgment of the Supreme Administrative Court of 16 December 2020, case no. 4 As 116/2020-99, ECLI:CZ:NSS:2020:4.As.116.2020.99.

[16] Judgment of the Supreme Administrative Court of 12 April 2018, case no. 1 As 76/2018-60, ECLI:CZ:NSS:2018:1.As.76.2018.60.

[17] Judgment of the Regional Court in Pilsen of 28 August 2024, case no. 55 a 13/2024-39, ECLI:CZ:KSPL:2024:55.A.13.2024.39. For more information, see DOHNAL, V., Obhájili jsme u soudu práva vlastníků při povolování těžby, Dohnal & Bernard [online], accessed 14 November 2024, https://www.dohnalbernard.cz/index.php/novinky/obhajili-jsme-u-soudu-prava-vlastniku-pri-povolovani-tezby.

in the delimitation proceedings because "real" impacts on the environment and individual rights only arise once mining is authorised. Recent judgments show a clear judicial reluctance to accept this view. In a 2023 case concerning the exclusion of a neighbouring landowner from proceedings on the Mírová I mining area, the regional court – relying on a binding legal opinion of the Supreme Administrative Court – held that the statutory requirement of "direct impact" on property or other rights in Section 28(2) of the Mining Act must be interpreted in the same generous fashion as the corresponding concept in Section 85(2)(b) of the 2006 Building Act.[18]

According to this line of reasoning, a person may be excluded as a participant only where it is obvious from the nature of the project or from the facts of the case that her rights cannot possibly be directly affected. Where such exclusion is not self-evident, the person must be admitted to the proceedings and her objections must be dealt with on the merits.

Subsequent decisions by the Supreme Administrative Court confirm and extend this approach. In a line of cases arising from disputes over gravel extraction in western Bohemia, the Court accepted that the physical environmental impacts of mining – noise, dust, traffic, groundwater draw-down – materialise predominantly in the extraction phase. Nevertheless, it emphasised that the delimitation of the mining area "directly restricts the way in which the land included in the area may be used" and that this restriction itself constitutes a direct interference with property rights. The Court also held that, in these proceedings, authorities must already apply and balance the requirements laid down in special legislation on soil protection, nature and landscape protection, water, forests and other sectoral regimes.[19]

This directly contradicts the thesis that the delimitation decision has no external effects and therefore does not require the participation of those whose land, health or environment may be affected by the project.

Seen from the viewpoint of public participation, three consequences follow from this case-law. First, the delimitation of a mining area is not a neutral "preparatory" step but the key decision on whether a given deposit will be exploited and under what basic conditions. It therefore attracts both the Aarhus requirements for public participation in decisions on specific activities and the more generous domestic standard developed for land-use proceedings. Secondly, in terms of personal scope, the courts require that the category of participants in the delimitation proceedings be aligned with the well-established case-law under the Building Act: this includes not only owners of land within the mining area but also owners of immediately neighbouring properties, municipalities whose territory will be affected and, where statutory conditions are met, environmental NGOs. Thirdly, in terms of

[18] Judgment of the Supreme Administrative Court of 30 September 2025, case no. 4 As 202/2024-29, ECLI:CZ:NSS:2025:4.As.202.2024.29

[19] Ibid.

material scope, the courts insist that environmental objections that go to the basic acceptability of the project, such as the feasibility of avoiding impacts on protected species or the irreversible loss of high-quality agricultural soil, must be considered at the delimitation stage. Authorities cannot postpone these questions to the mining permit merely because the exact technical design of extraction may still evolve.

The emerging Critical Raw Materials Regulation framework is likely to sharpen these tensions rather than to resolve them. On the one hand, the Regulation explicitly calls for prioritisation and expedited handling of strategic projects, limited time-limits for permit-granting and the use of a single point of contact for investors. On the other hand, it repeatedly reaffirms that these mechanisms must operate "without lowering the level of environmental protection" and in full compliance with Union environmental law, which includes the Aarhus Convention, the EIA Directive and the access-to-justice guarantees developed by the Court of Justice.

Against this backdrop, any attempt to respond to the Critical Raw Materials Regulation by re-labelling the delimitation of a mining area as an internal, non-decisional step – or by narrowing the circle of participants on the ground that only the mining authorisation affects rights – would not only depart from settled Czech case-law but would also risk breaching EU law.

For the Czech legislator and administration, the challenge is therefore not simply to "speed up" proceedings but to redesign them so that participation is both meaningful and predictable. In practice, this points towards clearer statutory articulation of who is entitled to participate in which phase of the procedure, greater reliance on early-stage scoping (including public involvement) and more systematic integration of environmental and land-use issues into the delimitation decision. If the delimitation of a mining area is to remain the central decision on whether and how critical raw materials are to be exploited at a given site, then the procedural rights associated with that decision – including broad public participation – cannot be sacrificed without undermining both domestic constitutional principles and the Union's own vision of a "secure and sustainable" supply of critical raw materials.

5. Spatial Planning, Local Self-Government and Mining

5.1 Mining and spatial planning: from coordination to condition

Recent amendments to the Mining Act have strengthened the link between mining decisions and spatial planning. The establishment or modification of a mining area must not be in conflict with spatial planning documentation and with the objectives and tasks of spatial planning. The competent planning authority is required to issue a statement on the consistency of the proposed mining area with the relevant plans.

This shift from mere coordination to a *de facto* conditionality is significant. It means that mining projects, including those relating to critical raw materials, cannot be authorised in areas where spatial plans do not foresee mining, unless the planning documents are first amended. In practice, this places municipal and regional authorities in a powerful position. They can indirectly influence, or even block, mining projects by shaping spatial plans, which are adopted through political processes at local and regional level.

From the perspective of the Critical Raw Materials Regulation, this dual role of spatial planning is ambivalent. On the one hand, it encourages early integration of mining projects into broader territorial development strategies and allows for cumulative impact assessment and coordination with other land uses. On the other hand, it introduces an additional layer of potential delay and conflict, especially where local authorities are sceptical about mining or face strong opposition from residents.

5.2 Planning agreements and benefit-sharing[20]

One response to the tension between national raw material objectives and local concerns is the use of planning agreements or similar instruments through which investors undertake additional commitments towards municipalities: contributions to infrastructure, environmental improvements, community facilities or other benefits. Czech law recognises such agreements in the field of construction, and they are increasingly used for large residential and commercial projects.

Their direct applicability to mining projects is, however, limited. Mining involves different time horizons, environmental impacts and ownership structures. Reserved deposits belong to the State, not to the investor or the municipality; the investor typically holds mining rights but not full control over the resource itself. Moreover, the specific statutory framework of mining law and the special duties of mining operators (including rehabilitation and aftercare obligations) complicate the direct transplantation of standard planning agreements into the mining context.

A more promising avenue may be to develop a tailored legal framework for agreements between mining operators, municipalities and, where relevant, the State, explicitly addressing issues such as long-term rehabilitation, compensation for loss of amenity, local employment, training, and participation in revenues from

[20] For more information concerning planning agreements and their use under the previous Building Act (Act No. 183/2006 Coll.), see ZAHUMENSKÁ, V., ZAHUMENSKÝ, D., SVOBODA, P. a HUMLÍČKOVÁ, P., Smlouvy o rozvoji území obcí: když je investor za humny, Právo prakticky, Praha: Wolters Kluwer, 2019. ISBN 978-80-7598-597-2. For more recent information concerning planning agreements under the new Building Act (Act No. 283/2021 Coll.), see KALENSKÝ, T., KORBEL,F., GABRHELOVÁ, P. and FOGLAR, F., § 130–132. In: BURSÍKOVÁ, L., KORBEL, F., ČERNÝ, P., LACHMANN, M., ROZTOČIL, A., BOHADLO, D. a kol., Stavební zákon, 1st ed., Praha: C. H. Beck, 2025, pp. 1045–1070.

extracted minerals. Such a framework would not replace formal permitting and spatial planning, but could supplement them by providing more predictable and transparent benefit-sharing mechanisms. This could significantly increase local acceptance of critical raw materials projects, thereby indirectly contributing to the objectives of the EU Regulation.

5.3 Municipal revenues and distributional justice

Spatial planning powers are not the only lever that municipalities possess. They also benefit, to varying degrees, from charges and fees linked to mining activities. The structure and amount of these payments influence local perceptions of mining: where communities see tangible benefits, opposition may be lower; where costs are localised and benefits diffuse, resistance is likely.

In the context of critical raw materials, the question of revenue distribution acquires a European dimension. The Union seeks to secure materials needed for technologies that will serve all Member States, yet the environmental and social burdens of extraction are concentrated in mining regions. If the Czech Republic is to expand extraction of critical raw materials in line with the Regulation, it will need to consider whether current fiscal arrangements adequately reflect this asymmetry. Strengthening municipal revenue shares or earmarking part of the proceeds for local development and environmental remediation could form part of a broader strategy to align local and European interests.

6. Towards an Integrated Toolbox for Implementing the Critical Raw Materials Regulation

6.1 Aligning terminology and legal categories with EU law

The first, and in some ways simplest, step is conceptual alignment. The Czech categories of "critical minerals" and "deposits of strategic importance" should be harmonised with the EU concepts of critical and strategic raw materials and strategic projects. This does not mean that national law cannot go further – for example by treating certain construction materials as nationally critical even if they are not on the EU list – but the relationship between national and Union categories must be transparent and rational.

Such alignment would reduce legal uncertainty and facilitate participation in Union-level processes for the recognition of strategic projects. It would also provide a clearer framework for national debates about which deposits should be prioritised and under what conditions. Without conceptual clarity, the risk is that policy will be driven by ad hoc political decisions rather than by coherent criteria.

6.2 Designing an effective "one-stop shop"

The Critical Raw Materials Regulation requires each Member State to establish a single national authority responsible for coordinating permits for strategic projects. For the Czech Republic, this raises institutional design questions. Should the role be assigned to an existing authority (for example the Ministry of Industry and Trade, the Czech Mining Authority or a newly empowered central construction authority), or should a new, dedicated body be created?

Whatever solution is chosen, the "one-stop shop" must be more than a mere contact point. It needs legal powers to coordinate timelines, resolve conflicts between authorities, ensure completeness and consistency of documentation and provide guidance to applicants and the public. At the same time, it must operate within the constraints of EU environmental law and domestic constitutional guarantees of local self-government and access to justice.

A purely formal designation of a coordinating authority, without corresponding changes to procedures and competences, would not satisfy the spirit of the Regulation. Conversely, a central authority endowed with extensive powers but insufficient resources and expertise would risk becoming a bottleneck rather than a facilitator. Careful institutional engineering, based on realistic assessment of administrative capacity, is therefore essential.

6.3 Sequencing instruments: from exploration to expropriation

One of the strengths of the EU Regulation is its emphasis on the entire value chain, from exploration to recycling. National legal frameworks, by contrast, often focus on one stage – usually extraction – and treat others as auxiliary. An integrated Czech toolbox should reflect the full sequence.

At the exploration stage, the national programme required by the Regulation offers an opportunity to modernise geological data collection and open it to a wider set of stakeholders, including municipalities, researchers and investors. Transparent, high-quality data reduce uncertainty and facilitate rational decisions about which deposits to prioritise and which areas to protect.

At the planning stage, early identification of areas with high critical raw materials potential can inform spatial planning documents and infrastructure planning. This does not mean that all such areas should automatically be earmarked for mining, but that potential conflicts can be addressed proactively rather than reactively.

At the permitting stage, specific time-limits, coordinated procedures and clear division of responsibilities should reduce unnecessary delays without compromising environmental standards. This may involve codifying the expectation that certain issues (for example, basic environmental constraints) be resolved at early stages,

whereas others (such as detailed technical conditions of mining operations) can be addressed later.

Expropriation, if it enters the picture at all, should do so only after these instruments have been exhausted. It is a tool for resolving residual conflicts where a project is otherwise fully justified and carefully designed, not a shortcut for bypassing planning, participation or negotiation. In practice, the more effective the upstream instruments are, the less frequently expropriation will be needed.

6.4 Managing conflicts: procedural innovation and benefit-sharing

Critical raw materials projects will inevitably generate conflicts of interest: between national objectives and local concerns, between climate benefits of clean technologies and local environmental impacts, and between different visions of regional development. Legal instruments alone cannot eliminate these conflicts, but they can structure them in more or less productive ways.

Beyond standard administrative procedures, Czech law could make greater use of procedural innovations such as structured stakeholder dialogues, mediation or negotiated agreements supervised by public authorities. These mechanisms do not replace formal decision-making, but can help clarify interests, identify acceptable compromises and reduce the likelihood of litigation.

Benefit-sharing arrangements, whether through tailored planning agreements, revenue-sharing schemes or community funds, can also play an important role. If local communities can see concrete, predictable benefits from critical raw materials projects, their willingness to accept environmental and social burdens may increase. Conversely, if they perceive that they bear the costs while the benefits flow elsewhere – to the State budget, to distant consumers or to foreign investors – resistance will be strong, regardless of the formal legal framework.

From the perspective of the Critical Raw Materials Regulation, such arrangements are not marginal. The Regulation explicitly recognises social acceptance and environmental performance as criteria for strategic projects. National systems that can credibly deliver both will be better placed to attract investment and to justify, in Brussels and at home, the development of sensitive projects.

7. Conclusion: Future Challenges for the Czech Republic

The adoption of the EU Critical Raw Materials Regulation creates a new context for Czech mining law and policy. It does not dictate which specific deposits must be developed, nor does it require the introduction of special expropriation regimes. Instead, it demands that Member States build a coherent framework within which strategic projects can be identified, planned, permitted and operated at a pace compatible with the Union's climate and industrial objectives, and under conditions compatible with environmental and human-rights standards.

For the Czech Republic, this involves at least four interrelated tasks.

First, the conceptual framework of mining law must be aligned with EU categories, so that "critical minerals", "deposits of strategic importance" and "strategic projects" form a consistent system rather than overlapping and partly divergent classifications.

Secondly, the permitting architecture needs to be adjusted to meet the Regulation's requirements on coordination and time-limits. This cannot be achieved solely by tinkering with mining law; it requires integration with spatial planning, construction law and sectoral environmental regimes, and a realistic assessment of administrative capacity.

Thirdly, the role of spatial planning and local self-government must be recognised not as an obstacle but as a structural element of critical raw materials governance. Municipalities are gatekeepers of land use and key actors in social acceptance. Instruments such as tailored agreements and benefit-sharing mechanisms can help reconcile national and local interests, but they must be fitted into a clear legal framework.

Fourthly, expropriation must be placed in its proper context. It may remain necessary in exceptional cases, particularly for deposits of strategic importance that cannot be accessed otherwise. However, an implementation strategy that relies primarily on expropriation, while neglecting exploration, planning, participation and benefit-sharing, would be politically fragile, constitutionally vulnerable and potentially inconsistent with the spirit of the EU Regulation.

The Czech response to the Critical Raw Materials Regulation is still evolving. Legislative proposals to adjust mining law terminology and to adapt national procedures are under discussion. The examples of lithium in the Ore Mountains and manganese at Chvaletice show both the opportunities and the tensions that lie ahead. Whether the Czech Republic will be able to use its geological potential to contribute to the Union's raw material security, while maintaining high standards of environmental protection and respect for property and local self-government, will depend less on individual legal instruments than on the ability to assemble them into a coherent, forward-looking regulatory toolbox.

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Abstract

The EU Critical Raw Materials Regulation (Regulation (EU) 2024/1252) marks a structural shift in the governance of mineral resources in Europe. Rather than treating mining primarily as a national industrial policy issue, the Regulation reframes critical and strategic raw materials as a common concern of the Union, to be secured through binding quantitative targets, streamlined permitting and coordinated exploration and monitoring. This article examines how the Czech legal order can respond to these requirements and which legal instruments – beyond expropriation – will be decisive for their effective implementation.

The analysis proceeds in three steps. First, it outlines the main obligations stemming from the Regulation, with particular attention to strategic projects, time-limited permitting, one-stop shops, national exploration programmes and monitoring duties. Secondly, it analyses the Czech framework for mineral resources, focusing on the concepts of "critical minerals" and "deposits of strategic importance", on fast-track procedures in mining and mining-related legislation, and on the relationship between mining permits, environmental law and judicial protection. Thirdly, it explores the role of spatial planning and local self-government in managing mining projects, including the potential and limits of planning agreements and benefit-sharing mechanisms.

The article argues that expropriation can only be understood as a subsidiary, last-resort instrument within a much wider regulatory toolbox. Future Czech implementation of the Regulation will be judged less by the formal possibility to expropriate and more by the capacity to integrate exploration, planning, permitting, environmental safeguards and local participation into a coherent, predictable and EU-compatible system.

Key words

Critical Raw Materials Regulation; critical raw materials; strategic projects; Czech mining law; permitting procedures; spatial planning; local self-government; expropriation; energy transition; raw material security.

Acknowledgements

We would like to thank the CoRe (Beyond Security – Role of Conflict in Resilience Building, CZ.02.01.01/00/22_008/0004595) project for its support.

PUBLIC ADMINISTRATIVE CONTROL IN GEOLOGICAL LAW – – NATIONAL AND EU PERSPECTIVES

Petr Jimramovský

Introduction

The aim of this paper is to explain the role of public administration inspections (hereinafter referred to as "inspections") in enforcing legal regulations designed to protect the geological environment and the environment as a whole from the impacts of mining, and to assess whether the current legal framework governing this type of inspection is adequate. In addition to binding legislation, I will also mention non-binding documents that may assist competent authorities in enforcing mining and related laws through inspections.

The environment is naturally a synergistic system composed of many interconnected components. The legal regulation of the protection of individual components reflects this interconnectedness. In relation to mineral resources and the geological environment, two branches of regulatory protection can therefore be distinguished. The first concerns the protection of this segment of the environment stricto sensu, while the second encompasses the protection of other environmental components that may also be threatened by interventions in the geological environment (in particular, mining and the chemical processing of minerals). While the latter branch is extensively regulated under EU law, the former is addressed by EU law only marginally. Both branches, however, should function synergistically so as to ensure the sustainability of mining and related activities.

An inherent part of public law regulation are instruments designed to respond to situations that deviate from the state of affairs anticipated by such regulation. Within the scope of environmental legislation, the emergence of an undesirable situation can typically be addressed by the imposition of remedial measures, which primarily serve a restorative purpose, or by establishing administrative or, in more serious cases, criminal liability of the polluter. Another integral element of environmental regulations is the reflection of the principles of prevention and precaution[1].

None of the above-mentioned functions of environmental law could, however, operate satisfactorily without effective public administration inspections. These serve both as a preventive tool and as a means of collecting information for subsequent sanctioning procedures or proceedings on the imposition of remedial measures.

[1] For deeper understanding of the precautionary principle see: BÁNDI, Gy (2020): Interests of Future Generations, Environmental Protection and the Fundamental Law In: JAEL (29) 7-22 DOI: https://doi.org/10.21029/JAEL.2020.29.7.

Regulation of Environmental Inspections in European and Czech (Including Mining) Law

Taking into account the synergistic nature of the environment and the European Union's persistent efforts to regulate certain of its components, one might expect that a comprehensive secondary legal act dedicated specifically to environmental inspections would exist at the EU level. As will be discussed below, however, this assumption does not reflect reality. Inspections are carried out almost exclusively by national inspection authorities under domestic legislation, which is influenced by EU law to a rather limited extent.

The European Union has long been aware of the need to regulate environmental inspections. This need arises primarily from the differing quality and inconsistency in the way inspections are conducted across Member States, which can have highly negative effects, especially in cases of transboundary pollution—not to mention their adverse impact on fair competition. To summarize briefly, the EU's attempts to achieve comprehensive harmonisation of environmental inspections have so far been unsuccessful. In 2001, in cooperation with the non-profit organization IMPEL, the European Parliament and the Council adopted the *Recommendation of 4 April 2001 providing for minimum criteria for environmental inspections in the Member States* (so-called "minimum standards"; see below). In 2011, the European Commission issued an evaluation report on the implementation of this Recommendation[2], concluding that implementation had been uneven across Member States, and that the form and quality of inspections therefore remained highly variable throughout the EU. In the report, the Commission expressed support for a revision of the minimum standards (which ultimately did not take place) and for the inclusion of inspection rules into individual sectoral EU instruments, while keeping the possibility of broader harmonisation open for the future. Scholarly literature generally considers the harmonisation of inspections both inevitable and desirable[3]. This view has recently been reinforced by the adoption of the new *Directive on Environmental Crime*[4], which explicitly and implicitly highlights the

[2] Impact assessment study into possible options for revising Recommendation 2001/331/EC providing for minimum criteria for environmental inspections (RMCEI) Final Report ENV.G.1/FRA/2006/0073. 2011. Accessible from here: https://cdm21069.contentdm.oclc.org/digital/collection/ppl1/id/147455/.

[3] See i.e. VOMÁČKA, V., STROUHAL, J. (2017). Požadavky unijního práva na provádění kontrol v oblasti ochrany životního prostředí. In HANÁK, J. PRŮCHOVÁ, I., a kol. Kontrolní mechanismy při prosazování ochrany životního prostředí. Brno: Masarykova univerzita, 2017. ISBN 978-80-210-8597-8., HEDEMANN-ROBINSON, M., (2016). Environmental Inspections and the EU: Securing an Effective Role for a Supranational Union Legal Framework. Transnational Environmental Law [online]. **6**(1), 31–58. [20 January 2025]. Available from: doi: 10.1017/s2047102515000291.

[4] 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. Accessible from here: Directive – EU – 2024/1203 – EN – EUR-Lex.

importance of inspections in the enforcement of environmental criminal law. The proposal for this directive[5] also indicates that problems associated with inspection practices across Member States persist[6].

At present, the regulation of environmental inspections can be found only in certain sector-specific directives and regulations, and even then, it is often rather fragmented and general in nature. In relation to mining-related regulation, reference may be made to the *Directive on the management of waste from extractive industries*[7], which contains only a general framework for inspections. However, this framework is specified in detail by a Commission implementing decision[8], representing the most extensive binding EU regulation of inspections related to mining law – and one of the most detailed EU instruments on environmental inspections overall. It lays down detailed rules for conducting routine, non-routine, and unannounced inspections of extractive waste facilities; rules for inspection documentation; requirements regarding the professional competence of competent authorities and the planning of inspections; and particular attention to different types of facilities, depending on the kind of extractive waste and the stage of the facility's life cycle.

From the field of geological law, the *Directive on the geological storage of carbon dioxide*[9] can be mentioned, which contains only general conditions for inspection planning, the conduct of extraordinary inspections, their frequency, the requirements for the final inspection report, and, where relevant, the aspects of the operation or activities of the inspected entity to which the inspecting authority should pay particular attention.

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5 Návrh směrnice Evropského parlamentu a Rady (EU) o trestněprávní ochraně životního prostředí a o nahrazení směrnic 2008/99/ES a 2009/123/ES. Accessible from: IMMC.COM%282021%29851%20final.CES.xhtml.1_CS_ACT_part1_v2.docx (europa.eu).

6 For deeper understanding of the history of the EU efforts in this field, the differences between national environmental inspections laws, and the influence of the inspections on criminal liability enforcement, see JIMRAMOVSKÝ, P. (2025). Úprava environmentálních inspekcí v právu Evropské unie a její budoucí vyhlídky. Časopis pro právní vědu a praxi, 33(3), 471–497. https://doi.org/10.5817/CPVP2025-3-4.

7 Art. 17 of the Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries and amending Directive 2004/35/EC, implemented to § 16 of the Act No. 157/2009 Coll., on the Management of Mining Waste. Accessible from here: Directive – 2006/21 – EN – EUR-Lex. All Czech laws are accessible from: Zákony pro lidi – Sbírka zákonů ČR v aktuálním konsolidovaném znění.

8 Commission Implementing Decision (EU) 2020/248 of 21 February 2020 laying down technical guidelines for inspections in accordance with Article 17 of Directive 2006/21/EC of the European Parliament and of the Council (notified under document C(2020) 889) (Text with EEA relevance). Accessible from here: Prováděcí rozhodnutí – 2020/248 – EN – EUR-Lex.

9 Art. 15 of the Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 (Text with EEA relevance). Accessible from here: Directive – 2009/31 – EN – EUR-Lex.

Mining activities are also covered by the *Regulation on reducing methane emissions in the energy sector*[10]. This regulation imposes a requirement on national inspection authorities to conduct so-called "initial routine inspections" of relevant installations. On the basis of these inspections, a risk assessment must be drawn up for each site, followed by a plan of subsequent routine inspections. The regulation also provides for the possibility of carrying out "non-routine inspections," intended for investigating complaints, verifying compliance, or remedying acute undesirable situations. It further specifies the operational aspects to be addressed during both routine and non-routine inspections, as well as the requirements for final inspection reports, which may serve as a basis for imposing corrective measures on operators.

As already noted above, mining and related activities naturally affect various components of the environment. Some EU legal acts therefore regulate such activities indirectly through other environmental instruments that also contain provisions on inspections. This is the case, for instance, with the *Birds* and *Habitats Directives*[11], which are reflected in the Czech *Act on the Protection of Nature and the Landscape* ("ZOPK")[12]. This act does not contain specific provisions on inspections, but it is rich in provisions concerning the protection of mineral resources, nature, and the landscape against the impacts of mining[13]. Worth mentioning is also Section 62 of the Act, which regulates a specific instrument related to inspections—*entry onto land*[14]. The scope of this instrument is broader, as it serves to enable competent authorities to perform all tasks entrusted to them under the ZOPK[15]. Although its title might suggest that it merely provides authorization for officials to enter land, it also includes a range of additional powers, such as taking samples, performing measurements, and requesting information. Unlike inspections under

[10] Art. 6 and Art. 33 of the Regulation (EU) 2024/1787 of the European Parliament and of the Council of 13 June 2024 on the reduction of methane emissions in the energy sector and amending Regulation (EU) 2019/942 (Text with EEA relevance). Accessible from here: Regulation – EU – 2024/1787 – EN – EUR-Lex

[11] Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Accessible from here: Directive – 2009/147 – EN – Birds Directive – EUR-Lex and Directive – 92/43 – EN – Habitats Directive – EUR-Lex.

[12] Act No. 114/1992 Coll.

[13] For instance, Section 4 (protection of significant landscape features), Section 12 (protection of landscape character), Sections 16, 29, 35 and 36 (special area protection), and Section 51 (a provision on specially protected minerals, which has not yet been applied in practice).

[14] For more detailed understanding of this institute see Jimramovský, P. (2025). Právní aspekty ochrany dřevin rostoucích mimo les. Časopis pro právní vědu a praxi, 1(2025). Retrieved from https://www.cspzp.com/wp-content/uploads/2025/08/CSPZP_1_2025_3.pdf.

[15] For example emergency works etc.

the *Inspection Code* (kontrolní řád)[16], however, Section 62 ZOPK does not authorize entry into buildings.

A number of European environmental acts limit their provisions on inspections to setting out requirements to carry them out, defining parameters for inspection planning, specifying cases in which extraordinary inspections must be conducted, or regulating the outputs of inspections and the aspects that should be addressed by inspecting authorities. This is also true of the *Industrial Emissions Directive* (on integrated pollution prevention and control)[17]. For a long time, this directive did not apply to mining or related activities. This changed with the 2024 amendment[18], which introduced a new point 3.6 in Annex I, adding the extraction of specified mineral resources to the list of regulated activities[19]. According to the new Article 73(4) of the Directive, the Commission will also review the need to regulate emissions from onshore and offshore oil and gas extraction, as well as from non-energy industrial minerals used in sectors other than construction and from newly initiated ore mining.

As already mentioned, the protection of the geological environment and the regulation of mining activities are, to a large extent, governed by national legislation. In the Czech Republic, this includes the *Act on Geological Works*[20], the *Mining Act*[21], and the *Act on Mining Activities*[22]. Only the latter provides more detailed regulation of inspection-related powers; however, it is primarily a technical and safety regulation and therefore cannot be regarded as an environmental law act in the narrower sense[23].

[16] Act No. 255/2012 Coll.

[17] Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (recast) (Text with EEA relevance). Accessible from here: Directive – 2010/75 – EN – EUR-Lex.

[18] Directive (EU) 2024/1785 of the European Parliament and of the Council of 24 April 2024 amending Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (integrated pollution prevention and control) and Council Directive 1999/31/EC on the landfill of waste (Text with EEA relevance), with the transposition date until 1 July 2026. Accessible from: Directive – EU – 2024/1785 – EN – EUR-Lex.

[19] To a large extent, these comprise so-called strategic raw materials as defined in Regulation (EU) 2024/1252 of the European Parliament and of the Council of 11 April 2024 establishing a framework to ensure a secure and sustainable supply of critical raw materials and amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020 (Text with EEA relevance)—that is, for instance, bauxite, nickel, manganese, cobalt, lithium, and tungsten, as well as other „non-strategic" materials such as iron, lead, and chromium. Accessible from here: Directive – EU – 2024/1785 – EN – EUR-Lex.

[20] Act No. 62/1988 Coll., on Geological Works

[21] Act No. 44/1988 Coll., Mineral Resources Act (Mining Act)

[22] Act No. 61/1988 Coll., on Mining Activities, Explosives, and the State Mining Administration

[23] § 15, § 42

There is no specific legal act regulating environmental inspections in the Czech Republic, unlike in Poland[24], for example. Public administration inspections are governed uniformly across all administrative sectors by the *Inspection Code*, the provisions of which are further modified by special administrative laws. Under the regime of the Inspection Code, inspections should be understood as a procedure applicable prior to the possible initiation of administrative proceedings (either sanctioning proceedings or proceedings on the imposition of remedial measures). Once administrative proceedings have been initiated, the administrative authority—usually identical to the inspection authority—must treat the inspected entity as a party to the proceedings. This entails stronger protection of that entity's rights and thus a more challenging position for the authority when gathering additional evidence[25]. This fact has in the past manifested itself in difficulties in applying the concept of *environmental damage* (*ekologická újma*)[26]. Proceedings on the imposition of preventive or remedial measures[27] may be initiated upon request by (a) a person (potentially) affected by environmental damage or (b) an environmental NGO, in which case administrative proceedings are deemed to have been initiated under § 44 of the Administrative Procedure Code. The other possibility is for proceedings to be initiated *ex officio* by the authority itself. In practice, this typically occurs following a *submission* (*podnět*)[28], in which case the authority may carry out an inspection beforehand. However, if the submission is made by a person under point (a), that person cannot become a party to the proceedings and therefore cannot defend their rights, including access to court. Currently, an amendment to the *Act on Environmental Damage* has been submitted to the Chamber of Deputies with the aim, among other things, of remedying this situation. The amendment would replace the "request for initiation of proceedings" with a "motion to initiate proceedings," combining features of both a request (the applicant becomes a party to the proceedings and can appeal the dismissal of the motion) and a submission (the motion does not automatically trigger the initiation of proceedings, allowing for prior inspection). The environmental damage legislation may in the future find application in connection with geological and mining law, especially in cases of accidents affecting several environmental components simultaneously[29]. However,

[24] Ustawa z dnia 20 lipca 1991 r. o Inspekcji Ochrony Środowiska. Accessible from here: Legal basis – Chief Inspectorate for Environmental Protection – Portal Gov.pl (www.gov.pl).

[25] Mainly § 54 and § 138 of the Act No. 500/2004 Coll., the Administrative Code.

[26] Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, implemented into Act No. 167/2008 Coll. Accessible from here: Directive – 2004/35 – EN – EUR-Lex.

[27] § 8

[28] § 42 of the Administrative Code.

[29] Government Bill Amending Act No. 167/2008 Coll., on the Prevention and Remediation of Environmental Damage and on Amendments to Certain Acts, as amended, and Other Related Acts (Parliamentary Press No. 870). Accessible from: Sněmovní tisk 870.

deliberation on the proposed amendment has been suspended for several months and appears to be indefinite[30].

As a final note, spatial information within the meaning of the *INSPIRE Directive* – including data on energy and mineral resources and geological information – may serve as a useful tool for inspection authorities, particularly when planning inspections[31].

Non-binding instruments

At the EU level, there are a number of non-binding methodological documents from which national inspection authorities can draw guidance on good inspection practices. These documents often include case studies, lists of aspects that should be taken into account during inspections, or elements of protected sites that may be particularly affected by certain activities and should therefore receive special attention during inspections.

In relation to mining activities, examples include the Commission's guidebook *"Non-energy Mineral Extraction and Natura 2000"*[32], the *JRC Science for Policy Report – a Review of European Union Legal Provisions on the Environmental Impact Assessment of Non-energy Minerals Extraction Projects*[33], and the *EU Principles for Sustainable Raw Materials*[34].

A particularly significant non-binding document is the aforementioned set of minimum standards for environmental inspections, issued in the form of a Recommendation based on a document prepared by the non-profit organization IMPEL. Although the minimum standards do not specifically target inspections related to mining activities as such – since they are designed to reflect existing EU environmental legislation – that legislation, as already noted above, often regulates components of the environment that may be affected by mining. The minimum standards explicitly refer to the protection of air and water, the regulation of waste management, industrial emissions, and the inspection of the implementation of remedial measures[35]. They are

[30] Ibidem.

[31] Annex II. points 4, 20 and 21 of the Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE), implemented to the Czech § 11a etc. of the Act No. 123/1998 Coll., on the Right to Information about the Environment. Directive accessible from here: Directive – 2007/2 – EN – EUR-Lex.

[32] Accessible from here: Guidance document on non-energy mineral extraction and Natura 2000 – Publications Office of the EU

[33] Accessible from here: JRC Publications Repository – a review of European Union legal provisions on the environmental impact assessment of non-energy minerals extraction projects

[34] Accessible from here: EU principles for sustainable raw materials – Publications Office of the EU

[35] Recommendation of the Parliament and of the Council of 4 April 2001 providing for minimum criteria for environmental inspections in the Member States. OJ L 118, 27.4.2001. Accessible from here: EUR-Lex – 32001H0331 – EN – EUR-Lex

not highly specific; rather, they define desirable objectives for inspections rather than concrete parameters. They emphasize the educational and restorative functions of inspections, outline the general powers of inspection authorities, inspection planning, situations warranting unplanned inspections, and parameters for investigating serious accidents.

The IMPEL organization — whose primary mission is to provide a platform for cooperation and exchange of experience among national inspection authorities and to facilitate their communication with the European Commission — has also developed a number of other methodological documents that inspection bodies may use in their activities. With respect to mining operations and their environmental impacts, these include, for example, *Permitting and Inspection under Article 6(3) of the Habitats Directive: Quarries and Open Cast Mining* (2018)[36], the *Management of Mining Waste Project* (2019), and *Guidance for Tackling Illegal Groundwater Drilling and Abstraction* (2024)[37].

Summary

Public administrative environmental inspections have not yet been uniformly regulated at the level of European law, despite the fact that environmental interests are the subject of EU regulation and that European institutions are aware of the importance of inspections for their effective enforcement, as well as of the persistent differences in the quality and manner of their implementation across Member States. EU law generally does not intervene in matters concerning the protection of mineral resources; however, mining activities may adversely affect numerous components of the environment whose protection the European Union actively promotes. The unification of rules governing environmental inspections should therefore be regarded as both an inevitable and appropriate step, which would undoubtedly have an impact on the conduct of inspections in the field of mining and geological law as well.

In my view, although a number of non-binding methodological documents exist that can serve as a basis for inspections related to this area of law, only a clear, comprehensible, and—above all—binding regulation of inspections can ensure the effective enforcement of European environmental law, including its criminal law dimension, and enable the remediation of environmental damage, particularly in cases with cross-border implications.

[36] Accessible from here: Permitting under Article 6 (3) of the Habitats Directive – Permitting under Article 6 (3) of the Habitats Directive – Impel

[37] Accessible from here: Tackling illegal groundwater drilling and abstractions (TIGDA) – Tackling illegal groundwater drilling and abstractions (TIGDA) – Impel

About the author

Petr Jimramovský focuses on geological, mining and environmental law, with particular attention to public administrative inspections and enforcement mechanisms.

Abstract

This article examines the role of public administrative inspections in geological and mining law, with particular attention to their environmental dimension and to the interaction between national inspection regimes and EU law. It shows that, although mining-related inspections remain regulated primarily at the national level, EU law increasingly shapes their objectives and minimum parameters through sector-specific legislation, environmental liability rules and the broader enforcement agenda reflected in the new Environmental Crime Directive. The article analyses the Czech framework for inspections in mining and related environmental matters, highlights its links to the general Inspection Code, and discusses the practical significance of non-binding EU and IMPEL guidance. It concludes that only clearer and binding rules on environmental inspections can ensure effective enforcement, prevention and remediation, especially where mining activities create cross-border environmental risks.

Key words

geological law; mining law; environmental inspections; public administrative control; Inspection Code; environmental liability; EU environmental law; IMPEL; Czech Republic.

CROSS-BORDER MINING IN THE LIGHT OF A JUST ENERGY TRANSITION

Filip Nawrot

Introduction

The changing situation on the energy market, climate change and the departure from traditional energy sources make it necessary to look for other solutions. The number of available mineral deposits is limited and currently they are slowly depleted. It is therefore necessary to search for new deposits necessary to meet economic needs. For this reason, man reaches for deposits located under the seabed or in areas not covered by state authority.

Nowadays one of the problems that arises in connection with the exploration and extraction of minerals is the situation when it is located in the territory of two or more countries. Such a situation raises several doubts as to the legal basis for such activity.

On the other hand, just energy transition is underway, and it also creates questions about the future of mining and mineral resources. In connection with the above, the question also arises whether the activity in the field of cross-border mining is in line with the idea of a just energy transition.

Cross border mining

The first question is what cross-border mining is in general. Currently, there is no good and precise definition of the concept of cross-border mining, even though this phenomenon is known and the concept is used, both in the literature and in practice. For example, cross-border integration is indicated as one of the issues related to geological and mining law, the solution to which remains elusive. The success or failure of many projects is closely related to the achievement of cooperation by independent and sovereign states.

The doctrine argues that effective management of natural resources requires the joint efforts of all governments of the countries sharing a given natural deposit[1]. It is also noted that cross-border mining and environmental protection in connection with the conducted mining are closely linked to national policy and economic development[2].

The legal regime for conducting activities in the field of cross-border mining is difficult to determine, because legal regulations in this area are very poorly developed and there is no single universally binding legal act that would address

[1] R. Guo, *Cross-Border Resource Management. Theory and Practice*, Amsterdam 2004, p. 32.

[2] Ibidem.

this issue. Therefore, it is necessary to refer to other sources of international law, i.e., inter alia, its principles, the practice of states and international jurisprudence.

As far as the definition is concerned, for the purposes of my research, I assumed that cross-border mining is a mining activity, but also a geological activity, because it is difficult to consider these two aspects separately, carried out in relation to shared natural resources, which are also minerals. It follows that this activity will mainly concern the border area, i.e. it will be carried out either at the state border or in its immediate vicinity[3].

In addition, it should be pointed out that shared natural resources are those natural resources whose deposits are located under or on the border of at least two different countries, the use of which is possible from the territory of all countries on the territory of which the deposit is located and the use of which may have both a positive and a negative impact on these countries.

When discussing the individual elements of the adopted definition, it should first be emphasized that geological activity is also analyzed. This is due to the fact that the object of geological activity is the study of the interior of the earth, and without proper recognition in this area, mining cannot be carried out. Actions taken before the extraction of minerals also concern shared natural resources and may also have effects in neighbouring countries. Therefore, the activities in question will include prospecting, exploration and extraction of minerals from deposits.

It should be pointed out that cross-border mining can be understood in a narrow and broad way. The above definition applies to a narrow approach, because in a broad sense, cross-border mining also refers to geological and mining activities that are also carried out with respect to domestic resources, but their effects occur on the territory of neighbouring countries. At the moment, that aspect is left aside.

The shared natural resources that are the subject of cross-border mining must, of course, be minerals. These are not the same concepts, because minerals are one of the types of natural resources[4].

Just transition

Next, the question of what exactly a just transition is should be answered. The Just Transition Mechanism is a key tool designed to ensure that the transition to a climate-neutral economy takes place in a fair manner and leaves no one behind. The Mechanism provides targeted support to invest around €55 billion in the regions most affected by the negative socio-economic impacts of the transition between 2021 and 2027 and mitigate these impacts.

[3] About cross-border mining and it's definition see more: F. Nawrot, *Górnictwo transgraniczne w świetle prawa polskiego*, Katowice 2025 and literature cited there.

[4] Ibidem, p. 58–59.

The Just Transition Mechanism helps to mitigate the social and economic impact of the transition and focuses on the most affected regions, industries and workers. The mechanism consists of three pillars:

1) Just Transition Fund – With a budget of €19.7 billion in current prices and €7.3 billion in national co-financing, for a total of €27 billion, is expected to be raised.
2) The Just Transition Scheme under InvestEU – will provide a budgetary guarantee under the InvestEU programme in all four policy windows. The InvestEU Advisory Hub will be the central point of contact for advisory assistance. The system is expected to generate €10-15 billion, mainly in the form of investments in the private sector.
3) The Public Sector Loan Facility – includes €1.5 billion in grants financed by the EU budget and €10 billion in loans from the European Investment Bank. This money will generate €18.5 billion of public investment[5].

The territorial just transition plans define the areas that will receive funding from the Just Transition Fund. These areas are identified through dialogue with the Commission. The plans contain descriptions of the challenges specific to each area, their development needs and the goals to be achieved. They define the types of activities planned and the management mechanisms. The approval of the territorial just transition plans paves the way for receiving dedicated funding from the other two pillars of the Just Transition Mechanism.

At present, five voivodeships in Poland benefit from JTF funds: dolnośląskie, łódzkie, małopolskie, śląskie and wielkopolskie (Lower Silesia, Łódź, Lesser Poland, Silesia and Greater Poland).

According to assessments, the Silesian and Greater Poland Voivodeships are currently conscientiously preparing for a just transition. Their programs are the most refined and comprehensively address the issues of transformation.

The Lower Silesian Voivodeship is also well prepared for the transformation of the Wałbrzych subregion. The planned activities will enable the development of the region and mitigate the effects of the energy transition. However, there are regions that have not yet received financial support.

Cross-border mining as a tool for just transition?

Finally, it is necessary to consider whether cross-border mining can help in any way in a just transition. This time, my hypothesis that cross-border mining can be a useful tool in a just transition turned out to be rather false.

[5] About just transition see more: K. Bell, *Working-Class Environmentalism: An Agenda for a Just and Fair Transition to Sustainability*, London 2020; P. Hampton, *Workers and Trade Unions for Climate Solidarity*, London and New York 2015; E. Morena, K. Dunja, S. Dimitris, *Just Transitions: Social Justice in the Shift Towards a Low-Carbon World*, London 2020.

For example, a just transition is based on changing the employment of existing mine workers, m.in. creating more employment opportunities in new and transitioning sectors. So, for example, does the employment of miners of a decommissioned mine in a mining plant operating in the field of cross-border mining fit into this pattern?

The answer to that question is not obvious, because the answer is partly yes and partly no: it does not amount to a change of profession, that is, retraining assistance. However, this can be treated as an intermediate step, in which people from decommissioned mines temporarily move to other mines. Of course, this does not only apply to cross-border mining, but also to activities undertaken with regard to domestic natural resources.

At the moment, this is also a fairly theoretical assumption, because there are no mining plants that are entirely focused on cross-border mining. However, this may change in the future.

By the way, we can mention an interesting practice that is not entirely related to cross-border mining, but to cross-border relations. In Poland, during the liquidation of mining plants, as well as in group redundancies, it happened that miners received large severance pay, on the condition that they would not take up employment in any mine. However, this ban is omitted in such a way that former employees of Polish mines move to the Czech Republic and work in the mines there. However, this issue requires further and in-depth research[6].

Conclusion

In conclusion, after an analysis of both cross-border mining and the just energy transition, the hypothesis described at the beginning has been disproved. It should be noted once again that cross-border mining cannot fully work as a just transition mechanism sensu stricte. On the other hand, using this sector as an intermediate step in a just transition can be useful.

[6] https://www.money.pl/gospodarka/kopalnie-czeskie-gornicy-polscy-niedlugo-nawet-2-tysiace-osob-straci-prace-6540143427287169a.html, access: 2.11.2025.

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About the author

Filip Nawrot is the author of this contribution on cross-border mining and the legal aspects of a just energy transition.

Abstract

The changing situation on the energy market, climate change and the departure from traditional energy sources make it necessary to look for other solutions. Nowadays one of the problems that arises in connection with the exploration and extraction of minerals is the situation when it is located in the territory of two or more countries. Such a situation raises several doubts as to the legal basis for such activity. The question arises whether cross-border mining can be used as a tool in the just energy transition.

Key words

cross-border mining; just transition; energy transition; shared natural resources; mining law; Poland

ASSESSMENT OF CLIMATE IMPACTS IN THE EIA PROCESS AND THE ROLE AND PRACTICE OF THE SCREENING STAGE IN MINING ACTIVITIES IN THE CZECH REPUBLIC

Lucie Zdráhalová

1. Introduction

The climate dimension of the environmental impact assessment (hereinafter "**EIA**") includes both mitigation and adaptation.[1] Mitigation addresses the contribution of projects to climate change through the assessment of direct and indirect greenhouse gas emissions (hereinafter "**GHG**").[2] Adaptation, by contrast, focuses on the vulnerability of project to future climate conditions and their capacity to cope with climate changes.[3]

Directive 2014/52/EU marked a significant shift, amending Directive 2011/92/EU and explicitly requiring assessment of both climate change mitigation and adaptation.[4] The legislative intent is underlined by Recitals 7, 13 and 15, which establish climate change, biodiversity and disaster risk as key assessment areas, require evaluation of both GHG emissions and climate vulnerability, and link climate resilience to accident prevention.[5] Annex IV requires EIA documentation to cover mitigation and adaptation, [6] while Annex III adds climate-related risks, including major accidents and disasters, as criteria for screening decisions.[7]

The Czech Act No. 100/2001 Coll. (hereinafter "EIA Act") formally transposed this amendment in 2017, requiring both mitigation and adaptation assessment and introducing criteria for climate-related risks. Yet nearly eight years post-

[1] Article 3, Annex IV of Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014L0052 [accessed 21.10.2025].

[2] Environment Agency. Jaký je rozdíl mezi adaptací na změnu klimatu a mitigací / zmírňováním změny klimatu? [no date]. European Online. Available at: https://www.eea.europa.eu/cs/help/cas-to-kladene-dotazy/jaky-je-rozdil-mezi-adaptaci [accessed 21.10.2025].

[3] European Commission, Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment [online], available at: https://op.europa.eu/en/publication-detail/-/publication/3ed0e578-7f24-4073-81c9-f279c6d4b3cf [accessed 21.10.2025], page 18.

[4] Recitals of Directive 2011/92/EU, as amended, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02011L0092-20140515 [accessed 29.10.2025].

[5] Recitals of Directive 2011/92/EU, as amended, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02011L0092-20140515 [accessed 29.10.2025].

[6] Annex IV of Directive 2011/92/EU, as amended, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02011L0092-20140515 [accessed 21.10.2025].

[7] Annex III of Directive 2011/92/EU, as amended, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02011L0092-20140515 [accessed 21.10.2025].

transposition, a troubling gap persists between legal obligation and practical implementation. Screening, the critical gatekeeper phase that determines whether the project undergoes a full EIA and shapes the scope of any subsequent climate evaluation, represents the first opportunity to integrate climate considerations into the assessment process. However, the practical application of the Directive's climate provisions at the screening stage remains empirically unexplored, particularly in sectors with inherently high climate impacts.

This article's central thesis is that the marginalisation of climate considerations in screening decisions cannot be adequately explained by deficiencies at the screening stage itself. Rather, screening outcomes reflect multiple intersecting problems: pre-minimised climate assessment submitted by developers, absent of operational methodologies, institutional capacity limitations, and broader structural deficits within the EIA system itself. Screening thus functions as a revelatory moment: it exposes systemic problems that, whilst not unique to this procedural stage, manifest here with particular clarity and determine the trajectory of climate assessment throughout the remainder of the process.

This article examines two questions. First, how, and to what extent, are climate change considerations integrated into the EIA process particularly in the screening phase under EU law and national transposition? This question addresses the legal framework, its interpretative scope, and the gap between formal obligations and operational guidance. Second, what patterns can be observed in the treatment of climate-related impacts in screening decisions for mining activities in the Czech Republic, and what do these patterns reveal about the structural constraints facing screening authorities? This question moves beyond documentation of practice to diagnosis of systemic causation.

2. Methodology and scope

To address these questions, a qualitative analysis was conducted of ten Czech mining projects from 2017-2024, comprising projects under Act No. 100/2001 Coll. (hereinafter "**EIA Act**"), Annex I: Category II/79 (surface mining operations – establishment of extraction areas and surface extraction of mineral raw materials above specified thresholds of 5 hectares or 10,000 tonnes/year, plus peat extraction) and Category II/81 (underground mining operations – establishment of extraction areas and underground mining without capacity limits). The mining sector was selected as having inherently high climate impacts both in terms of GHG emissions and vulnerability to climate risks.

The analysis examined developers' approach to climate assessment in project notifications, screening authorities' approach to climate considerations and application of the Annex III climate-disaster criterion. This approach reveals not

isolated failures, but a systemic pattern of climate marginalisation flowing through the entire screening process.

This article acknowledges that the patterns observed in screening practice point towards deeper structural problems within the EIA framework; however, these broader systemic dimensions are noted rather than subjected to detailed analysis here. This article focuses on how those challenges manifest and crystallise at the screening stage, with consequences that reverberate through the entire assessment process.

3. The role of the screening phase – the screening phase as a gatekeeper

The screening phase performs a crucial gatekeeper function within the EIA process. This function has particular significance for climate mainstreaming: screening not only determines whether the project undergoes a full assessment, but also potentially shapes the extent and scope of any subsequent climate evaluation, making it the first and often determinative opportunity to integrate climate considerations into the EIA process.

The preventive rationale of the EIA Directive requires that climate aspects be taken seriously from the very beginning of the process, including the screening stage.[8] This preventive logic is not a mere procedural nicety but reflects the Directive's fundamental objective: to ensure that environmental considerations, including those relating to climate change, influence decision-making before project authorisation. As the legal doctrine explains, "*the purpose of screening proceedings* [in category II in Annex I] *is to determine whether the project should be assessed in the EIA process*."[9] This determination must be based on nature, size, and location of the project and the sensitivity of the potentially affected environment.

Screening proceedings must not narrow assessment scope to selected issues. The scope of the EIA process is legally defined and assessment must always be carried out comprehensively. When specific environmental problems are identified in screening decisions, this signifies the need for increased attention to those factors, not their exclusion of others.

3.1 EU Guidance

The EU Guidance provides detailed recommendations for each procedural stage and explicitly identifies screening as the phase in which the following question should be addressed "Would implementing the project be likely to have significant effects on, or be significantly affected by, climate change or biodiversity issues? Is EIA required?"

[8] European Commission, Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment, p. 13.

[9] Kocourek, T. § 7.

This formulation emphasises a dual focus: both a project's contribution to climate change (mitigation) and its vulnerability to climate impacts (adaptation). The guidance underscores the need to incorporate both perspectives at this early stage: "*Build them into the assessment process at an early stage (screening and scoping): you will be more likely to include them in the rest of the EIA process; they will be built into the mindset of all key parties involved, including authorities, policymakers, planners, and EIA practitioners.*"[10]

3.2 Czech implementation: Operational void

The Czech Republic transposed the 2014 amendment into the EIA Act. Although the amended Act explicitly refers to the need to assess environmental factors such as "climate" within both the screening and assessment phases, Czech methodological guidance provides no criteria for evaluating climate impacts. On its face, this represents full formal compliance with EU requirements. The legal obligation exists in the EIA Act, the terminology mirrors that of the Directive and climate has been formally incorporated into the list of factors that must be considered.

While this represents formal compliance, it masks a fundamental operational void. No operational thresholds of significance, and no criteria for evaluating climate impacts, exist. Legal obligation exists in principle, but practical application depends entirely on the screening authority operating without operational frameworks. Screening authorities consistently accept developer assertions that climate impacts are "negligible" or "insignificant," not because they have independently evaluated these claims, but because they lack the tools, thresholds, and methodological frameworks to do otherwise. Czech methodological guidance further compounds this problem. The national guidance documents outline in general terms what information the project notification and subsequent EIA Report should contain, but they fail to provide any operational tools or criteria for evaluators or authorities.

3.3 The Annex III Climate-disaster criterion

The 2014 amendment introduced a new screening criterion concerning "the risk of major accidents and/or disasters relevant to the project concerned, including those caused by climate change". According to EU Commission methodology, competent authorities should examine a project's vulnerability to climate-related hazards such as floods, droughts, heatwaves, storms, landslides, or forest fires, as well as its potential contribution to such risks. This requires forward-looking risk assessment that considers climate projections and site-specific vulnerabilities over the project's lifetime.

[10] Ibid, p. 9.

Mining operations are particularly vulnerable to climate-related hazards. Surface mining creates large areas susceptible to erosion, intense precipitation, or landslides. Underground mining can be affected by groundwater changes linked to altered precipitation patterns.

In the CR the legal criterion concerning "disaster risks caused by climate change" remains formally present but methodologically unimplemented. The absence of any defined approach to assessing such risks significantly limits the preventive potential of screening practice. The empirical analysis demonstrates systematic non-application: the Annex III climate-disaster criterion appears in the Act but disappears from screening practice.

The preventive rationale underlying Annex III is well illustrated by the reasoning of the Court of Justice of the European Union (hereinafter "CJEU") in Commission v. Ireland. The case concerned one of Europe's largest wind-energy developments, located in a peatland area. Although involving Annex II activities including peat extraction, the Irish authorities decided that no EIA was required. In 2003, a massive peat landslide occurred, polluting the Owendalulleegh River and causing ecological damage. While the case did not establish this rationale, the ECJ reasoning reflects a similar preventive logic underlying Annex III. The need to identify and assess potential disasters that may arise from the interaction between environmental vulnerabilities and project design. It illustrates screening's preventive function as a mechanism for "climate-proofing" projects against both natural and climate-related risks.

4. Empirical Analysis: Climate marginalisation

This section presents findings from analysis of ten Czech mining screening cases from 2017–2024. The analysis traces climate considerations through the screening process, examining how developers approach climate assessment in projects notifications, how screening authorities respond, and how the Annex III climate-disaster criterion is applied. The findings reveal not isolated deficiencies, but systematic climate marginalisation.

4.1 Projects notifications

Regarding mitigation, eight of ten notifications stated that the project "is not associated with significant production of GHG emissions" or that "climate impacts are negligible". Critically, none of these assertions were supported by quantified emissions calculations or lifecycle analysis. Where quantification appeared, it remained superficial. For example, one case provided CO2 estimates (246–419 tonnes/year from machinery) but concluded that impact is "acceptable, not significant" without explaining what threshold defines significance or comparing to any baseline. None compared emissions to national climate targets or any

benchmarks. The functional effect is evidentiary burden-shifting: developers need not demonstrate negligibility through quantified analysis, instead, screening authorities must prove significance, a burden they cannot meet given methodological constraints documented in Section 2.

Regarding adaptation, most of the notifications stated simply that the project "is not vulnerable to climate change". Some cases identified potential climate risks but concluded existing measures would suffice. Only one case departed from this pattern by commissioning a dedicated climate impacts and vulnerability study. Yet even this assessment, which identified climate risks, concluded that there is no need to integrate new adaptation measures. This represents the most detailed climate assessment in the entire sample, yet it arrives at the same minimising conclusion as notifications with no climate analysis whatsoever. As the next section demonstrates, even this enhanced information produced no regulatory consequence, revealing that the problem lies not solely in inadequate developer submissions, but in the absence of frameworks that would enable authorities to translate better information into different outcomes.

4.2 Screening authorities: mirroring climate considerations without evaluation

Seven of ten screening decisions omitted climate considerations entirely or replicated the developer's conclusion. One case provides evidence of institutional incapacity. a specialised Ministry of the Environment climate department was consulted regarding annual coal extraction of 1.1 million tonnes and responded with "no comments".

Differential treatment is stark. Authorities demanded detailed studies for traditional factors: one case required comprehensive nature assessments, dispersion studies, protected landscape evaluations, UNESCO heritage impacts, another case required noise exposure assessment, detailed forest land impact evaluation or groundwater analysis. For climate, however, there was only silence or acceptance. This different approach cannot be explained by relative legal importance (climate is equally mandated under the EIA Act), rather, it reflects that authorities possess established procedures, technical expertise and evaluative frameworks for traditional factors (water, air, biodiversity, noise) but none for climate assessment.

Eight of ten cases ended with "*EIA not required*." Two Category II cases required EIA[11] on non-climate grounds such as land use or biodiversity. In no case did climate considerations influence screening outcomes.

[11] Project LBK817, KVK596 Available at: https://portal.cenia.cz/eiasea/view/eia100_cr

4.3 The Annex III Climate-disaster criterion: non-application

Analysis of how screening authorities applied the Annex III criterion reveals non-implementation. Not a single case engaged meaningfully with the climate-disaster nexus. Where disaster risks were mentioned, they were framed exclusively through traditional industrial safety perspectives: generic hazard plans, emergency procedures for equipment failures. There is no recognition of how climate change might alter probability, intensity, or cascading effects of such events.

One case came closest to recognising the climate-disaster nexus, but only through a public objection, because the municipality raised concerns that deforestation and long-term extraction could lead to spring drying "due to current long-term adverse climatic conditions (drought and reduced precipitation)."

The temporal mismatch is striking. Projects with 20–30-year operational lifespans were evaluated using historical or current data, with no consideration of how climate projections might alter during the project's lifetime.

4.4 Summary

Dimension	Pattern Observed	Cases Exhibiting Pattern
Developer climate minimisation	Assertions of „negligible/insignificant“ impacts without quantification	8/10[12]
Absence of GHG quantification	No detailed emissions calculations or lifecycle analysis	8/10[13]
Climate study commissioned	Dedicated climate impact study	1/10[14]
Authority climate silence	No mention of climate in screening decision	5/10[15]
Authority mirrors developer	Screening decision replicates notification language when it comes to climate impacts	3/10[16]
Climate conditions imposed	Requirements for subsequent climate assessment	0/10
Ministry of Environmental climate dept. consultation	Specialised climate departments consulted	1/10[17]
Annex III climate-disaster applied	Climate-disaster nexus explicitly assessed per amended Directive	0/10
Climate decisive in outcome	Climate factors determinative or contributory to screening decision	0/10

Table 1 summarises the key patterns observed across all ten screening cases, demonstrating the systematic nature of climate marginalisation rather than case-specific variation.

These patterns demonstrate constraint, not negligence. Screening authorities operate within systems characterised by pre-minimised assessments that they lack the tools to challenge and by methodological vacuums that prevent independent evaluation. Whilst these patterns may reflect deeper structural problems within the EIA system, these broader dimensions are noted but not analysed in detail here.

[12] Projects KVK584, LBK817, KVK596, ULK1299, JHM1861, OLK985, MZP516, OV9220. Available at: https://portal.cenia.cz/eiasea/view/eia100_cr

[13] Projects KVK584, KVK596, ULK1299, JHM1861, OLK985, PAK1015, MZP516, OV9220. Available at: https://portal.cenia.cz/eiasea/view/eia100_cr

[14] Only project ULK1256. Available at: https://portal.cenia.cz/eiasea/view/eia100_cr

[15] Projects KVK584, KVK596, JHM1861, OLK985, OV9220. Available at: https://portal.cenia.cz/eiasea/view/eia100_cr

[16] Projects ULK1256, LBK817, ULK1299. Available at: https://portal.cenia.cz/eiasea/view/eia100_cr

[17] MZP516 (result: „no comments“)

Documented systematic patterns across screening procedure, section 4 analyses what these patterns reveal about the conditions shaping screening practice and where reform efforts must be directed.

5. Conclusion

Nearly eight years after transposing Directive 2014/52/EU, which requires climate assessment, climate considerations remain systematically marginalised in Czech mining screening procedures. Analysis of ten cases (2017-2024) reveals that climate factors played no determinative role in any screening outcome. However, the central finding is not that screening has failed in "isolation", but that screening outcomes reflect multiple intersecting constraints whose origins extend beyond the screening stage itself.

The empirical analysis demonstrates three key patterns. First, specialised climate departments responded "no comments" to the project, pointing toward systematic absence of applicable methodologies. Second, enhanced information (the only commissioned climate study) produced no regulatory consequences, demonstrating that information alone cannot drive outcomes without operational frameworks. Third, differential treatment emerged: authorities demanded comprehensive studies for traditional factors but accepted climate assertions without evaluation. This differential treatment cannot be explained by relative legal importance, climate considerations are equally mandated under the EIA Act. Rather, it reflects institutional path dependency, established procedures and evaluative frameworks exist for traditional factors but none for climate assessment.

The patterns observed point toward constraints whose origins extend beyond screening procedure. First, undeveloped methodological guidance. Czech guidance provides no quantitative thresholds determining when GHG emissions are "significant", no standardised approach for vulnerability assessment, and no operational framework to translate the Annex III climate-disaster criterion into practice. Second, institutional capacity limitations. When two specialised Ministry of the Environment climate departments consulted on a coal mining operation (1.1 million tonnes/year) responded "no comments", this revealed that even designated climate expertise produced no substantive evaluation.

Yet these constraints do not exhaust explanation. Comparative evidence from the EU, the US, and Chinese practice shows similar struggles. As Mayer demonstrates, climate effects (global, long-term) differ fundamentally from conventional impacts, whilst EIA was designed for localised, direct effects. The "drop in the ocean" perception compounds this structural mismatch: even substantial operations (1.1 million tonnes coal/year) can be characterised as "insignificant" when no frameworks exist to contextualise individual contributions within cumulative effects or national climate targets.

Whilst the empirical analysis focused on demonstrating how identifiable constraints converge at screening to produce determinative outcomes, the patterns point toward deeper structural problems within the EIA system itself. These are problems whose comprehensive analysis extends beyond this article's scope, but whose existence and significance the screening evidence clearly demonstrates.

For Czech environmental governance, findings indicate the need for comprehensive methodological guidance, not only formal legal compliance. Reform requirements include: operational frameworks with quantification tools and significance thresholds linked to national climate targets, enforceable developer obligations requiring quantified analysis rather than unsubstantiated assertions. Yet screening-focused improvements alone may prove insufficient. The structural mismatch between project-level EIA (designed for localised, direct, and immediate impacts) and climate assessment requirements (diffuse, global, long-term effects) suggests that incremental procedural improvements, better guidance and clearer thresholds while necessary, may prove insufficient. The challenge is addressing systemic constraints shaping outcomes, not identifying "missed opportunities" at the screening stage. However, comprehensive analysis of these broader systemic solutions extends beyond this article's scope.

By examining screening as a critical phase where multiple constraints crystallise into determinative outcomes, this article demonstrates that screening problems are symptomatic of conditions originating elsewhere. Eight years post-transposition, the gap between legal mandate and practical implementation remains stark. Closing it demands recognition that the problem extends beyond any single procedural stage and requires reforms addressing the full architecture through which climate considerations are, or are not, integrated into environmental decision-making.

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Abstract

Nearly eight years after transposing the Directive 2014/52/EU amendment requiring climate assessment, climate considerations remain systematically marginalised in Czech mining screening procedure. Analysis of ten Czech cases (2017-2024) reveals that climate factors played no role in any screening outcome. This article examines how climate obligations introduced by the 2014 amendment are reflected in screening procedure, focusing on how developers approach climate assessment in project notifications, how screening authorities treat climate considerations during screening procedure and whether the Annex III climate-disaster criterion is operationalised in decision making. The findings demonstrate that screening problems reflect identifiable constraints: methodological vacuums and institutional capacity limitations but also point toward deeper structural problems within the EIA process.

Key words

Environmental Impact Assessment; EIA screening; climate change adaptation; mitigation; mining projects.

Acknowledgements

The author thanks the CoRe (Beyond Security—Role of Conflict in Resilience Building, CZ.02.01.01/00/22_008/0004595) project for its support.

ASSESSMENT OF CLIMATE IMPACTS IN THE EIA PROCESS AND THE ROLE AND PRACTICE OF THE SCREENING STAGE IN MINING ACTIVITIES – COMPARISON OF CZECHIA, SLOVAKIA AND POLAND

Natálie Polanská

1. Introduction

The European Union has been gradually integrating climate considerations into various areas of EU law (climate mainstreaming), including development and land-use planning. The environmental impact assessment (hereinafter "EIA") plays a crucial role in environmental protection within this sector. Therefore, the incorporation of climate change-related criteria into the assessment by Directive 2014/52/EU (amending Directive 2011/92/EU, hereinafter the "EIA Directive") was a natural development in light of the EU's political and legislative direction in 2014. Member States should have transposed the new directive into their national legislation by May 2017 and, since then, all projects subject to the EIA process should have been evaluated from the climate change perspective as well.

As mining activity has a long history in European countries, the significance of its environmental and climate impact is undeniable. Such activity can last for decades, and its impacts, whether negative or positive, may be long-lasting. Conversely, the consequences of climate change may also significantly affect mining activities. Hence, mining projects generally fall within the scope of the EIA process, and climate change implications should form part of their assessment. However, are climate considerations being thoroughly implemented in practice? And does practice differ among particular Member States within the mining sector?

2. Methodology and scope

To examine and compare actual practice within the EIA process, three Member States subject to the EIA Directive were selected. Czechia was chosen naturally because of the author's background, and it was sensible to choose Member States in close geographical and legal proximity so that the basic conditions would be broadly comparable. Accordingly, Czechia, Slovakia and Poland were selected for the qualitative analysis and the subsequent comparison presented in this article.

The analysis of the selected Member States' approach to the assessment of climate considerations within the screening stage of EIA is based on mining projects assessed in the period from 1 September 2023 to 1 September 2025: 25 projects in Czechia, 23 projects in Slovakia and 10 (out of 28) projects in Poland. All of these projects are categorised as mining operations, or are designated by specific mining activities according to the relevant legal definitions.

Further, all of these projects fall within the category of projects listed in Annex II to the EIA Directive, on the basis of which Member States may determine whether such projects should be made subject to a full EIA assessment. The screening stage is an essential phase of the EIA process, because it ensures that a full EIA is carried out only for projects with potentially significant impacts on the environment. At the same time, this stage performs a gatekeeping role. Where examination at this stage is inadequate, projects with potential impacts on the environment and climate may proceed without any measures addressing or mitigating those implications. For these reasons, only projects whose assessment was concluded at the screening stage were selected for analysis.

It is worth noting that the Czech and Slovak EIA/SEA databases are well structured, transparent and user-friendly. The same cannot be said of the Polish database, which is not accessible outside Poland and, even when accessed from Poland, does not contain all of the relevant project documents. The list of Polish projects assessed during the relevant period was obtained from the official database with the invaluable assistance of Dr Filip Nawrot (Uniwersytet Śląski w Katowicach). Nonetheless, that database does not provide the related documents. Documentation for 10 Polish projects therefore had to be found through other publicly available sources, while documents for the remaining 18 projects were not accessible at all. Accordingly, the examination of Polish projects covers only about half of the projects from the relevant period, which may affect the overall evaluation. At the same time, this lack of transparency indicates significant shortcomings in Polish practice from another perspective.

3. Legislative framework

The EIA Directive lays down the conditions and objectives for conducting EIAs of public and private projects defined by type and divided into two categories (Annex I and Annex II to the EIA Directive). As it is a directive, Member States retain a degree of discretion when transposing it into national legislation, especially, for the purposes of the present analysis, in determining how and on what grounds an Annex II project may be made subject to EIA. They may make such determination through a case-by-case examination, by thresholds or criteria set at national level, or through a combination of both methods. Individual national EIA acts may therefore differ slightly. Even so, some elements of the directive remain fixed, namely the requirement to assess a project's impact on climate (mitigation) and the project's vulnerability to climate change (adaptation).

3.1 Czechia

Under Czech national legislation, Act No. 100/2001 Coll., on environmental impact assessment and on amendments to certain related acts (hereinafter the

"Czech EIA Act"), essentially mirrors the EIA Directive. Climate considerations, both mitigation and adaptation, form a mandatory part of project documentation (notifications) and the assessments carried out by state authorities. The screening stage is governed by several criteria and sub-criteria, including project characteristics (among them the risks of accidents and disasters caused by climate change), project location, and the characteristics of the presumed impacts of a project on the population and the environment. Types of project are listed in Annex 1 to the Czech EIA Act and divided into two categories (subject to a full EIA or to screening) according to specified thresholds. Finally, there is a Czech methodological guideline specifically addressing climate considerations in EIA.

Mining operations correspond to activities listed under numbers 77–82. Activities under numbers 77–79 are assessed in the EIA process according to a specific minimum threshold. If that threshold is met or exceeded, the activity is subject either to screening or to a full EIA assessment, depending on the category in which the threshold is placed. Activities that do not meet the thresholds are not necessarily subject to EIA, subject to certain exceptions, but the competent state authorities may still require screening of the project's impacts. Finally, activities under numbers 80–82 have no threshold and are always subject either to screening or to a full EIA assessment according to the symbol ("x") placed in the relevant category.

3.2 Slovakia

Act No. 24/2006 Coll. on environmental impact assessment and on amendments and additions to certain related acts (hereinafter the "Slovak EIA Act") transposes the EIA Directive in a manner very similar to its Czech counterpart. Mitigation and adaptation aspects form part of project documentation as well as the subsequent assessment of projects. According to Annex 10 to the Slovak EIA Act, the criteria for the screening stage are built on similar foundations: the nature and scope of a project, including the risks of accidents and disasters caused by climate change, the project location, and the significance and characteristics of the presumed impacts. Types of project are again divided into two categories (subject to a full EIA or to screening) depending on the thresholds laid down in Annex 8 to the Slovak EIA Act. Lastly, there is no specific methodological guidance on climate considerations in EIA, although the general methodological guidance for state authorities conducting assessments within the EIA process does contain some references to climate considerations.

Mining operations are defined in the third section of Annex 8 as nine specific activities which are subject to EIA where the relevant threshold is met or exceeded, similarly to the Czech EIA Act. In five cases, no thresholds are set and such activities must always be assessed either at the screening stage or in the full EIA process according to the relevant category. As regards mining activities that do not

meet the thresholds, the state authorities decide whether such activities are subject to EIA in proceedings initiated either ex officio or on the basis of a reasoned written motion submitted by an individual.

3.3 Poland

In Poland, the Act on access to information on the environment and its protection, public participation in environmental protection and environmental impact assessments (hereinafter the "Polish EIA Act") broadly mirrors the EIA Directive, much like the Czech and Slovak EIA acts, and mitigation and adaptation aspects form part of both project documentation and project assessments. There are no specific statutory criteria for the screening stage; nevertheless, the Regulation of the Council of Ministers of 10 September 2019 on types of projects that may have a significant impact on the environment lists project types together with the corresponding thresholds. Finally, there is no official methodological guidance on climate considerations in EIA, although a methodological guide on this issue has been prepared by Instytut Ochrony Środowiska – Państwowy Instytut Badawczy.

The Polish EIA Act does not contain a definition of mining operations. However, the Regulation of the Council of Ministers of 10 September 2019 on types of projects that may have a significant impact on the environment divides individual mining activities into two categories: projects that may have a potentially significant impact on the environment (and are therefore subject to screening, numbers 40–42) and projects that may always have a significant impact on the environment (and are therefore subject to a full EIA assessment, numbers 24–28). These mining activities are complemented by thresholds, specific areas or special conditions that must be met for the activity to be subject to EIA. In cases of cumulative impacts or particular changes to existing projects, projects that would not individually meet the thresholds may also be made subject to screening.

4. Comparison of Czechia, Slovakia and Poland

The analysis focuses primarily on the assessments carried out by state authorities at the screening stage of the EIA process, although the project documentation (notifications) is also taken into account. Three main questions are examined:

What are the reasons for concluding the assessments (within the EIA process) in the screening stage?

What role do the climate impacts play in the assessments?

Are there any differences among the Member States? If so, what differed one state from another?

As regards question 1), all assessments of the analysed projects were concluded at the screening stage and, unsurprisingly, the main reasons for that conclusion

recurred in all Member States: the projects' impacts were deemed environmentally acceptable and, where negative impacts were identified, preventive measures were imposed. None of the assessments, however, explained where the threshold between environmentally acceptable and environmentally unacceptable impacts lies. In Slovakia, a number of assessments mentioned the absence of essential comments from the public as one of the reasons for concluding the EIA process, and in both Slovakia and Poland the assessments referred to the opinions of consulted authorities raising no essential objections.

As regards question 2), climate impacts played only a marginal role in the assessments. In most Czech and Slovak cases, the authorities merely reproduced the project notifications in relation to climate considerations. The assessments focused instead on microclimate and air-quality impacts, and only about half of them considered greenhouse gas emissions. Six Czech and five Slovak assessments contained no climate-related paragraph at all. Interestingly, four Polish assessments emphasised the project's positive impacts on the environment and climate change, whereas no Czech assessment and only one Slovak assessment did so.

Finally, as regards question 3), there were no major differences among the analysed Member States. Czech and Slovak assessments shared more similarities, particularly the near absence of any adaptation assessment, whereas the Polish assessments focused more on adaptation aspects, although one case completely omitted the mitigation dimension. In addition, one Czech assessment suggested no preventive measures even though climate impacts were identified, and one Slovak assessment highlighted positive impacts of the project on the environment. By contrast, four out of ten Polish assessments highlighted such positive impacts.

	REASONS FOR CONCLUDING THE ASSESSMENT IN THE SCREENING STAGE	**ROLE OF CLIMATE IMPACTS IN THE ASSESSMENT**	**MAIN DIFFERENCES**
CZECH REPUBLIC (25 PROJECTS)[1]	Environmentally acceptable (regarding the individual natural components), imposition of measures preventing projects from causing further environmental damage	In most cases, the assessments copied notifications of the projects, however, only few projects were evaluated from the perspective of climate impacts[2] (bigger focus on air, only few mentioned the GHG emissions[3]), 6 assessments did not contain any climate considerations[4]	Even if climate impacts were detected, no preventative measures were suggested[5], no adaptation assessment in 19 cases[6]

	REASONS FOR CONCLUDING THE ASSESSMENT IN THE SCREENING STAGE	ROLE OF CLIMATE IMPACTS IN THE ASSESSMENT	MAIN DIFFERENCES
SLOVAKIA (23 PROJECTS)[7]	Authorities' opinions, environmentally acceptable, no essential remarks from the public, imposition of measures preventing projects from causing further environmental damage	Assessments mostly copied the notifications of projects, 5 assessments completely lacked any climate related paragraph,[8] bigger focus on microclimate and air impacts[9]	Rare assessments of adaptation aspects (2 out of 23 projects)[10], 1 assessment highlighted positive impacts of the project on the environment[11]
POLAND (10 PROJECTS)[12]	Authorities' opinions, environmentally acceptable, imposition of measures preventing projects from causing further environmental damage	Bigger focus on emissions and the air impacts,[13] 4 assessments highlighted positive impacts of projects on the environment[14]	Assessments (as well as the notifications of projects) dealt with the effects of negative impacts of climate change on projects[15]

1 JHM1861, ZLK1019, HKK1177, STC2774, STC2781, HKK1166, ULK1299, KVK605, PAK1011, ULK1292, STC2721, JHM1805, ULK1278, OLK985, JHM1800, OLK979, MSK2364, PAK993, ULK1256, ZLK1001, STC2611, KVK584, JHC1095, JHC1087, JHC1088 – https://portal.cenia.cz/eia-sea/view/eia100_cr.

2 Examples of good practice can be found in STC2774, ULK1299, ULK1292, JHC1095.

3 For example, STC2781, PAK1011 or JHC1088.

4 HKK1166, KVK605, JHM1805, JHM1800, KVK584, JHC1087.

5 See ULK1256.

6 Only 6 cases touched upon the adaptation aspect – STC2774, ULK1278, ZLK1001, JHC1095, ULK1292, ULK1299.

7 Ložisko Veľká Čierna – Baranová (Žilina), Lietavská Lúčka (Žilina), Zberné naftové stredisko Brodské (Trnava), ZNS Gajary (Bratislava), Jelšava (Banská Bystrica), Kúty 50 a Kúty 51 – (Bratislava), Jelšava 2 (big bagy; Banská Bystrica), GTC 2 (Košice), Jablonica (Senica), Žarnov (Košice), Mierová (Bratislava), KSR Kameňolomy SR, s.r.o. – adaptácia ťažby (Rimavská Sobota), Pečovská Nová Ves (Prešov), KSR Kameňolomy SR, s.r.o. – kontinuálne pokračovanie ťažby (Rimavská Sobota, Husiná), GTK-1 Kalinčiakovo (Levice), Bratislava – Vrakuňa (Bratislava), Čierne Kľačany (Čierne Kľačany), Horná Mičiná (Banská Bystrica), Zemplínska Široká a Sliepkovce 4 (Zemplínska Široká), Tunežice (Trenčín, Ladce), Láb v Plaveckom Štvrtku (Zmena č. 10; Malacky), Malženice (Trakovice), Kúty 48 (Kúty, Senica) – https://www.enviroportal.sk/eia-sea/informacny-system.

8 Lietavská Lúčka (Žilina), ZNS Gajary (Bratislava), Jablonica (Senica), Pečovská Nová Ves (Prešov), Zemplínska Široká a Sliepkovce 4 (Zemplínska Široká).

9 For example, Ložisko Veľká Čierná – Baranová (Žilina), KSR Kameňolomy SR, s.r.o. – adaptácia ťažby (Rimavská Sobota), KSR Kameňolomy SR, s.r.o. – kontinuálne pokračovanie ťažby (Rimavská Sobota, Husiná) or GTK-1 Kalinčiakovo (Levice).

10 Although briefly, these assessments deal with the adaptation aspects – Kúty 50 a Kúty 51 – (Bratislava) and Zberné naftové stredisko Brodské (Trnava).

11 Jelšava (Banská Bystrica).

5. Conclusion

Climate mainstreaming is an important and necessary process for protecting the environment and the climate through EU law. Nevertheless, the qualitative analysis conducted in this article suggests that the practical implementation of climate considerations in EIA remains flawed. The majority of the selected mining projects were not thoroughly assessed from either a mitigation or an adaptation perspective. More "traditional" environmental factors received greater attention, while most assessments simply copied the project notifications concerning climate impacts and found those impacts environmentally acceptable. Similar patterns were identified in Czechia, Slovakia and Poland, albeit with mild differences. Overall, climate impacts received very little attention compared with other impacts and, where they were considered, negative impacts were mostly dismissed briefly without any need being identified to impose preventive measures. The analysis therefore shows that the practical implementation of climate considerations in EIA in Czechia, Slovakia and Poland still lacks substance and that a more thorough and detailed approach is needed.

About the author

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Abstract

This article examines the inclusion and assessment of climate considerations in environmental impact assessments of mining projects in Czechia, Slovakia and Poland. Directive 2014/52/EU required Member States to integrate both mitigation and adaptation aspects into EIA. The qualitative analysis presented here indicates that most of the selected mining projects were not thoroughly assessed from either perspective. Similar patterns were identified in Czechia, Slovakia and Poland, albeit with mild differences. The article therefore concludes that the practical

[12] Charzewice Zawałe I (Zakliczyn; Małopolskie), Kłodawa 13 (Bukowa/Brzostek; Podkarpackie), Bogdaj–Uciechów (Dolnośląskie/Wielkopolskie), Jaśniny Północ (Małopolskie), Ślubów (Dolnośląskie), Anna (Śląskie), Bystrowice (Podkarpackie), Niwiska Krasocińskie I (Świętokrzyskie), Wola Żyrakowska – Szacik (Podkarpackie), Żarków – Tarnówek (Dolnośląskie), Winiary I – Winiary IV (Małopolskie) – https://www.gov.pl/web/bip or https://bazaoos.gdos.gov.pl/web/guest/home.

[13] Charzewice Zawałe I (Zakliczyn; Małopolskie), Kłodawa 13 (Bukowa/Brzostek; Podkarpackie), Ślubów (Dolnośląskie), Anna (Śląskie).

[14] Winiary I – Winiary IV (Małopolskie), Bystrowice (Podkarpackie), Kłodawa 13 (Bukowa/Brzostek; Podkarpackie), Wola Żyrakowska – Szacik (Podkarpackie).

[15] Apart from Winiary I – Winiary IV (Małopolskie).

implementation of climate considerations in EIA still lacks substance and requires further improvement.

Key words

Environmental Impact Assessment; EIA screening; climate change; adaptation and mitigation; mining activities; Czechia; Slovakia; Poland.

ASSESSMENT OF THE IMPACT OF MINING ACTIVITIES ON CLIMATE

Vojtěch Vomáčka

1. Introduction

This article interrogates how contemporary environmental impact assessment (EIA) law and practice apprehend the climate dimensions of mining projects, with a primary empirical lens on recent Czech proceedings. It catalogues the recurrent substantive environmental concerns before turning to the elusive problem of greenhouse gas accounting and climate-risk resilience. Although climatic factors have long resided within the EIA acquis, the 2014 reform (2014/52/EU[1]) of the EIA Directive (2011/92/EU[2]) consolidated a bifocal obligation to quantify a project's greenhouse gas profile and to test its adaptation robustness.

Administrative practice, particularly in the Czech Republic, has been uneven in giving effect to that mandate, especially for Scope 3 emissions. This Czech implementation deficit is critically examined against recent European jurisprudence, including the *Finch* (2024[3]) and EFTA Court opinion in *E-18/24* (2025[4]), which require assessment of downstream emissions. This analysis is further nuanced by the ECtHR's judgment in *Greenpeace Nordic v. Norway* (2025[5]) which addressed the timing of such assessments in multi-stage permitting. This article uses this new, tense legal landscape to critique domestic practice and advance a practicable guidance framework for Czech authorities.

2. EIA, Mining and Green Paradox

Mining remains one of the most environmentally and politically sensitive categories of development subject to environmental impact assessment (EIA) within the European Union. Its spatial footprint, hydrological disruption, and emission profile render it an archetypal "high-stakes" activity for the EIA system. This role is now amplified by a profound green paradox at the heart of EU policy: the European Green Deal is predicated on a transformative shift to green technologies,

[1] Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU. OJ L 124, 25 April 2014, pp. 1–18.

[2] Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment. OJ L 26, 28 January 2012, pp. 1–21.

[3] UK Supreme Court judgment of 20 June 2024, *R (Finch on behalf of the Weald Action Group & Others) v. Surrey County Council (& Others)*.

[4] EFTA Court advisory opinion of 21 May 2025, E-18/24.

[5] ECtHR judgment of 28 October 2025, *Greenpeace Nordic and Others v. Norway* (Application no. 34068/21).

which is itself intensely material-dependent, creating unprecedented demand for raw materials sourced through mining.[6] This establishes a direct tension between the EU's climate neutrality objectives and the environmental impacts of securing the necessary resources. The Czech Republic, with its own mining-related environmental challenges, serves as a primary case study for this European-wide legal and practical tension. The legal framework for environmental assessment thus becomes the primary forum where this paradox is navigated.

A forward-looking analysis must further consider the potential for the new Critical Raw Materials Act (CRMA)[7] to create legal and political tension with the EIA framework. The primary objective of the CRMA is to accelerate and streamline permitting for strategic projects to secure the EU's raw material supply chains. This emphasis on speed and administrative simplification is in direct tension with the EIA Directive's principles of precaution, thoroughness, and extensive public participation. The EU's own strategic goals are thus on a potential collision course. The environmental objectives of the Green Deal, which underpin the climate focus of the EIA Directive, are being challenged by the geopolitical and economic objectives of the CRMA. This sets the stage for a future wave of litigation where the legal system will be forced to mediate this conflict.

This article is, however, deliberately narrow in scope. It examines exclusively all Czech mining projects that have undergone a full EIA in the last 7 years (since 2018) culminating in a reasoned conclusion by the competent authority. These are three **deep mining projects** and 35 **surface mining projects**. The environmental impact assessment of these projects should – at least theoretically – follow the updated EU and national requirements regarding climate impacts.

The objective is to interrogate the assessment proper—its evidential base, analytical methods, and legal reasoning—and, in particular, to evaluate how climate change is addressed within that assessment. While Czech practice has been slow to adapt, recent European case law has profoundly altered the legal terrain. This article uses this emergent international context—specifically the logic from *Finch* and the ECtHR in *Greenpeace Nordic v. Norway*—to cast light on the specific implementation gaps evident in Czech administrative practice and to propose a path toward compliance.

[6] See BASTIANIN, A., DEL BO, C. and SHAMSUDIN, L. The geography of mining and its environmental impact in Europe. *FEEM Working Papers*. Vol. 2025, No. 8.

[7] Regulation (EU) 2024/1252 of the European Parliament and of the Council of 11 April 2024 establishing a framework for ensuring a secure and sustainable supply of critical raw materials and amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020. OJ L, 2024/1252, 3 May 2024.

3. Standards for Climate Change Considerations in the EIA

The integration of climate change into the architecture of the EIA Directive reflects a decisive shift in EU environmental governance. The **2014 amendment** transformed the vague reference to *climatic factors* into a concrete legal obligation: The amended Article 3(1) of the EIA Directive now requires the assessment to cover both (i) the project's impact *on* climate (a mitigation perspective, e.g., GHG emissions) and (ii) the project's vulnerability *to* climate change (an adaptation perspective). This project-specific assessment is complemented by the higher-tier Strategic Environmental Assessment (SEA) Directive (2001/42/EC), which applies to public plans and programmes though without the much-needed legal update that would reflect both practical needs and recent case law.

To harmonise the implementation of the amended EIA Directive, in 2017 the Commission published **three guides** focusing on screening,[8] scoping[9] and the preparation of the final opinion.[10] The latter states that the description of the project should answer the question of the extent to which its implementation may affect the atmosphere, including the microclimate and larger-scale climatic conditions.[11] According to the third guide, the opinion should then focus on climate change mitigation, which includes the impact that the project will have on the climate, primarily through greenhouse gas emissions, and adaptation to climate change, where the assessment should evaluate the vulnerability of the project in relation to future climate change and its capacity to cope with the impacts of climate change, which may be uncertain.[12] Mitigation is therefore understood in a broader sense and includes (above all) the negative impacts through which the project contributes to the exacerbation of climate change. In addition, it is also necessary to assess indirect emissions to which the project contributes, or which will not need to be emitted as a result of the project's implementation. As an example, the guide cites two groups of projects: transport infrastructure, where use will result in an increase or even a decrease in the total amount of greenhouse gases emitted, and the construction of shopping centres, where an increased burden can be anticipated as a result of the necessary transport of customers.

[8] European Commission (COWI A/S, Milieu Ltd). *Environmental Impact Assessment of Projects Guidance on Screening (Directive 2011/92/EU as amended by 2014/52/EU)*. 2017, 84 p.

[9] European Commission (COWI A/S, Milieu Ltd). *Environmental Impact Assessment of Projects Guidance on Scoping (Directive 2011/92/EU as amended by 2014/52/EU)*. 2017, 80 p.

[10] European Commission (COWI A/S, Milieu Ltd). *Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU)*. 2017, 130 p.

[11] P. 60.

[12] P. 38: *"this considers the vulnerability of the Project to future changes in the climate, and its capacity to adapt to the impacts of climate change, which may be uncertain"*.

The legal force of the EIA procedural obligations has been repeatedly fortified by the **Court of Justice of the European Union** (CJEU). In the foundational case concerning mining activities *Delena Wells* (C-201/02[13]), the CJEU established that the core provisions of the EIA Directive have *direct effect*, empowering individuals to invoke them before national courts. Furthermore, it established a powerful *obligation of remedy*, requiring national authorities to rectify a failure to conduct a proper EIA. This jurisprudence effectively converts the EIA process from a procedural checklist into a source of enforceable legal rights. This was seen vividly in the *Czech Republic v Poland (Turów Mine)* (C-121/21[14]) dispute, where the Czech Republic's action alleged a breach of the EIA Directive for extending a mine's licence without a full EIA, citing significant transboundary impacts.[15] Although withdrawn, the case illustrates the high stakes and legal force of the Directive's obligations.

The Czechoslovak **Environmental Impact Assessment Act of 1992** (No. 244/1992 Coll.) required that the assessment include, among other things, an evaluation of the direct and indirect effects of the project on climatic conditions.[16] The description of the expected impacts of the project had to include impacts on air and climate, specified as the quantity and concentration of emissions and their impact on the immediate and distant surroundings, significant odours, and other impacts on air and climate.[17] The currently effective Czech Impact Assessment Act of 2001 (No. 100/2001 Coll.) does not bring any significant changes. It similarly includes impacts on the climate within the scope of the assessment and requires the documentation to describe, among other things, the characteristics of the current state of the environment in the affected area, including the climate, and to describe the impacts on air and climate among the anticipated impacts of the project. The amendment to the EIA Directive was reflected in the wording of the Impact Assessment Act so that it now also requires the screening procedure to consider *"the risks of serious accidents or disasters relevant to the project, including accidents and disasters caused by climate change, in accordance with scientific knowledge"*[18] and requires the documentation to include a description of the environment, including *"the climate (e.g., impacts associated with climate change, vulnerability of the area to the effects of climate change)"*[19] and, for the assessment of impacts, also include impacts *"on air*

[13] CJEU judgment of 7 January 2004, *Wells* (C-201/02, ECLI:EU:C:2004:12).

[14] CJEU order of 4 February 2022, *Czech Republic v Poland (Mine de Turów)*.

[15] See Opinion of Advocate General Pikamäe of 3 February 2022, *Czech Republic v Poland (Mine de Turów)* (C-121/21, ECLI:EU:C:2022:74).

[16] Section 3(a).

[17] Annex III, Part C III. B, point 1.

[18] Annex 2 I., point 6.

[19] Annex 4, Part C, para. 2.

and climate (e.g., the nature and quantity of pollutant and greenhouse gas emissions, the vulnerability of the project to climate change)".[20]

These more detailed national requirements for the assessment of climate factors did not bring about any fundamental changes to the EIA process itself. Arguably, they also did not provide much clarification as regards how to assess these impacts. Therefore, following the amendment, in October 2017 the Ministry of the Environment issued a **methodological guide** on the application of selected new terms and requirements of the Environmental Impact Assessment Act.[21] Similar to the European Commission's documents, the guide emphasises that when assessing the impact of a project on climate change, it is necessary to address and take into account the mitigation of climate change by the project, as well as the impact of the project on adaptation to climate change and the vulnerability of the project to the effects of climate change.

However, the specific guidelines are very brief and, particularly in relation to mitigation, they downplay the harmful effects of the project, so it may appear that mitigation is understood mainly in a narrower sense, i.e., exclusively as the mitigation of climate impacts. In particular, the guideline does not suggest that greenhouse gas emissions should be addressed primarily. Unlike the EU handbook, the national guide does not provide examples of increased burdens or indirect emissions resulting from the implementation of the project. It merely provides examples of mitigation measures which include technological change or resource substitution that reduces inputs and emissions, increasing the proportion of natural habitats, wetlands, forests, or CO_2 storage in biomass, etc. It is unclear how far the assessment should go and which aspects it should cover. In practice, this results in the lack of assessment.[22] Scope 3 emissions are not properly addressed, which is a crucial omission for the assessment of mining activities.

In May 2025, the Ministry of the Environment issued a methodological guide on the assessment of long-term projects, in particular mining activities.[23] The purpose of the guideline is to confirm the practice that the assessable period for mining projects is approximately 20 years. However, the guideline clarifies that the

[20] Annex 4, Part D I., para. 2.

[21] Czech Ministry of Environment. *Metodický výklad k aplikaci vybraných nových pojmů a požadavků zákona č. 100/2001 Sb., o posuzování vlivů na životní prostředí a o změně některých souvisejících zákonů (zákon o posuzování vlivů na životní prostředí), ve znění pozdějších předpisů a zejména ve znění zákona č. 326/2017 Sb. (dále jen „zákon č. 100/2001 Sb. ")*. 20 October 2017, MZP/2017/710/1985.

[22] See VOMÁČKA, V. Klimatické změny a EIA. In: SZAKÁCS, A., HLINKA, T. (eds.). *Vplyv klimatickej zmeny na právny poriadok*. Bratislava: Univerzita Komenského v Bratislavě, 2020, pp. 21-28.

[23] Czech Ministry of Environment. *Metodický výklad § 5 odst. 2 zákona č. 100/2001 Sb., o posuzování vlivů na životní prostředí a o změně některých souvisejících zákonů (zákon o posuzování vlivů na životní prostředí), ve znění pozdějších předpisů (dále jen „ZPV") – výklad pojmu „dlouhodobé záměry" a výklad principu samostatného posuzování jednotlivých etap těchto dlouhodobých záměrů.* 12 May 2025, MZP/2025/710/1602.

permitting phase, which can last up to 12 years, is not included in this period. The total period for impact assessment is therefore up to 32 years. The 12 pages of the guideline do not provide any guidance for the assessment itself. The term "climate" is completely absent.

4. Emerging Case-Law: a Critical Mirror for Czech Practice

The climate dimension of EIA has been clarified by recent judgments that serve as a critical mirror for assessing Czech practice.

4.1 The Finch and EFTA Court Logic: Assessing Downstream Emissions

The first turning point was the UK Supreme Court's decision in ***R (Finch) v Surrey County Council*** [2024] UKSC 20, concerning an oil extraction project. The Court held that Scope 3 or downstream emissions from the future combustion of the oil were "effects" of the extraction project within the meaning of the EIA Directive. The failure to assess them rendered the permission unlawful.

The Finch arguments have already been confirmed by further UK case law, particularly in the Whitehaven coking coal mine case.[24] Applying *Finch*, the High Court quashed the Secretary of State's 2022 permission for the West Cumbria deep coal mine. According to the court, the decision-maker had to grapple properly with Scope 3 emissions from burning the coal (including exports), could not rely on broad "substitution" claims to net out those emissions, and could not badge the mine as "net zero" to avoid assessing end-use emissions. The decision found the government had wrongly accepted the claim that the mine would have zero impact on UK carbon budgets by offsetting its operational emissions through the purchase of carbon credits.

This logic was reinforced by the EFTA Court's Advisory Opinion in ***Case E-18/24***,[25] based on the Norwegian case, which held that such emissions must be assessed at the extraction stage, even if combustion occurs later or abroad. These authorities establish a clear trajectory: downstream emissions are legally cognisable "effects" of the extraction project.

The EFTA Court's findings are already being followed in EU Member States. In November 2025, the Danish Energy Appeals Board revoked the Danish Energy Agency's 2024 permit to open a new oil field in the North Sea. With reference to E-18/24, the board agreed with Greenpeace that the environmental impact report for the field lacked a description of Scope 3 emissions.

[24] High Court of Justice judgment of 13 September 2024, *Friends of the Earth v. Secretary of State for Levelling Up, Housing and Communities; and South Lakeland Action on Climate Change v. SSLUHC (Whitehaven coalmine)*, [2024] EWHC 2349 (Admin).

[25] EFTA Court advisory opinion of 21 May 2025, E-18/24.

4.2 The ECtHR Nuance: Deferral in Greenpeace Nordic v. Norway

This trajectory was, however, significantly complicated by the ECtHR's judgment in Greenpeace Nordic v. Norway.[26] The case concerned the procedural aspect of Article 8 (right to respect for private and family life) in the context of petroleum exploration licences. The ECtHR held that there had been *no violation* of Article 8 when Norway *deferred* the full climate impact assessment from the initial *exploration* stage to the later, pre-production "Plan for Development and Operation" (PDO) stage.

The Court was persuaded by the "structural guarantees" that the later assessment at the PDO stage was comprehensive, legally binding (i.e., could result in refusal), and subject to judicial review. This judgment creates a critical tension: while the *EIA Directive* (per *Finch*) may require assessment at the point of consent, *ECHR* Article 8 obligations may be met by a robust, albeit deferred, assessment in a multi-stage process. This does not absolve states of the *duty* to conduct the assessment; it merely allows for flexibility in its timing.

Even though the Court's assessment of the Norwegian licences was purely procedural, in a noteworthy para. 319, the judgment acknowledges the importance of accounting for downstream or Scope 3 emissions and states that EIAs for fossil fuel projects "must include, at a minimum, a quantification of the GHG emissions anticipated to be produced (including the combustion emissions both within the country and abroad; [KlimaSeniorinnen], § 550)", as well as an assessment in light of climate obligations and informed public consultation (para. 319). The Court stressed that meaningful public participation is an integral part of this procedural duty (paras. 319–320) and cited broader international legal developments, particularly the converging obligations articulated in the recent climate advisory opinions by the ICJ, the EFTA Court, the ITLOS, and the IACtHR (paras. 320–324).

5. Main Environmental Concerns of Czech Mining Projects

The Czech experience with mining-related EIA reveals a mature but compartmentalised regulatory culture. The documentation of environmental effects is technically detailed in the traditional domains of geology, hydrogeology, air and noise pollution, and land reclamation. Yet the substantive balance among these themes exposes an enduring hierarchy of priorities in which climate considerations remain marginal.

Across the sample of the **deep mining projects**, the principal environmental concerns are consistently dominated by geological stability and hydrogeological integrity. Land subsidence is the most recurrent theme, often accompanied by modelling of ground deformation and its implications for transport and residential

[26] ECtHR judgment of 28 October 2025, *Greenpeace Nordic v. Norway* (34068/21).

infrastructure. Induced seismicity—a by-product of long-term underground exploitation—features prominently. a second cluster of deep-mining concerns relates to mine water management. Many Czech coal deposits are geochemically complex, producing water with high salinity and, in some cases, traces of naturally occurring radioactive materials.

For **surface mining projects**, the pattern shifts from subsurface integrity to landscape transformation. The most frequently recorded concern is the appropriation of high-quality agricultural land and forest, a consequence of the large surface footprints typical of quarries and open-cast operations. This land take is regularly accompanied by fragmentation of ecological networks and the loss of soil functions. a second major theme is air and noise pollution, both from extraction machinery and from the transport of material. Hydrological alterations constitute a third recurrent category, particularly the lowering of groundwater tables and the complex effects of creating post-mining lakes. Impacts of mining on **Natura 2000** network have been assessed in 5 cases with no significant negative impacts identified.

Despite environmental concerns, a positive EIA statement was issued in all analysed cases, giving the green light to the subsequent permitting procedure.

Across both types of mining projects, Czech authorities impose standardised conditions to secure ecological supervision, biodiversity protection, and reclamation. Nevertheless, in all of these EIA statements, climate change occupies a residual position. Even where emissions from fuel use or methane release are mentioned, they are typically summarised as insignificant without quantitative underpinning. Adaptation aspects—how the project may itself be affected by future climate conditions—are seldom explored. Such assessments of climate impacts do not seem to be in line with EU-law requirements and human-rights protection standards as interpreted in recent case law (see below).

6. Transboundary Impacts

Mining projects, by their geological nature, frequently intersect with transboundary environmental concerns. The EIA Directive's provisions on transboundary consultation (Article 7) have become a functional instrument for coordinating assessment across Central Europe, and the Czech Republic provides an instructive example.

The intensity of transboundary engagement differs according to the mining typology. For deep mining, concerns are dominated by the risk of land subsidence and induced seismicity, which can propagate beyond the project perimeter. a further layer of complexity arises from the management of mine water (saline and sometimes radioactive). For surface mining, the most frequently cited transboundary concern is the appropriation of high-quality agricultural land and forest, alongside dust transport and hydrological alterations.

Of the analysed projects, **Poland** has participated in the EIA procedures for all three deep mining projects located in the Moravian–Silesian region, close to the shared border. **Austria** has taken part in four surface mining assessments situated in South Moravia, while **Slovakia** was notified in one of these cases. This shows that the impacts of mining projects often transcend borders and that neighbouring countries do not overlook these effects but take them seriously.

Administrative practice in these transboundary assessments exhibits formal compliance with Article 7, but the depth of foreign participation remains modest. Crucially, climate impacts—although theoretically global—are rarely treated as triggers for transboundary consultation. This omission reflects a lingering perception that climate effects, being non-localised, fall outside the cooperative logic of Article 7.

7. Assessment of Climate Impacts in Czech EIA Practice

Czech EIA practice, when viewed against the above-mentioned demanding legal backdrop, reveals a significant implementation deficit. While formally compliant with the national Environmental Assessment Act, the substantive treatment of climate remains rudimentary.

For **deep mining projects**, such as those in the Moravian–Silesian region, assessments focus narrowly on operational emissions. For instance, in the EIA for the ČSM Mine, methane (Scope 1) emissions from degasification were quantified and mitigation proposed, but this analysis stopped at the mine's boundary. Downstream (Scope 3) combustion emissions from the extracted coal were systematically ignored.

For **surface mining**, the pattern is even more limited. Environmental statements typically conclude that climate impacts from fuel use and transport are "insignificant," offering no quantitative GHG estimate. This approach stands in direct contradiction to the *Finch* and EFTA Court logic, which invalidates such omissions.

Furthermore, climate adaptation analysis is almost entirely absent from Czech practice, despite its explicit mention in the Ministry's 2017 methodological guide. The vulnerability of projects to future climate stress—be it flood risk for reclamation lakes or drought impacts on water management—is not assessed. This reveals a clear gap between the EU's bifocal climate-EIA mandate and the prevailing administrative inertia.

The failure to assess Scope 3 emissions at all—either at the initial EIA stage (per *Finch*) or at any subsequent binding stage (the minimum acceptable under *Greenpeace Nordic*)—places current Czech practice in breach of EU law principles.

The errors do not seem to stem from a single source, given the variety of experts responsible for drafting the documentation or reviewing it. Three experts have participated in the assessment with a higher frequency (11, 11 and 8 times) but the remainder of the sample is spread among a relatively broad group of experts, each

participating in a maximum of four assessments. This signals a systematic failure and a general lack of compliance with legal requirements.

So far, none of the above-mentioned EIA conclusions has been subject to judicial review. The only case which was widely publicised across national media, albeit without any ensuing court proceedings, was the assessment of the extension of coal mining at the Bílina quarry: In 2019, the Ministry of the Environment issued a favourable EIA statement on the extension of coal mining, refusing to take into account the subsequent burning of coal in coal-fired power plants and the associated greenhouse gas emissions in relation to the climate. The main argument of the Ministry was that the coal combustion and its impacts are always assessed as part of the permitting process for individual combustion sources, not as part of the permitting process for mining, which does not include coal combustion.

8. Draft Guidance for Climate-EIA in Mining Projects

To align Czech practice with the legal requirements, a coherent integration of climate change into mining EIA is necessary. This framework must ensure competent authorities fulfil their procedural duties under Article 3(1) of the EIA Directive.

1. Scope Determination: The EIA scoping phase must explicitly classify the project (e.g., hydrocarbon vs. non-combustible mineral). For hydrocarbon or fossil fuel projects, the assessment *must* include downstream (Scope 3) combustion emissions.
2. Timing of Assessment: For most Czech projects, which involve a single-stage consent, this assessment must be part of the primary EIA, per *Finch*. If a multi-stage process is used, the *Greenpeace Nordic* logic only permits deferral if the later stage is (a) legally guaranteed, (b) comprehensive, (c) legally binding, and (d) subject to full public consultation and judicial review. Omitting the assessment entirely is not an option.
3. Quantification: Direct (Scope 1-2) and indirect (Scope 3) emissions must be transparently quantified using standardised methodologies (e.g., IPCC factors, EU GHG Inventory).
4. Significance Evaluation: The significance of emissions must be evaluated. This should not be dismissed by comparing the project to global emissions (the "drop in the ocean" fallacy) but should be related to relevant national or EU climate targets and carbon budgets.
5. Substitution/Offset Claims: Claims that the project's output will merely *substitute* other, higher-carbon sources (the "market substitution" argument) must be treated with extreme caution and cannot justify omitting the Scope 3 assessment itself.

6. Adaptation: The project's vulnerability to climate change (e.g., flood risk for tailings, water scarcity for operations) must be explicitly modelled and addressed.
7. Institutionalisation: The Czech Ministry of the Environment should update its 2017 methodological note into binding guidance prescribing quantification methods and significance thresholds to ensure consistent application.

9. Conclusions

The evolution of EIA in the EU has reached a point where climate change is a legally enforceable component of environmental analysis. The Czech EIA system, while robust in traditional parameters, remains hesitant to operationalise these climate obligations.

This hesitation is no longer legally tenable. The *Finch* and EFTA Court judgments redefine downstream emissions as "effects" within the EIA Directive's meaning. The ECtHR's judgment in *Greenpeace Nordic* confirms that the *procedural obligation* to conduct this assessment is a core component of the state's duty under Article 8. For Czech practice, which often involves single-stage consents and omits Scope 3 assessment entirely, the message is clear: the failure to quantify and assess *all* significant climate effects constitutes a legal failure.

This implementation deficit is further threatened by new policy tensions, such as the EU's Critical Raw Materials Act (CRMA), which seeks to *accelerate* permitting for strategic mining projects, potentially creating a conflict with the EIA Directive's precautionary and thorough assessment principles. Embedding climate change into EIA is therefore not administrative ornamentation but a matter of epistemic completeness and legal necessity. Integrating climate science and law represents not an expansion but the completion of EIA's mandate.

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Abstract

This article interrogates Czech environmental impact assessment (EIA) practice for mining projects, identifying a significant implementation deficit regarding climate change. Despite the 2014 EIA Directive's mandate to assess both mitigation and adaptation, Czech authorities systematically ignore downstream (Scope 3) combustion emissions and fail to analyse project vulnerability to climate change. This practice is shown to be legally untenable, conflicting with recent European jurisprudence such as R (Finch) v Surrey County Council and the EFTA Court advisory opinion, which confirm that Scope 3 emissions are assessable "effects". The ECtHR's judgment in Greenpeace Nordic further reinforces the procedural duty to assess climate impacts. The article uses this legal landscape to propose a guidance framework for aligning Czech practice with EU law.

Key words

Environmental Impact Assessment; mining law; climate change; Czech Republic; Scope 3 emissions; downstream combustion; EIA Directive; ECHR; Greenpeace Nordic v. Norway.

Acknowledgements

The author thanks the CoRe (Beyond Security—Role of Conflict in Resilience Building, CZ.02.01.01/00/22_008/0004595) project for its support.

ADMINISTRATIVE LIABILITY OF THE BUILDER IN THE CONTEXT OF ENVIRONMENTAL PROTECTION AND SUSTAINABLE USE OF NATURAL RESOURCES

Barbora Pospíšilíková

1. Introduction

Construction is one of the economic sectors traditionally associated with high consumption of natural resources and significant environmental impacts. According to Eurostat data for 2022, construction is the most significant source of waste in the European Union. This sector accounts for 38.4 % of total waste production, significantly exceeding other economic activities.[1] These data clearly show that construction is the largest producer of waste in the European Union and is therefore a key sector that should be targeted by sustainable resource management policies.

Construction is also undoubtedly one of the most significant areas of human activity that affects the quality of the environment and the management of natural resources. Given the scale and intensity of interventions in the territory, builders are key addressees of public law obligations in the field of environmental protection. Recent legislation, in particular the new Building Act No. 283/2021 Coll. (hereinafter referred to as the "new Building Act"), explicitly regulates the principle of sustainable use of natural resources and enshrines it as one of the general requirements for buildings.[2] This shift reflects a broader trend in European law, which emphasises the strengthening of the principles of the circular economy, waste prevention and responsible use of materials.[3]

The builder thus becomes responsible not only for the technical requirements imposed on the construction,[4] but also for obligations related to environmental protection, including, among other things, the need to ensure the sustainable use of natural resources. Obligations related to environmental protection are not concentrated exclusively in construction law, but are scattered across a number of specific legal regulations, such as Act No. 334/1992 Coll., on the protection of

[1] Eurostat. Waste statistics. [online]. *European Union* [cited 28 August 2025]. Available from: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_statistics

[2] Section 151 of the new Building Act.

[3] European Commission. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. New Action Plan for the Circular Economy. [online] *European Union*. 11. 3. 2020, COM(2020) 98 final.

[4] For example, the builder is obliged to ensure the proper preparation and execution of the construction, to keep (or have kept) a construction log, to report the stages of construction to the building authority and to allow inspections. They must ensure that the construction is carried out by qualified persons, that technical standards and occupational safety are complied with, and that the prescribed tests and inspections are carried out before the construction is completed.

agricultural land (hereinafter referred to as the "Act on the Protection of Agricultural Land"), Act No. 114/1992 Coll., on the Protection of Nature and the Landscape (hereinafter referred to as the "Act on the Protection of Nature and the Landscape") or Act No. 289/1995 Coll., the Forest Act (hereinafter referred to as the "Forest Act"). Each of these regulations sets out specific obligations for builders in terms of protecting specific components of the environment and the associated penalty mechanisms in the event of non-compliance.

The aim of this article is therefore to analyse the scope and content of the builder's obligations when carrying out construction activities in terms of the sustainable use of natural resources and to define the limits of their administrative and legal responsibility. Attention will be paid not only to positive legal regulation and the systemic relationship between construction and environmental law, but also to those less obvious and often underestimated obligations in practice that are not directly related to the building permit, but rather to the way natural resources and materials are handled during construction and to broader environmental requirements for builders. At the same time, the article aims to assess the effectiveness of the current legal framework and suggest possible directions for its further development in light of the principles of sustainability, environmental protection and effective public liability of builders.

2. Legal framework for the sustainable use of natural resources in construction

2.1 European and international legislation

The sustainable use of natural resources is based on the long-term development of international and European environmental law. At the international level, its roots can be found in the 1972 United Nations Conference on the Human Environment in Stockholm, which for the first time explicitly expressed the responsibility of both states and individuals for the protection of natural resources,[5] and in the 1992 Rio de Janeiro Declaration on Environment and Development, which also formulated sustainability in the context of the production and use of natural resources in order to achieve sustainable development.[6] At the international level, the Stockholm Declaration (1972) and the Rio Declaration on Environment and Development (1992) were followed by the United Nations Conference on Sustainable Development (known as the Rio+20 Conference), which took place in Rio de Janeiro in 2012. One of the outcomes of the conference was the Declaration "The Future We Want", which reaffirmed the principles of sustainable development and highlighted the need for sustainable use of natural resources as a prerequisite

[5] In particular, principles 1, 2 and 5 of the United Nations Conference on the Environment Declaration.

[6] In particular, principles 1, 2, 4 and 8 of the Declaration on Environment and Development.

for economic growth. The Rio+20 Conference also launched the preparation of the Sustainable Development Goals[7] , which were subsequently adopted by the United Nations General Assembly in 2015 as part of the 2030 Agenda for Sustainable Development, in which Goal 12 – Responsible production and consumption, which calls on Member States to minimise waste production and promote the circular economy.

At the European Union level, the basic regulation is Directive 2008/98/EC of the European Parliament and of the Council on waste, the so-called Waste Framework Directive, which establishes a waste management hierarchy.[8] This directive also set a target of recycling 70 % of construction and demolition waste by 2020.[9] Directive 2018/851 of the European Parliament and of the Council, which amended Directive 2008/98/EC on waste, strengthened the waste management hierarchy and extended it to include requirements for the prevention of construction and demolition waste and the use of demolition materials as secondary raw materials. Member States are required to take measures to promote sustainable production and consumption patterns, as well as to take measures to ensure the implementation of a system for sorting construction and demolition waste, at least for wood, mineral components (concrete, bricks, tiles, ceramics and stones), metal, glass, plastics and plaster.[10] The principle of sustainable use of natural resources is further reflected in Regulation (EU) 2020/852 of the European Parliament and of the Council on establishing a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088 (the so-called taxonomy), which defines "sustainable economic activities", including construction, and highlights the circular economy.[11] At the same time, the European Green Deal and the follow-up EU Action Plan for the Circular Economy set out the European Union's strategic objectives in the field of material efficiency in construction. Last but not least, the European Commission has published the EU Protocol on the Management of Construction and Demolition Waste, which aims to strengthen confidence in the proper management of construction and demolition waste, including meaningful recycling and reuse, and to improve awareness of the quality of recycled construction and demolition waste with regard to the sustainability of the construction sector.[12]

[7] Sustainable Development Goals (SDGs).

[8] The waste management hierarchy according to Directive 2008/98/EC is prevention, preparation for reuse, recycling, other recovery (including energy recovery) and disposal (landfilling, incineration without energy recovery).

[9] Article 11(2) of Directive 2008/98/EC.

[10] Articles 9 and 11 of Directive 2008/98/EC, as amended by Directive 2018/851.

[11] Articles 3, 4 and 13 of Regulation (EU) 2020/852 of the European Parliament and of the Council on establishing a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088.

[12] European Commission. *EU Protocol on the management of construction and demolition waste* [online]. European Union [cited on 30 August 2025]. Available at: https://mpo.gov.cz/assets/

2.2 National legislation

In the Czech legal system, the sustainable use of natural resources is enshrined in Article 7 of the Constitution of the Czech Republic, according to which "the state shall ensure the prudent use of natural resources and the protection of natural wealth". "Prudent use of natural resources" means their cautious and rational processing or other use. The concept of "prudent use of natural resources" is a precursor to the comprehensive concept of "sustainable development". This concept takes a stricter approach to the use of resources, requiring maximum conservation in the use of non-renewable resources and rational use of renewable resources. Rational use of renewable resources is such use that ensures their permanent renewability.[13] In systematic connection with Article 35 of the Charter of Fundamental Rights and Freedoms,[14] it follows not only from this article that individuals have the right to a favourable environment, but also that everyone has a responsibility to protect it. From the perspective of subconstitutional law, the new Building Act provides fundamental support for the sustainable use of natural resources in connection with construction activities. As mentioned above, Section 151 of the new Building Act expressly enshrines a general obligation to design, construct and demolish buildings in such a way as to ensure the sustainable use of natural resources, in particular through the reuse or recycling of building materials and the use of environmentally friendly raw materials or secondary materials. This provision was not included in Act No. 183/2006 Coll., the Building Act (hereinafter referred to as the "old Building Act"), and it is clear from the explanatory memorandum to the new Building Act that Section 151 was added to the new Building Act in connection with the new amendment to Act No. 541/2020 Coll., on waste (hereinafter referred to as the "Waste Act"), which introduced the obligation to prevent waste generation and give priority to reuse over recycling or disposal.[15] The Waste Act is a key piece of legislation in the field of materials and waste management, as it defines construction and demolition waste[16] and imposes an obligation on builders to prevent waste generation, keep ongoing records and ensure that waste is only handed over to an authorised person. The Waste Act also transposes Directive 2008/98/EC on

cz/stavebnictvi-a-suroviny/strategicke-dokumenty-pro-udrzitelne-stavebnictvi/2018/11/Protocol-Ares_2016_5840668-101016_Cze.pdf

[13] SLÁDEČEK, Vladimír, MIKULE, Vladimír, SUCHÁNEK, Radovan, SYLLOVÁ, Jindřiška. *Constitution of the Czech Republic. Commentary.* 2nd edition. Prague: C. H. Beck, 2016, pp. 90–98.

[14] Article 35(1) of the Charter of Fundamental Rights and Freedoms reads: *Everyone has the right to a favourable environment.*

[15] Parliamentary Print 1008/0. *Explanatory memorandum to the government draft of the Building Act* [online]. Chamber of Deputies of the Parliament of the Czech Republic [cited on 25 August 2025], p. 51. Available at: https://mmr.gov.cz/getmedia/a1336352-37df-4477-87de-402fef96979e/4-Duvodova-zprava-k-vladnimu-navrhu.pdf.aspx?ext=.pdf

[16] Section 11(2)(j) of the Waste Act.

waste, as amended by EU Directive 2018/851, and creates a basic framework for the implementation of the circular economy. Another important regulation for builders in relation to the sustainable use of natural resources is the Act on the Protection of Agricultural Land, which imposes an obligation on builders to use primarily non-agricultural land, minimise the occupation of agricultural land[17] and handle topsoil separately.[18] The obligation to protect soil as an irreplaceable natural resource complements the material aspect of sustainable construction with a territorial and ecological dimension. Specific requirements are also set out in Act No. 254/2001 Coll., the Water Act (hereinafter referred to as the "Water Act"), which obliges builders to ensure adequate water supply to the construction site and wastewater disposal through approved systems, and to take measures to limit surface runoff and promote infiltration or retention of rainwater.[19] In connection with this, the Forest Act requires that construction work on land affected by forest management be carried out with the least possible impact on forest stands and the landscape functions of the forest.[20] The framework for the sustainable use of natural resources also includes Act No. 114/1992 Coll., on the protection of nature and the landscape (hereinafter referred to as the "Act on the Protection of Nature and the Landscape"), which imposes an obligation to locate buildings with regard to the preservation of the landscape character[21] and to proceed in such a way as not to endanger plants, animals or their habitats.[22] Nature conservation authorities have key decision-making powers in this area, which may condition the actual building permit.

3. Obligations of the builder and his administrative liability in relation to the sustainable use of natural resources

As mentioned above, the sustainable use of natural resources is reflected in a number of component pieces of environmental legislation that impose specific obligations on the builder. These obligations relate in particular to the protection of soil, forests, water, nature and the landscape, and their aim is to ensure that construction activities do not cause irreversible or excessive damage to the environment and do not threaten the functions of ecologically significant areas or elements.[23] Although these rules are not often labelled as "sustainability", their

[17] Section 4 of the Agricultural Land Protection Act.

[18] Section 8 of the Act on the Protection of Agricultural Land.

[19] Section 5 of the Water Act.

[20] Sections 13 and 22 of the Forest Act.

[21] Section 12 of the Nature and Landscape Protection Act.

[22] Section 5 of the Nature and Landscape Protection Act.

[23] TRTÍLEK, Petr, HANÁK, Tomáš. Performance Measurement in Czech Construction Companies with Regard to Environmental Responsibility. [Online]. In: IOP Conference Series: Earth and Environmental Science. IOP Publishing, 2021, [cited 13 October 2035], pp. 1-7. ISSN 1755-1315. Available from: https://doi.org/10.1088/1755-1315/906/1/012094.

common denominator is to ensure a long-term balance between development plans and the protection of natural resources, thereby also fulfilling the public interest in environmental protection.

These obligations are inextricably linked to the issue of the builder's administrative liability, which applies in the event of non-compliance with legal requirements. The liability of a builder who is a natural person requires fault, even in the form of unconscious fault or negligence, unless the law expressly stipulates that intentional fault is required.[24] Liability for an offence also arises for a natural person who has used a legal entity that is not liable for the offence to commit the offence.[25] If the builder is a legal entity, then the legal entity is the perpetrator of the offence if the elements of the offence were fulfilled by the actions of a natural person who, for the purposes of assessing the liability of the legal entity for the offence, is considered to be a person whose actions are attributable to the legal entity and who violated a legal obligation imposed on the legal entity, in the course of the legal entity's activities, in direct connection with the legal entity's activities or for the benefit of the legal entity or in its interest.[26] The liability of a legal entity for an offence is thus conceived as objective liability, but with the possibility of exemption.[27] In order for an entrepreneur engaged in business to become a perpetrator, the elements of the offence must be fulfilled in the course of their business or in direct connection with it, and the entrepreneur engaged in business must have violated a legal obligation imposed on an entrepreneur or a natural person.[28] An entrepreneur is also an offender if the elements of the offence are fulfilled by the actions of persons whose actions are attributable to the entrepreneur (e.g. an employee).[29] Similar to a legal entity, an entrepreneur engaged in business is liable for an offence regardless of fault, i.e. under a strict liability regime, but may also claim exemption and prove that they made every effort that could be required to prevent the offence.[30]

The provision of the Building Act, which stipulates that a building must be constructed and demolished in such a way as to ensure the sustainable use of natural resources,[31] expresses the general principle of environmentally responsible construction, but does not contain the factual basis of the offence or the sanction mechanism that would be applied in the event of non-compliance. In the author's

[24] Section 15 of Act No. 250/2016 Coll., on liability for offences and proceedings concerning them (hereinafter referred to as the „Act on Liability for Offences").

[25] Section 13 of the Act on Liability for Offences.

[26] Section 20 of the Act on Liability for Offences.

[27] According to Section 21(1) of the Act on Liability for Offences, *a legal entity shall not be liable for an offence if it proves that it made every effort that could be required to prevent the offence.*

[28] Section 22(1) of the Act on Liability for Offences.

[29] Section 22(2) of the Act on Liability for Offences.

[30] Section 23 of the Act on Liability for Offences.

[31] Section 151 of the new Building Act.

opinion, although this provision does not establish separate liability for the builder, it may represent a general interpretative and value framework for the elements of offences under component environmental protection legislation.

3.1 Obligations of the builder under the Waste Act

Construction activities inevitably generate waste (see above), particularly in the form of construction and demolition waste, and based on the above information, it is clear that this type of waste is of exceptional importance in terms of environmental protection and the sustainable use of natural resources, as construction is one of the most material-intensive industries with a high potential for reuse of the materials produced. In relation to any type of waste, it is necessary to respect the waste management hierarchy, according to which the priority is to prevent waste generation, and if waste generation cannot be prevented, then in the following order: preparation for reuse, recycling, other recovery (including energy recovery), and if this is not possible, disposal.[32]

Construction and demolition waste is defined by the Waste Act as waste generated during construction and demolition activities.[33] When assessing materials generated during construction activities, it is necessary to distinguish whether they are waste, by-products or construction products. The distinction between these categories is of fundamental importance, as it determines whether the Waste Act applies to the item in question or whether it can be treated as an economically usable raw material or product. It is therefore necessary to distinguish between construction and demolition waste and construction products that were used in construction and are removed from the construction site and subsequently reused at the construction site or at another construction site as construction products for their original purpose, as these do not meet the definition of waste set out in Section 4 of the Waste Act.[34] a construction product is thus the result of a targeted production activity, i.e. an object that was created intentionally for the purpose of being placed on the market or for a specific use. In such a case, construction products are not subject to the Waste Act and their use is governed by special legal regulations.[35] For example, recycled building material that has been processed from waste to become a product that meets technical standards can be considered a construction product.[36] It is also necessary to distinguish between construction and demolition

[32] Section 3(2) of the Waste Act.

[33] Section 11(1)(j) of the Waste Act.

[34] According to Section 4 of the Waste Act, any movable thing that a person discards or intends or is obliged to discard.

[35] Act No. 22/1997 Coll., on technical requirements for products, and Act No. 387/2024 Coll., on general product safety and on amendments to certain related acts.

[36] E.g. recycled aggregate, which becomes a certified construction product when it meets the requirements of harmonised standards (e.g. ČSN EN 12620 for concrete or ČSN EN 13242 for civil engineer-

waste and by-products, which the Waste Act defines as movable objects created during production.[37] The essential condition is that the item was created during production but was not the primary objective of that production. Another condition is that it is used without additional processing or only minimal modification, its use complies with other regulations[38], and the criteria for individual materials for assessing compliance with the above conditions, if specified, are met.[39,40] In order for an item to be considered a by-product, it is necessary to keep documentation proving that the above conditions have been met.[41,42] If any of the conditions are not met, it cannot be concluded that the item is a by-product, but rather waste within the meaning of the Waste Act.[43] Although by-product and construction product are different concepts, they may overlap (for example, in the case of construction debris that was generated as part of construction activities and will be used directly on site – it may be a by-product, but if this debris is processed using a technological process and placed on the market, then the resulting material is a product).

In the context of construction activities, construction and demolition waste is considered to be materials generated during the construction, maintenance, reconstruction and demolition of buildings – typically concrete, bricks, tiles, ceramics, wood or glass. Like everyone else, the builder is obliged to prevent the generation of waste during construction, to limit its quantity and hazardous properties.[44] During the construction of a building, the builder acts as the waste producer, regardless of whether they are a natural person, a legal entity or a natural person engaged in business, as the Waste Act defines a waste producer as anyone whose activities

ing works) and its manufacturer issues a declaration of performance (DoP) in accordance with EU Regulation No. 305/2011 (Construction Products Regulation), thereby becoming a fully-fledged and environmentally friendly substitute for natural aggregate in many applications.

37 The item must be „newly created" during production (construction is also considered production, demolition is not).

38 Act No. 22/1997 Coll. on technical requirements for products, Act No. 102/2001 Coll. on general product safety, Act No. 634/1992 Coll. on consumer protection, Act No. 258/2000 Coll. on public health protection, Act No. 114/1992 Coll. on nature and landscape protection, Act No. 201/2012 Coll. on air protection, Act No. 254/2001 Coll. on Water, Act No. 350/2011 Coll. on Chemical Substances and Chemical Mixtures) or directly applicable European Union regulations (e.g. REACH Regulation, CLP Regulation) and will not lead to adverse effects on the environment or human health.

39 For example, Decree No. 273/2021 Coll., for soil/stones.

40 Section 8(1) of the Waste Act.

41 Section 8(3) of the Waste Act.

42 According to the judgment of the Supreme Administrative Court of 29 December 2020, ref. no. 2 As 22/2019-45, demolition debris, i.e. a mixture of building materials resulting from the demolition of a building, is usually waste, but under certain circumstances (if it does not require further processing) it can be a by-product that can be used in the construction of a new building.

43 FILDÁN, Zdeněk. Waste or by-product? A very useful regime, but pay attention to the details. *Envi-Group* [online]. 14 October 2025 [cited 20 October 2025], Available from: https://www.envigroup.cz/odpad-nebo-vedlejsi-produkt-velmi-uzitecny-rezim-ale-pozor-na-detaily.html

44 Section 12(1) of the Waste Act.

generate waste.[45] The Waste Act also expressly regulates situations where waste is generated in the course of carrying out contract work (typically construction) or in the course of subcontracting relationships, in such a way that the waste producer is the person who physically carries out the activity during which the waste is generated (the contractor). When an item becomes waste, ownership of that item passes to the waste producer.[46] However, the waste producer (or waste owner) may also be, for example, the client (builder), if this is agreed in writing with the contractor in the contract for work. [47]

The obligations of the builder as the waste producer include ensuring that construction and demolition waste is transferred to a waste management facility in the appropriate quantity, by means of a written contract before the waste is produced.[48] This also applies to natural persons, with the exception of cases where the amount of construction and demolition waste produced corresponds to the amount of construction and demolition waste that a natural person who is not an entrepreneur can transfer to the municipality (provided that the municipality designates a place where it will collect construction and demolition waste generated in the municipality by natural persons as part of the municipal system).[49] If the builder fails to do so, they will be guilty of an offence under Section 117(1)(l) of the Waste Act, which is committed by a natural person who fails to ensure, in the prescribed manner and in the appropriate quantity, by means of a written contract, the transfer of construction and demolition waste that they do not process themselves. In the case of a legal entity or an entrepreneur, the same offence is regulated in Section 118(1)(c) of the Waste Act. The amount of the fine that may be imposed on a builder for such conduct is up to CZK 100,000 for a natural person and up to CZK 1,000,000 for a legal entity or an entrepreneur.[50]

The builder, as the waste producer (but only in the case of entrepreneurs and legal entities), is also obliged to comply with the procedure for the handling of demolished building materials intended for reuse, by-products and construction and demolition waste in order to ensure the highest possible level of reuse and recycling.[51] In the event of failure to comply with this obligation, the Waste Act contains the elements of an offence in Section 118(1)(f), which consists of failure to

[45] Section 5(1)(a) of the Waste Act.

[46] *Explanatory memorandum to the draft Waste Act* [online]. Ministry of the Environment [cited 23 October 2025], p. 22. Available at: https://dfs.caoh.cz/p/datahistorie/action/duvodova-zprava--odpady.pdf#:~:text=práva%2C%20pokud%20vlastník%20této%20věci%20a%20osoba%2C,je%20však%20rozhodující%20to%2C%20zda%20se%20jí

[47] Section 5(2) of the Waste Act.

[48] Section 15(2)(c) in conjunction with Section 13(1)(e) of the Waste Act.

[49] Section 59(5)(a) of the Waste Act.

[50] Section 117(3)(c) of the Waste Act and Section 118(3)(a) of the Waste Act.

[51] Section 15(2)(f) of the Waste Act.

comply with the established procedure for the handling of demolished construction materials intended for reuse, by-products and construction and demolition waste. This offence can only be committed by an entrepreneur or legal entity, and the maximum fine that can be imposed for such conduct is CZK 10,000,000.[52] The reason why the legislator does not allow natural persons may be the fact that in such a case it is usually not a professional waste producer, but a one-off activity within the private life of that person, where systematic or organised waste management is not expected, and where sanctions for violating detailed waste management obligations would be disproportionately harsh. Similarly, waste producers, again only entrepreneurs and legal entities, are required to keep ongoing records of construction and demolition waste. The ongoing records include, for example, information on the amount of waste, the method of waste management and the waste producer.[53] The ongoing records must be kept for a period of 5 years from the date of entry into the records.[54] In the event of failure to keep ongoing records, a legal entity or entrepreneur may fulfil the elements of an offence under Section 121(4)(a) of the Waste Act, for which a fine of up to CZK 10,000,000 may be imposed.[55] In the event of failure to keep continuous records for at least 5 years, the Waste Act contains further grounds for an offence in Section 121(4)(b), where the fine for such conduct may reach up to CZK 1,000,000.[56]

The builder is also obliged to carefully sort and collect construction and demolition waste separately in order to ensure the necessary quality of sorted material intended for recycling or reuse (e.g. concrete, bricks, plaster, roofing and ceramics).[57] If they collect these materials without separating them, they are committing an offence under Section 117(1)(d) of the Waste Act (natural person), for which the upper limit of the fine is CZK 50,000,[58] or an offence under Section 121(1)(g) of the Waste Act, for which the upper limit of the fine is CZK 10,000,000.[59] Specifically in relation to construction and demolition waste, immediately after making changes to a completed building, landscaping or demolition of a building subject to a permit under the Building Act, the builder must send the municipal authority with extended powers documents proving that all reused construction products, used by-products and construction products that are no longer waste have been used in accordance with the Waste Act and that all materials obtained are construction products or by-products that have not become waste or have been treated as waste in accordance

[52] Section 118(3)(b) of the Waste Act.

[53] Section 94(1) and (2) of the Waste Act.

[54] Section 94(3) of the Waste Act.

[55] Section 121(5)(c) of the Waste Act.

[56] Section 121(5)(b) of the Waste Act.

[57] Section 13(1)(c) of the Waste Act.

[58] Section 117(3)(b) of the Waste Act.

[59] Section 121(5)(c) of the Waste Act.

with this Act and the waste management hierarchy.[60][61] A builder who fails to send the relevant administrative authority the specified documents after completing a change to a finished building, landscaping or demolition of a building,[62] may be punished with a fine of up to CZK 100,000 for a natural person,[63] and a fine of up to CZK 1,000,000 for an entrepreneur and a legal entity.[64]

3.2 Obligations of the builder under the Act on the Protection of Agricultural Land

The Act on the Protection of Agricultural Land protects land as an irreplaceable natural resource. In connection with the sustainable use of natural resources, in particular land, the builder is obliged to use primarily non-agricultural land, undeveloped and underutilised land in built-up areas or in buildable areas, building gaps and areas obtained by removing buildings and facilities located on them.[65] One of the basic obligations of a builder in relation to the protection of the agricultural land fund is the obligation to request consent for withdrawal from the agricultural land fund if agricultural land is to be used for non-agricultural purposes.[66] Consent to withdrawal is a necessary condition for the issuance of follow-up decisions under the Building Act, which underlines its importance in assessing interference with the agricultural land fund and the protection of soil as a non-renewable natural resource. The use of agricultural land for non-agricultural purposes without the above-mentioned consent of the agricultural land fund protection authority constitutes an offence, but according to the wording of the Act, the perpetrator can only be the owner or another person who is authorised to use the agricultural land.[67] The builder could therefore only be punished for this offence if he were the same person as the owner of the building, as the legislator considers, for example, a tenant or leaseholder to be another person authorised to use agricultural land.[68]

Furthermore, when locating a building, the builder is obliged to design the location in such a way that, from the point of view of the protection of agricultural land and other public interests protected by law, there is as little loss of agricultural land as possible, and at the same time, the consequences of the proposed solution

[60] Section 93a(1) of the Waste Act.

[61] If the project requires a unified environmental opinion, the builder would be obliged to send the documents pursuant to Section 93a(1) of the Waste Act to the administrative authority that issued the unified environmental opinion.

[62] Section 117(2)(j) and Section 118(4)(j) of the Waste Act.

[63] Section 117(3)(c) of the Waste Act.

[64] Section 118(5)(b) of the Waste Act.

[65] Section 4(1) of the Agricultural Land Protection Act.

[66] Section 9(1) of the Agricultural Land Protection Act.

[67] Section 20(2)(c) and Section 20a(2)(c) of the Agricultural Land Protection Act.

[68] SOVA, Aleš, BENDOVÁ, Helena, FRANČÍK, Jiří. Act on the Protection of Agricultural Land. Commentary. 1st edition. Prague: C. H. Beck, 2022, pp. 167–178.

on agricultural land must be assessed.[69] In connection with construction activities, there is an obligation to cover the topsoil separately and ensure its economical use or proper storage for the purposes of recultivation, or to ensure its removal and spreading at one's own expense on areas designated by the agricultural land fund protection authority, unless, in justified cases, this authority grants an exemption from the obligation to cover the aforementioned soil; a justified case is considered to be, in particular, the removal of agricultural land from the agricultural land fund.[70]

The above obligations for builders arising from the Act on the Protection of Agricultural Land in connection with the sustainable use of land as a natural resource may be enforced against builders who are natural persons and who carry out construction, mining or industrial activities or carries out landscaping in violation of the obligation to cover the topsoil separately in accordance with Section 20(1)(g) of the Act on the Protection of Agricultural Land, with a fine of up to CZK 1,000,000.[71] If the act concerns a legal entity or entrepreneur, the facts of the offence are regulated in Section 20a(1)(g) of the Act on the Protection of Agricultural Land, and the perpetrator may be fined up to CZK 10,000,000. [72]

Other obligations of the builder, i.e. in particular the obligation to give priority to the use of non-agricultural land (Section 4(1)), to locate the building so as to minimise land take and to assess the impact on the agricultural land fund (Section 7(1)), are not linked to any factual elements of an offence in the Act on the Protection of Agricultural Land. This means that their violation is not directly punishable under the Act on the Protection of Agricultural Land. According to the author, these obligations are therefore predominantly of a material and value-based nature and are enforced indirectly through the decision-making activities of the agricultural land fund protection authorities within the framework of spatial planning or project approvals (e.g. failure to issue the above-mentioned consent to withdraw agricultural land from the Agricultural Land Fund for non-agricultural purposes pursuant to Section 9(1) of the same Act).[73]

3.3 Obligations of the builder under the Nature and Landscape Protection Act

Construction activities can undoubtedly have a significant impact on the natural values of an area and should therefore always be carried out in accordance with nature and landscape protection requirements. Unlike other regulations in the field

[69] Section 7(1) of the Act on the Protection of Agricultural Land.

[70] Section 8(1)(a) of the Act on the Protection of Agricultural Land.

[71] Section 20(3)(a) of the Act on the Protection of Agricultural Land.

[72] Section 20a(3)(a) of the Act on the Protection of Agricultural Land.

[73] These obligations can be perceived within the framework of soil protection as legal principles or normative maxims of high generality and considerable vagueness, which lack a clearer definition of the facts of the case and a precise determination of the legal consequences. See BYDLINSKI, Franz. System und Prinzipien des Privatrechts. Vienna: 1996, pp. 67–68.

of protecting individual components of nature, the legal regulation of nature and landscape protection is of a mixed nature. Certain obligations apply to every builder regardless of the location or nature of the project – these include, for example, the obligations of the builder under Section 5 of the Nature and Landscape Protection Act, which imposes an obligation during the planning, construction and use of buildings, to proceed in such a way as to avoid unnecessary death of plants and injury or death of animals or destruction of their habitats, including disruption of animal migration routes, which can be prevented by technically and economically available means.[74][75] In addition to these universally applicable obligations, however, the Nature and Landscape Protection Act also contains a number of selective restrictions that apply only if the construction activity affects areas or elements with a special legal protection regime (e.g. significant landscape elements, specially protected areas, landscape character or habitats of specially protected species). The scope of the builder's obligations is thus determined by a combination of general legal requirements and the specific factual circumstances of the construction activity or construction project.

If the location and approval of buildings could interfere with the landscape character,[76] such interference must be carried out in such a way that the characteristic natural and cultural values of the area are not disturbed.[77] In situations where the location and approval of buildings could reduce or change the landscape character, it is necessary to obtain the consent of the nature conservation authority in advance.[78] The location of the construction could also lead to damage or destruction of a significant landscape feature or to endanger or weaken its stabilising function.[79] Such activities require the consent of the nature conservation authority in accordance with Section 4(2) of the Nature and Landscape Protection Act. If the construction project affects specially protected areas, their protection zones or sites of European importance or bird areas of the Natura 2000 network, the builder has additional obligations. According to Section 44(2) of the Nature and Landscape Protection Act, it is necessary to obtain the consent of the nature conservation authority to carry out construction, landscaping and excavation work in a specially protected area. Without the consent of the nature conservation authority, construction,

[74] Section 5(3) of the Nature and Landscape Protection Act.

[75] The Nature and Landscape Protection Act explicitly uses the term in the planning, implementation and use of buildings, so it can be concluded that in order for this obligation to apply to the builder, the definition of a building under the new Building Act would have to be fulfilled.

[76] The landscape character is primarily the natural, cultural and historical characteristics of a particular place or area.

[77] Section 12(1) of the Nature and Landscape Protection Act.

[78] Section 12(1) and (2) of the Nature and Landscape Protection Act.

[79] According to Section 3(1)(b) of the Nature and Landscape Protection Act, significant landscape features include forests, peat bogs, watercourses, ponds, lakes and valley floodplains.

use, approval or removal cannot be permitted if it is located in a national park or protected landscape area.[80] If the construction activity requires the removal of trees growing outside a forest, a permit to fell trees must be obtained from the nature conservation authority pursuant to Section 8(1) of the Nature and Landscape Protection Act.[81] In cases where construction work interferes with the protection of memorable trees or areas where specially protected species of plants and animals occur, the builder is obliged to proceed in accordance with the regime of exceptions to prohibitions under Section 56 of the Nature and Landscape Protection Act. This is the strictest tool for biodiversity protection and can only be used if the intended intervention cannot be achieved by other, more environmentally friendly means.

From the point of view of sustainable management of natural resources, it is important that the general obligation of the builder under Section 5(3) of the Nature and Landscape Protection Act, which imposes an obligation to proceed in such a way during construction activities that does not result in excessive death of plants and animals, constitutes the factual basis of an offence,[82] for which a fine of up to CZK 100,000 may be imposed if the offender is a natural person.[83] If the plants and animals are specially protected and the area is a specially protected area, the fine may be doubled. If the same offence is committed by a legal entity or entrepreneur, a fine of up to CZK 2,000,000 may be imposed.[84] Other obligations of the builder, which apply only in the case of interference with protected components of nature, are punishable mainly if the builder fails to comply with the obligation to request the appropriate consent from the nature conservation authority or carries out the interference without an exemption. This includes, for example, the offence of disturbing the landscape without the required consent of the nature conservation authority,[85] for which a fine of up to CZK 20,000 (for natural persons) or up to CZK 2,000,000 (for entrepreneurs and legal entities) may be imposed.[86]

3.4 Obligations of the builder under the Water Act

The Water Act imposes an obligation on builders to manage water in a manner that does not threaten its quantity and quality in connection with the sustainable use of natural resources. When constructing or modifying buildings or changing their use, builders are obliged to ensure water supply and sewage disposal through designated sewerage systems. In areas where there is no sewerage system, wastewater

[80] Section 44(1) of the Nature and Landscape Protection Act.

[81] The Act allows for exceptions to this obligation, for example if the tree is below a certain size or if its condition clearly and immediately endangers life or health or if there is a risk of significant damage.

[82] Section 87(3)(g) and Section 88(2)(i) of the Nature and Landscape Protection Act.

[83] Section 87(4)(c) of the Nature and Landscape Protection Act.

[84] Section 88(3)(b) of the Nature and Landscape Protection Act.

[85] Section 87(2)(h) and Section 88(2)(a) of the Nature and Landscape Protection Act.

[86] Section 87(4)(b) and Section 88(3)(b) of the Nature and Landscape Protection Act.

must be treated before being discharged into surface or groundwater. Only in cases where these solutions are not technically feasible is it possible to choose to accumulate wastewater in an impermeable tank and then transport it to an approved facility for proper disposal. At the same time, the builder must ensure that unwanted rainwater runoff from the building is limited. This can be achieved in particular by collecting it, reusing it or allowing it to seep into the ground, or by evaporation. If these procedures are not possible or sufficient, it is also permissible to retain rainwater and drain it in a controlled manner by other means or by a combination of the above methods. Compliance with these requirements is a prerequisite for the granting of a building permit, its modification, use or additional permit.[87] Although these are fundamental obligations in terms of protecting water resources and the aquatic environment, failure to comply with them is not directly sanctioned by law, as they are not included in the facts of offences under the Water Act. Their enforceability is therefore primarily enforced through licensing processes (e.g. in proceedings for the approval of a project or construction), rather than through subsequent administrative liability.

3.5 Obligations of the builder under the Forest Act

As an important natural component and renewable natural resource, forests are subject to a special legal regime aimed at ensuring their economical and sustainable use in the long term. From the perspective of the sustainable use of natural resources, forests are not only a source of wood, but also perform functions that are important for society as a whole, such as stabilisation, water management, climate regulation and recreation.[88] The law therefore imposes specific obligations on builders, especially if the construction project encroaches on forest land or is located in its immediate vicinity.

The basic legal protection of forests in relation to sustainable use in construction activities is represented in particular by the obligation of the builder to request a binding opinion from the state forest administration authority pursuant to Section 14(2) of the Forest Act if the intended activity may affect interests protected by the Forest Act. This obligation applies not only to direct interference with forest land, but also to the forest protection zone, which is 30 metres from the edge of the forest. If a permit under the new Building Act is required for the construction project, the consent of the state forestry administration authority will be issued in the form of a binding opinion and its content will be binding on the operative part of the building authority's decision.[89]

[87] Section 5(3) of the Water Act.

[88] *Bezručův vrch and its surroundings.* [online]. Lesy ČR. [cited 25 October 2025]. Available from: https://lesycr.cz/wp-content/uploads/2016/12/a1-cedule-funkce-lesa.pdf

[89] Section 171 et seq. of the new Building Act.

In cases where the realisation of the construction project requires the withdrawal of land designated for forest functions, the builder must also obtain consent for the withdrawal in accordance with Section 16 of the Forest Act. Violation of this obligation may result in administrative liability for the builder, because according to Section 54(2)(a) of the Forest Act, the builder commits an offence by withdrawing or restricting the use of land designated for forest functions without a decision by the state forest administration authority on withdrawal or restriction, for which a fine of up to CZK 1,000,000 may be imposed.[90]

In addition to the above consent from the state forestry authority, the builder is obliged under Section 13 of the Forest Act to carry out work on forest land in such a way as to cause as little damage to the forest as possible, and any damage must be repaired without delay. Material from excavations or landscaping should be stored primarily in excavated areas or on designated non-forest land. At the same time, they must continuously create conditions for subsequent recultivation and, after the occupation of the land has ended, carry it out in such a way that the land can return to fulfilling its forest functions. The Act also imposes an obligation to use technical means and technologies that minimise the risk of harmful substances escaping and do not damage the forest environment. The Forest Act does not contain the specific facts of the offence that would include the above obligations, but in the event of failure to comply with the above obligations, the facts of the offence under Section 54(1)(a) of the Forest Act could be fulfilled if the builder caused (a natural person, legal entity or entrepreneur) caused significant damage to the forest and thereby endangered its function, for which the builder could be fined up to CZK 100,000. The tortious conduct in this case does not have a direct link to a specific obligation under the Forest Act and is based on entirely general characteristics (three conditions must be cumulatively met for it to be fulfilled, namely (i) the occurrence of significant damage[91] as a result of the perpetrator's conduct, (ii) the threat to the fulfilment of forest functions, and (iii) the existence of a causal link between the two). The threat to the fulfilment of forest functions can be understood as the creation of conditions in which there is a significant probability of damage to the fulfilment of forest functions.[92] Unlike most environmental protection laws, the Forest Act does not distinguish between natural persons, entrepreneur, and legal persons when determining the possible amount of a fine. On the contrary, it regulates the facts of offences which, by their very nature, can only be committed by natural persons (e.g. smoking in the forest within the framework of general forest use).[93]

[90] Section 54(3)(b) of the Forest Act.

[91] Significant damage is a term used in criminal law, which defines it in Section 138(1)(d) of Act No. 40/2009 Coll., the Criminal Code, as damage amounting to at least CZK 1,000,000.

[92] See the judgment of the Municipal Court in Prague of 25 July 2013, ref. no. 10 A 308/2011-51.

[93] Section 53(1)(s) of the Forest Act.

In addition to the obligations imposed directly on the builder, the process of preparing construction projects also involves obligations on the part of designers, planners and construction document processors to propose solutions that are most appropriate from the point of view of forest protection and other public interests. At the same time, they are obliged to assess the expected impacts of the intended activity on forest land, consider alternative options and propose possible recultivation of the area after completion of the construction.[94] The determination of another use for land designated for forestry purposes cannot be ruled out, but only in compliance with legal procedures and after assessing all relevant circumstances in their mutual context. Again, these obligations are not separately punishable, but the role of the above-mentioned entities cannot be interpreted in isolation from the processes for which the relevant documentation and proposals are prepared.[95] Their enforceability is therefore asserted indirectly, either in the context of building permit proceedings or in the process of preparing and approving spatial planning documentation, where state forestry authorities submit their comments or opinions.

4. Conclusion

Sustainable use of natural resources is a cross-cutting principle in the current legal framework, which is reflected in a whole range of public law instruments regulating construction activities. Although the Czech legal system does not operate with a uniform and comprehensive code that would fully operationalise this principle, individual component regulations – from the Building Act to the Act on the Protection of Agricultural Land, the Nature and Landscape Protection Act, the Forest Act and the Water Act – together form a system whose functional objective is to prevent excessive, irreversible or unjustified interference with natural resources. For builders, this means not only an obligation to comply with specific legal restrictions, but also an obligation to act in such a way during the preparation and implementation of a project that the consequences of their activities do not disrupt the basic ecological balance of protected areas, valuable ecosystems or landscape features.

A particularly significant part of these obligations arises from the Waste Act, which represents a key instrument for ensuring the sustainable use of natural resources in the construction sector. This is due to the fact that construction is responsible for the largest share of waste generation in the Czech Republic, with construction and demolition waste constituting a major portion of the total waste stream. From the perspective of sustainability, the volume of such waste should be minimised, and materials should be reused or recycled to the greatest possible extent. The Waste Act therefore places specific duties on builders to prevent waste

[94] Section 14(1) of the Forest Act.

[95] FLORA, Martin, STANĚK, Jiří, PRŮCHOVÁ, Ivana. *Forest Act. Commentary.* 1st edition. Prague: C. H. Beck, 2022, pp. 557–570.

generation, to sort and manage construction materials, and to prioritise reuse and recycling over disposal, making it one of the most important legal frameworks for achieving sustainable construction practices.

In this context, the article also seeks to assess whether the principle of sustainable use of natural resources is already sufficiently embedded within individual environmental statutes and whether the current legal framework adequately responds to the growing societal demand for resource-efficient and environmentally responsible construction activities. While the Waste Act provides one of the clearest examples of a concrete and enforceable implementation of this principle, other environmental laws incorporate sustainability in a less explicit or operationalised manner. As a result, the degree to which the principle is reflected varies considerably between statutes, which limits the overall coherence and predictability of the regulatory environment for builders.

The analysis shows that the legal regulation is based on a combination of directly enforceable obligations and obligations of a material and value nature, which are enforced indirectly through administrative proceedings. This is particularly typical for obligations that require a professional assessment of the impact of construction activities (e.g. assessment of the impact on the landscape, significant landscape features, specially protected species or water regime), where strict sanctions would be neither appropriate nor possible. On the contrary, obligations whose violation may lead to immediate damage to natural resources – for example, failure to remove topsoil, felling trees without a permit, interference with a forest without a binding opinion or withdrawal of land intended for forest functions – are based on specific facts constituting offences. Nevertheless, it cannot be overlooked that some sanction mechanisms, particularly in the area of forest law, are formulated in a relatively vague manner, which reduces the degree of legal certainty for those subject to them, even though they ensure sufficient flexibility in the protection of complex ecological processes.

Overall, it can be said that the current legislation already provides a relatively robust framework for the protection of natural resources from the negative impacts of construction activities, but its effectiveness lies in a combination of preventive measures (such as the need to obtain consent as a binding basis for project approval) and subsequent administrative liability with potentially high penalties. The effectiveness of sustainable use of natural resources is further limited by the dispersion of legal rules, differing terminology and the absence of a uniform system of sanctions. In the future, it would therefore be appropriate to consider greater harmonisation of legal instruments, in particular with regard to a clearer definition of the facts of offences and the unification of sanction regimes. Sustainable construction activity can only be achieved if the legal framework is not only consistent in terms of values, but also practically predictable and understandable to all actors in the construction process.

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Abstract

Construction activities are traditionally associated with high demand for natural resources and significant environmental impacts. Against the background of growing calls for resource independence, the need for the sustainable management of natural resources is becoming increasingly important. This principle is expressly enshrined in Section 151 of the new Czech Building Act No. 283/2021 Coll. The article analyses the builder‘s legal obligations in construction activities in relation to the sustainable use of natural resources, both under national law and in the broader context of European and international law. It also examines the consequences of breaches of these obligations in terms of the builder‘s administrative liability,

including sanction mechanisms in waste management and in the protection of soil, water, forests and the landscape. The article further assesses whether the principle of sustainable management of natural resources is sufficiently reflected in environmental legislation and whether the current legal framework responds adequately to the growing social demand for the careful and rational use of natural resources in the construction sector.

Key words

Administrative liability of the builder; sustainable use of natural resources; construction law; environmental protection; waste management; administrative offences.

POSSIBILITIES FOR THE RECLAMATION OF MINING AREAS USING GREEN INFRASTRUCTURE

Mořic Jurečka

1. Introduction

Over the last century, the landscape has changed significantly as a result of human activity, and it continues to do so. Since the dawn of civilisation, humanity has needed, and continues to need, a range of natural resources to satisfy basic needs and support further development. Mining activity, or extraction, refers to the anthropogenic process of obtaining natural raw materials through surface or underground mining. Mining is carried out primarily to secure resources for industry, energy production, or other necessary purposes. In 2023, the area affected by mining in the Czech Republic amounted to 52,333.6 ha (approximately 0.7% of the country's total area), with the largest areas affected by mining activities located in the Moravian-Silesian Region (42.5% of the areas affected by mining in the country), the Ústí nad Labem Region (22.3%), and the Karlovy Vary Region (14.1%).[1] Historically, mineral extraction has been most closely associated with the North Bohemian, Sokolov, and Upper Silesian coal basins, where it has significantly altered the landscape.[2] The most important raw materials mined in the Czech Republic include construction materials, especially building stone, gravel, sand, and limestone, and energy resources such as brown and black coal and, to a limited extent, natural gas and oil.[3]

2. Regulation of the negative impacts of mining activities

The extraction of raw materials entails a number of negative socio-economic and environmental impacts that significantly and irreversibly modify the Earth's surface, including original natural habitats. Mining activities therefore represent a significant destructive intervention in the landscape. According to Section 4(6) of Act No. 114/1992 Coll., on the Protection of Nature and the Landscape, the consent of the nature conservation authority is required for such significant mining interventions in the landscape. Raw material extraction itself has several life-cycle phases. In general, mining activities can be divided into the preparatory phase (involving exploration of the area and rocks, project activities, and the opening and preparation of mining works), the mining-technical phase (the actual mining and

[1] MŽPA. *Souhrnná zpráva o životním prostředí v krajích ČR 2023*. Praha, 2024.

[2] HAVRLANT, Jan. Devastace a rekultivace krajiny na Karvinsku. *Geographia Cassoviensis*. 2015, vol. 9, no. 2.; VRÁBLÍKOVÁ, JAROSLAVA. Rekultivace území po těžbě uhlí na příkladu severních Čech. *Životné Prostredie*. 2010, vol. 44, no. 1.

[3] MŽPB. *Zpráva o životním prostředí České republiky 2023*. Praha, 2024.

extraction processes, including the handling of soil and rock), the terminal phase of mining (termination of mining activities), and the post-mining, or eco-technical, phase, which is further divided into the technical phase (various forms of terrain modelling) and the biotechnical phase (the use of natural forces, sowing methods, etc.).[4]

This article focuses on the terminal phase of mining activity, when the actual process of mineral extraction has been completed and the reclamation of the affected area begins. Reclamation can be understood as a process leading to the restoration of an area affected by mining, with the aim of restoring the usability of the land.[5]

In the Czech Republic, the legal obligation to remediate and reclaim mining land after the end of operations arises in particular from Act No. 44/1988 Coll., on the Protection and Use of Mineral Resources (the Mining Act), as amended. Section 31(5) of the Mining Act (as amended on 1 July 2025) states that: *„The organisation is obliged to ensure the remediation and reclamation of all land affected by mining. For the purposes of this Act, remediation means bringing the area affected by mining activities to a stable and safe condition that will allow reclamation to be carried out in accordance with other legal regulations."*

Other legal regulations in this context refer in particular to Act No. 334/1992 Coll., on the Protection of Agricultural Land, as amended, and Act No. 289/1995 Coll., on Forests and on Amendments and Supplements to Certain Acts (the Forest Act), as amended. The basic document for subsequent reclamation as part of post-mining landscape restoration is the remediation and reclamation plan.[6]

Reclamation is crucial for the aesthetic restoration of the area and, above all, for ensuring an ecologically stable landscape. Areas affected by mining activities can be restored through several types of reclamation. These include agricultural reclamation (aimed at restoring agricultural activity), forestry reclamation (aimed at reforestation and the restoration of forest management), water-management, or hydric, reclamation (aimed at hydrotechnical measures, the creation of water features, and adjustments to the water regime), and other types of reclamation.[7]

Other types of reclamation have significant potential to support local civic amenities. These include, for example, areas for recreation and accommodation (restaurants, residential buildings, hotels, etc.), commercial and industrial use

[4] VRÁBLÍKOVÁ, JAROSLAVA. *Rekultivace území po těžbě uhlí na příkladu severních Čech*.; VRABLIKOVA, Jaroslava, Eliska WILDOVA and Petr VRABLIK. Sustainable Development and Restoring the Landscape after Coal Mining in the Northern Part of the Czech Republic. *Journal of Environmental Protection*. 2016, vol. 07, no. 11. DOI: 10.4236/jep.2016.711125

[5] HAVRLANT, Jan. *Devastace a rekultivace krajiny na Karvinsku*.

[6] AVČR. *Přírodě blízká rekultivace dolů a lomů* [online]. 2025. Available at: http://www.avcr.cz/cs/veda-a-vyzkum/avex/.

[7] VRÁBLÍKOVÁ, JAROSLAVA. *Rekultivace území po těžbě uhlí na příkladu severních Čech*.; HAVRLANT, Jan. *Devastace a rekultivace krajiny na Karvinsku*.

(solar power plants, production halls), educational and cultural facilities (schools, libraries, environmental education centres, botanical and zoological gardens, etc.), sports and leisure areas (playgrounds, shooting ranges, golf courses, riding schools, gardens, etc.), other elements of green infrastructure (public green spaces, parks, landscape elements, orchards, etc.), as well as elements of grey infrastructure (roads and paths, parking areas, garages, and parking houses, etc.).

A combination of different types of reclamation is an appropriate solution that can provide multiple benefits at the same time. Interesting examples of recreational urban reclamation include the ‚Rezidence Diorit' residential development in a former diorite quarry in the Komín district of Brno and Lamacentrum Hády in a former quarry, which focuses on environmental education and animal husbandry.

3. Reclamation of mining areas

Although the area affected by mining activities has been declining since 2001,[8] a significant proportion of mining land has still not been reclaimed and will likely require attention in the near future. Based on 2024 data from the Czech Geological Survey, the area affected by mining activities that has not yet been reclaimed covers 534.26 km².[9] The method of reclamation depends mainly on the specific conditions of the site concerned and the size of the reclaimed area. In the Czech Republic, larger areas have been used mainly for hydric reclamation (the Velká Amerika quarry, the Medard-Libík quarry, Bílá voda near Chodov, etc.), while smaller areas have more often been reclaimed for forestry or agriculture.

At present, exclusively technical reclamation is being abandoned and replaced by spontaneous natural processes. The use of natural succession is not only economical, but also helps to mitigate the effects of climate change.[10] The primary use of natural forces in reclamation is also enshrined in Czech law. According to Section 32a(1) of Act No. 44/1988 Coll. (the Mining Act), miners (legal and natural persons) and mining organisations examine the possibility of reclaiming land through nature-friendly restoration of areas disturbed by mining. In the restoration of the landscape after mining, green infrastructure thus becomes the basis for the successful reclamation of the affected area.

According to Section 10(1)(c) of Act No. 283/2021 Coll., the Building Act, green infrastructure is understood as a planned, predominantly continuous system of areas and other elements of vegetation, water and water-management features, of a natural and semi-natural character, which, in their target state, enable

[8] MŽPB. *Zpráva o životním prostředí České republiky 2023*.

[9] MŽP. Rekultivace | Envirometr. In: . 2025 [accessed 13.11.2025]. Available at: https://www.envirometr.cz/data/rekultivace

[10] AVČR. *Přírodě blízká rekultivace dolů a lomů*.

or significantly support the fulfilment of a wide range of ecosystem services and functions, including the territorial system of ecological stability of the landscape.

Green infrastructure in post-mining landscapes provides a range of ecosystem services, such as support for biodiversity, improvements in soil fertility through natural processes, reduced soil erosion, positive effects on climate and air quality, recreational and cultural use, and the provision of food sources, biomass, and other resources.[11] In order to exploit the full potential of green infrastructure, it is necessary to coordinate it comprehensively with spatial planning (including the territorial system of ecological stability and ecological corridors) and surrounding landscape management.

The introduction of green infrastructure has become a key element of soil regeneration and is considered a suitable solution for the restoration of degraded sites and brownfields.[12] The use of green infrastructure in the restoration of post-mining areas contributes to sustainable development, environmental improvement, economic support, and good living conditions for the population, and an increasing number of countries are adopting this approach in practice. Examples include neighbouring Germany, especially Saxony,[13] and Poland, especially Silesia.[14]

[11] MATHEY, Juliane et al. Brownfields As an Element of Green Infrastructure for Implementing Ecosystem Services into Urban Areas. *Journal of Urban Planning and Development*. 2015, vol. 141, no. 3. DOI: 10.1061/(ASCE)UP.1943-5444.0000275; WIRTH, Peter et al. Green infrastructure: a planning concept for the urban transformation of former coal-mining cities. *International Journal of Coal Science & Technology*. 2018, vol. 5, no. 1. DOI: 10.1007/s40789-018-0200-y

[12] MOFFAT, Andy J. Green infrastructure and regeneration of brownfield land. In: SINNETT, Danielle, Nicholas SMITH and Sarah BURGESS, eds. *Handbook on Green Infrastructure*. Edward Elgar Publishing, 2015. DOI: 10.4337/9781783474004.00030; MATHEY, Juliane et al. *Brownfields As an Element of Green Infrastructure for Implementing Ecosystem Services into Urban Areas*.

[13] WENDE, W et al. Integrating green infrastructure strategies in post-mining areas. In: *Land Reclamation in Ecological Fragile Areas*. CRC Press, 2017.; WIRTH, Peter et al. *Green infrastructure*.

[14] KANTOR-PIETRAGA, Iwona, Aleksandra ZDYRKO-BEDNARCZYK and Jakub BEDNARCZYK. Importance of Blue–Green Infrastructure in the Spatial Development of Post-Industrial and Post-Mining Areas: The Case of Piekary Śląskie, Poland. *Land*. 2025, vol. 14, no. 5. DOI: 10.3390/land14050918which is characterized by a substantial impact on the cultural heritage of mining and industry. The case of Piekary Śląskie shows the consequences of deindustrialization, which leads to the degradation of urban space and requires innovative revitalization strategies considering the principles of sustainable development and the concept of blue–green infrastructure. Archived topographic maps and current interactive maps of the study city were used in a spatial data analysis. The aim was to determine the directions of the spatial development of post-industrial and post-mining areas using the example of a medium-sized city located in the core of the Katowice conurbation, while considering the role of blue–green infrastructure in the revitalization process. Integrating blue–green infrastructure into the city's planning documents may serve as a model for other urban areas, highlighting the synergy benefits between urban development and environmental protection. Such solutions support the development of a green economy to improve residents' living conditions and increase the city's competitiveness in the region. The specific examples of the revitalization of the areas in the Andaluzja and Julian mines and the reclamation of the brickyard in the area of Kozłowa Góra in Piekary Śląskie show that a multifunctional approach to revitalization contributes to the harmo-

According to Wirth,[15] the four main advantages of using the green infrastructure concept are a systematic and highly objective assessment of the impacts of mining on the ecosystem, free from commercial and other individual interests; facilitation of the integration of municipalities' sustainable development goals; an individual approach that takes local landscape characteristics into account; and compatibility with landscape-planning tools and regional policy, including strategic environmental assessment (SEA).

An important aspect of landscape restoration is the involvement of the public, especially local residents, who can significantly support the land-reclamation process through their visions for the use of green infrastructure elements.[16] The creation of habitats with green infrastructure elements in nutrient-poor post-mining landscapes can significantly contribute to the fulfilment of European policy objectives, in particular Regulation (EU) 2024/1991 on nature restoration, i.e. the Nature Restoration Law.[17]

From the perspective of nature and landscape conservation, exposed and open areas left behind after mining activities can represent unique biotopes that provide refuge for a wide range of rare and protected plant and animal species. In the domestic cultural landscape, which is highly homogenised and focused on productivity, post-mining sites represent islands for the colonisation of organisms as part of natural succession.

The restoration of target vegetation communities in mining areas through spontaneous succession is feasible and can be fully achieved within approximately 25 years, although everything depends on the specific conditions of the site.[18] In the Czech Republic, most reclamation approaches focus on subsequent production functions and land use, but there is no regulatory framework to support non-productive areas.[19] Such retained non-productive areas can therefore become crucial for the survival of many organisms and significantly support biodiversity and habitat heterogeneity in the landscape. Hendrychová et al.[20] state that, as part of the reclamation of the North Bohemian Brown Coal Basin, productive habitats

nious development of urban spaces.","container-title":"Land","DOI":"10.3390/land14050918","ISSN":"2073-445X","issue":"5","journalAbbreviation":"Land","language":"en","page":"918","source":"DOI.org (Crossref

15 WIRTH, Peter et al. *Green infrastructure*.

16 WENDE, W et al. *Integrating green infrastructure strategies in post-mining areas*.

17 AVČR. *Přírodě blízká rekultivace dolů a lomů*.

18 TRNKOVA, Romana, K ŘEHOUNKOVÁ and Karel PRACH. Spontaneous succession of vegetation on acidic bedrock in quarries in the Czech Republic. *Preslia*. 2010, vol. 82, no. 3.

19 HENDRYCHOVÁ, Markéta, Kamila SVOBODOVA and Martin KABRNA. Mine reclamation planning and management: Integrating natural habitats into post-mining land use. *Resources Policy*. 2020, vol. 69. DOI: 10.1016/j.resourpol.2020.101882; AVČR. *Přírodě blízká rekultivace dolů a lomů*.

20 HENDRYCHOVÁ, Markéta, Kamila SVOBODOVA and Martin KABRNA. *Mine reclamation planning and management*.

significantly exceed non-productive habitats, which accounted for less than 10%. It is precisely the surface of mining sites that plays a key role in supporting biodiversity. a nutrient-poor substrate containing no organic matter allows rare organisms to survive and develop; once nutrient levels increase, competition among organisms begins.[21]

In the context of the current nutrient-rich cultural landscape, this may represent a rare biotope. From the point of view of legal protection, these sites may become subject to nature conservation, for example in the form of small protected areas. Examples include the Rudice-Seč Natural Monument, the Křtinský Lom Natural Monument, the Zlatý kůň National Natural Monument, and the Pískovna Erika National Natural Monument. Another example is the Czechoslovak Army Quarry, covering an area of 12.3 km², which was declared a national natural monument by the Ministry of the Environment in October 2025, where 269 specially protected and endangered species of plants and animals have been recorded.[22] According to Section 4(6) of Act No. 114/1992 Coll., on the Protection of Nature and the Landscape, areas disturbed by mining where nature-friendly restoration is taking place can also be protected by registration as significant landscape features with the nature conservation authority.

Significant landscape features registered in this way are protected from damage and destruction. Areas of high value from a nature-conservation perspective require specific maintenance and management, which should always be consulted on and based on independent expert assessment. a combination of forestry and agricultural management, known as agroforestry, appears to have considerable potential for the regeneration of degraded habitats, landscape restoration, and the preservation of open habitats together with green infrastructure elements.[23] In particular, silvopastoral agroforestry, a combination of livestock grazing and tree cultivation, can assist in the reclamation and subsequent maintenance of valuable habitats.

Landscape restoration after mining activities and the establishment of green infrastructure elements can be financed from various sources and subsidy schemes. According to Section 37a(1) of Act No. 44/1988 Coll., mining organisations are required to create cash reserves to ensure the remediation and reclamation of land affected by mining and the settlement of mining damage. Another option is to use current subsidy programmes and support schemes. For the purpose of reclaiming areas affected by mining and related brownfields, establishing green infrastructure, or providing subsequent care, it is possible to use, for example,

[21] TROPEK, Robert et al. Spontaneous succession in limestone quarries as an effective restoration tool for endangered arthropods and plants. *Journal of Applied Ecology*. 2010, vol. 47, no. 1. DOI: 10.1111/j.1365-2664.2009.01746.x; AVČR. *Přírodě blízká rekultivace dolů a lomů*.

[22] AOPK ČR. NPP Lom ČSA. In: *Národní přírodní památka Lom ČSA* [online]. 2025 [accessed 19.11.2025]. Available at: https://aopk.gov.cz

[23] FAO. *Agroforestry for landscape restoration*. Řím: FAO, 2017. DOI: 10.4060/i7374e

the Just Transition Operational Programme provided by the State Environmental Fund of the Czech Republic,[24] the Integrated Regional Operational Programme,[25] the Operational Programme Environment,[26] and the National Recovery Plan.[27] The specific conditions and requirements for individual support schemes are set out on the websites of the relevant institutions.

4. Conclusion

The extraction of mineral resources has a significant negative impact on the environment and landscape. It is important to realise that anthropogenic activities associated with the extraction of raw materials can fundamentally transform soil and landscape in a relatively short period of time, much faster than it took for the extracted raw material itself to form. The establishment of new mining sites should therefore respect the principles of caution and restraint. Where possible, it is advisable to locate mining sites close to places where mining has already taken place. In areas where mining has already occurred, compensatory work to restore the landscape and ecosystem functions should begin without delay.

The concept of using green infrastructure as part of nature-based restoration can assist land reclamation, support biodiversity, and appears to be an appropriate approach in the context of the challenges posed by current climate change. The use of green infrastructure in post-mining landscapes has a number of ecological, economic, and social benefits. a comprehensive and professional approach will be necessary to support nature-based landscape restoration.

Public education is also an important element, as it plays an irreplaceable role in landscape restoration and the implementation of green infrastructure; a proactive public approach can have a significant impact in this regard. In order to facilitate the introduction of green infrastructure elements in the form of nature-based restoration, it is advisable to review and integrate the current legislation relating to reclamation and post-mining activities in areas affected by mining.

[24] SFŽP ČR. Operační program Spravedlivá transformace. In: . 2025 [accessed 19.11.2025]. Available at: https://sfzp.gov.cz/dotace-a-pujcky/operacni-program-spravedliva-transformace/

[25] CPRR ČŘ. Všechny informace o IROP 2021-2027 na jednom místě | CRR. In: *Centrum pro regionální rozvoj* [online]. 2025 [accessed 19.11.2025]. Available at: https://crr.gov.cz/irop/irop-2021-2027/

[26] OPŽP. Operační program Životní prostředí – Dotační program financovaný z fondů Evropské unie na ochranu a zlepšování životního prostředí. In: . 2025 [accessed 19.11.2025]. Available at: https://opzp.cz/

[27] MPO ČR. Zelená tranzice NPO | Investice do zelené energie. In: . 23. 9. 2024 [accessed 19.11.2025]. Available at: https://planobnovy.gov.cz/hlavni-pilire/fyzicka-infrastruktura-a-zelena-tranzice/

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TROPEK, Robert et al. Spontaneous succession in limestone quarries as an effective restoration tool for endangered arthropods and plants. Journal of Applied Ecology. 2010, vol. 47, no. 1, pp. 139–147. ISSN 0021-8901, 1365-2664. DOI: 10.1111/j.1365-2664.2009.01746.x

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Abstract

This article examines the reclamation of areas affected by mining through the use of green infrastructure and nature-based restoration. It argues that post-mining landscapes can support a broad range of ecosystem services, including biodiversity conservation, erosion control, improved soil fertility, biomass production, and climate-related benefits. The article also highlights the legal framework governing reclamation in the Czech Republic and points to the need for a more integrated and publicly inclusive approach that would better support the restoration of post-mining areas in line with contemporary environmental objectives, including the Nature Restoration Law.

Key words

Mining; land reclamation; green infrastructure; nature-based restoration; post-mining landscape; ecosystem services

Acknowledgements

The author thanks the CoRe (Beyond Security—Role of Conflict in Resilience Building, CZ.02.01.01/00/22_008/0004595) project for its support.

DEEP GEOLOGICAL REPOSITORY AS A TOOL FOR STRATEGIC RAW-MATERIAL AND ENERGY INDEPENDENCE: LEGAL AND TECHNOLOGICAL ASPECTS

Jan Leichmann

1. Introduction

A deep geological repository for radioactive waste (DGR), particularly for spent nuclear fuel, constitutes one of the most significant infrastructure projects of the coming decades, with direct implications for the energy security and sovereignty of the Czech Republic. Given the exceptionally long time horizon of the project, its technological complexity, and its societal sensitivity, it is essential that it be accompanied by a coherent and predictable legal framework.[1]

This article analyses the DGR as a strategic instrument of a modern and responsible approach to the management of high-level radioactive waste—both in terms of energy and resource self-sufficiency and from the perspective of the legal, regulatory, and institutional dimensions of its planning, construction, and operation. It outlines the current state of Czech legislation, including the newly adopted Act on Proceedings Related to the Deep Geological Repository, and situates it within the international context, with a particular focus on Central European states.

Particular emphasis is placed on the issue of potential future reuse of the stored fuel (*retrievability*) and on the manner in which this possibility is reflected in legal regulations and policy documents across jurisdictions. The article further addresses long-term legal challenges, such as securing public trust, ensuring transparency in decision-making processes, and enshrining safety principles within a legal order designed to operate on a time scale spanning multiple generations.

The objective of this contribution is to advance scholarly debate on how legal regulation can—and must—respond to the exceptional nature of nuclear waste projects, and how legislation can be employed to support technological responsibility and societal legitimacy of decisions whose implications extend far into the future.

The following sections examine the DGR both as a tool of energy sovereignty and as a legal and technological challenge, before situating the Czech experience in a broader Central European and international context.

[1] KAMENÍKOVÁ, T. Fáze hlubinného úložiště | SÚRAO [online]. 29. 6. 2020 [cit. 7. 9. 2025]. https://surao.gov.cz/hlubinne-uloziste/faze-hlubinneho-uloziste/

2. The Deep Geological Repository as a Tool of Energy Sovereignty in the Nuclear Fuel Cycle

In today's geopolitical and climate context, energy sovereignty ranks among the foremost strategic objectives of most states. Independence from fuel imports, technological self-reliance, and the capacity to autonomously govern the management of domestic resources and waste are increasingly central to legal and policy strategies in the energy sector. Against this backdrop, the DGR assumes a broader significance—not merely as an instrument for the safe disposal of high-level radioactive waste, but as a cornerstone of the infrastructure underpinning long-term state sovereignty over the nuclear fuel cycle.

By establishing a DGR on its own territory, the Czech Republic is moving toward a closed nuclear fuel cycle, encompassing all stages of nuclear material management—from energy generation to the safe and permanent disposal of waste. This step frees the state from dependence on international contractual mechanisms whose legal and political reliability is uncertain over the long term. The repository thereby emerges not only as an environmentally responsible solution, but also as strategically and legally critical infrastructure for preserving sovereign control over sensitive nuclear materials.

From a legal standpoint, the repository forms part of the state's security and self-sufficiency policy[2]. Spent nuclear fuel stored therein should not be regarded solely as waste, but also as a potential resource—capable of serving future generations of reactors or being reprocessed for renewed use[3]. Accordingly, the principle of *retrievability*, i.e., the possibility of recovering stored waste, is increasingly recognized in international legal instruments[4]. This flexibility is gradually becoming embedded in repository regulation and enhances their function as a strategic asset.

Although not yet explicitly codified in Czech law, this principle is reflected in policy instruments, most notably the *Concept of Radioactive Waste and Spent Nuclear Fuel Management*, which specifies that "*the repository shall be designed so as to allow, for a certain period, the removal of waste (retrievability), should future technological developments enable its further utilization*."[5]

Thus, the DGR has already outgrown its role as a mere terminal facility for nuclear waste. Within the framework of energy law and the governance of strategic raw materials, it constitutes a key instrument for safeguarding long-term security,

[2] Concept of Radioactive Waste and Spent Nuclear Fuel Management, p. 113.

[3] OECD, Nuclear Energy Agency. Advanced Nuclear Fuel Cycles and Radioactive Waste Management. OECD, 2006, s. 13. https://www.oecd-nea.org/jcms/pl_14008

[4] Reversibility and Retrievability in Geologic Disposal of Radioactive Waste: Reflections at the International Level, p. 15.

[5] Concept of Radioactive Waste and Spent Nuclear Fuel Management, p. 113.

ensuring self-sufficiency, and fostering a responsible approach to the stewardship of nuclear fuel as a critical resource for both the present and the future.

3. The Deep Geological Repository: Significance, Technology, and Challenges

At the outset, it is important to clarify what a DGR actually is and why it is so significant for the Czech Republic.

In Czech legislation, the DGR is defined in Section 2 of Act No. 53/2024 Coll., on Proceedings Related to the Deep Geological Repository, as "*a nuclear installation intended for the permanent disposal of radioactive waste at a depth of at least 300 meters below the surface of the earth, located so as to meet nuclear safety requirements for the disposal of high-level waste*."

While most spent fuel is currently stored temporarily in interim storage facilities[6], the DGR is regarded as the only internationally recognized final solution. This approach is supported both by supranational organizations[7] and by national nuclear agencies[8].

A DGR is a facility designed for the permanent, safe, and geologically stable disposal of high-level radioactive waste, primarily spent nuclear fuel from nuclear power plants. This type of waste remains hazardous for tens of thousands of years and therefore planning a DGR is a process with an exceptionally long time horizon. The life cycle—from site selection, design, construction, operation, to gradual and final closure—may last over 100 years. Yet this is only a fraction of the period for which safety must be ensured. Geological formations and engineered barriers must perform their protective functions for hundreds of thousands of years, until the radioactivity of the waste decays to natural background levels.[9]

A fundamental principle of repository design is *passive safety*—safety guaranteed without reliance on human presence or technological oversight. This principle also accounts for possible social and civilizational changes over centuries. The multi-barrier concept—from container, to buffer materials, to the host rock—is the key safety feature. According to IAEA, the system must be robust enough to ensure radionuclide isolation even if one barrier fails.[10]

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[6] NOVOTNÁ, N. Dukovany repository | SÚRAO [online]. 6. 2. 2019 [cit. 25. 10. 2025]. https://surao.gov.cz/en/public/operational-repositories/dukovany-repository/

[7] Radioactive waste management [online]. Nuclear Energy Agency (NEA) [cit. 7. 9. 2025]. https://www.oecd-nea.org/jcms/c_12892/radioactive-waste-management

[8] This approach is being implemented in several European countries—e.g., Finland (Onkalo project), France (Cigéo), Sweden (Forsmark), and Switzerland.

[9] Moving forward with geological disposal of radioactive waste: a collective statement by the NEA Radioactive Waste Management Committee (RWMC). Paris, France: Nuclear Energy Agency, Organisation for Economic Co-operation and Development, 2008, p. 3.

[10] IAEA Safety Standards Disposal of Radioactive Waste. https://www-pub.iaea.org/MTCD/Publications/PDF/Pub1449_web.pdf

4. The Deep Geological Repository in Czech Republic

For the Czech Republic, the construction of a domestic repository is of fundamental importance, as it will enable closure of the entire cycle of radioactive waste management without dependence on foreign solutions. It is thus not only a matter of nuclear safety, but also of strengthening the state's energy sovereignty and self-sufficiency.

At the same time, it is a technologically highly demanding project with a long time horizon—the planned commissioning in the Czech Republic is currently projected around the year 2050[11]. By its very nature and scale, the DGR may be described as one of the largest infrastructure projects of the present era.

The Czech strategy, as expressed in the *Concept of Radioactive Waste and Spent Nuclear Fuel Management*, builds on this consensus and defines the repository as a key and indispensable element of national nuclear energy infrastructure. The document also stresses the need for planning with regard to interdisciplinary development, research, and openness to revising approaches should more effective solutions emerge in the future[12].

5. Comparison of Approaches to Nuclear Energy and Radioactive Waste Management in Central Europe

A comparative perspective illustrates how different Central European states approach nuclear energy and waste management. The following overview highlights key differences in legislative frameworks, institutional arrangements, and strategies

5.1 Czech Republic

The Czech Republic operates six nuclear units (Dukovany, Temelín) and plans further expansion by 2036. In line with a closed fuel cycle, it is preparing a DGR, though without legal provisions for retrievability. Waste is currently stored in interim facilities. Planning of the repository: site selection without proper legal anchoring of the process; Act No. 53/2024 Coll. on procedures related to the repository. The permitting procedure includes rights for municipalities and the public.

5.2 Poland

Poland does not yet operate any nuclear power plants but is intensively preparing for the construction of its first AP1000 reactor, planned for commissioning between 2033–2040. Until 1961 it operated the Różan surface repository for LILW, and it is preparing a new state facility (NSPOP) to be opened by 2033. Polish legislation includes the *Atomic Law* (2000), updated in 2023 by special nuclear legislation

[11] Concept of Radioactive Waste and Spent Nuclear Fuel Management, p. 50.

[12] Concept of Radioactive Waste and Spent Nuclear Fuel Management, p. 57.

that simplifies the permitting process for NPPs and SMRs. Reprocessing is not conducted; the country operates an open fuel cycle.

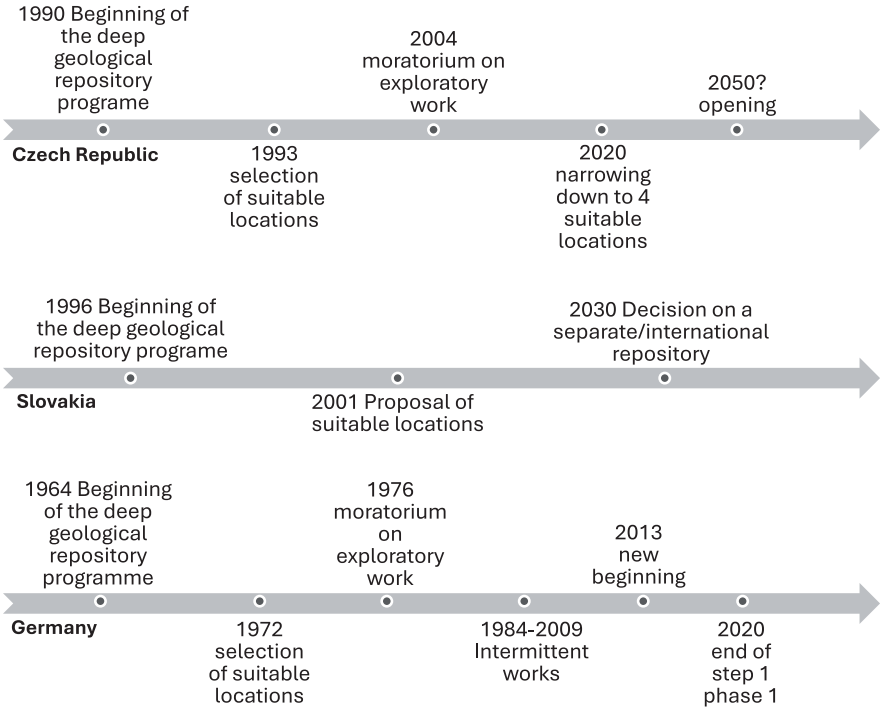
5.3 Slovakia

Slovakia operates five (almost six) reactors (Bohunice V2, Mochovce). Radioactive waste is stored in interim facilities, and a LILW repository is in operation at Mochovce. DGR is under preparation; strategic approaches were confirmed by the IAEA ARTEMIS mission (2023), which supported the DGR development. Legislatively, amendments were adopted within the EIA framework, and in December 2024 an EU committee requested a plan for recycling and decommissioning. Reprocessing is no longer practiced.

5.4 Germany

Germany shut down all nuclear power plants by 2022. Nevertheless, it continues its DGR project. The *Site Selection Act* (*StandAG*), adopted in 2017 and amended in 2024, reflects the principle of safety for millions of years and guarantees retrievability for 500 years. A state agency, BGE, was established for DGR operation, with independent oversight by BASE. Reprocessing is carried out abroad; retrievability is enshrined both legislatively and institutionally.

The timelines below illustrate the progression of selected countries in planning DGR. They demonstrate that, although Germany has the longest-standing repository program, it currently finds itself in a comparable position to the Czech Republic and Slovakia. The principal cause lies in inadequate public communication, which provoked sustained opposition and ultimately necessitated a full restart of the German project. In the Czech Republic, site-selection activities were likewise suspended due to public protests; however, the overall program was not discontinued and, upon its resumption, has proceeded with a significantly stronger emphasis on public participation. In Slovakia, by contrast, the process of identifying a suitable site is accompanied by an ongoing discussion as to whether establishing an international repository at the most geologically appropriate location might offer a more efficient solution.



6. Legal Framework and Institutional Arrangements for the Deep Geological Repository in the Czech Republic

The establishment of a DGR is an exceptionally complex process that requires a stable and predictable legal framework. The legal and institutional framework for the Czech DGR has gradually evolved, relying on three core instruments: the Act. No. 263/2016 Coll, the Atomic Act, its implementing decree No. 375/2016 Coll., and the newly adopted Act No. 53/2024 Coll, on Procedures Related to the Deep Geological Repository.

The Atomic Act and related regulations

The Atomic Act, sets out the framework conditions for managing radioactive waste, including the obligations of operators and state institutions. It also specifies requirements for nuclear safety, supervision, and the long-term protection of public health and the environment.

Implementing Decree No. 378/2016 Coll. further details requirements for exploration, site selection, and site assessment for the repository, including geology, hydrogeology, and risk analysis.

Act on procedures related to the repository, which was adopted to create a special procedural framework for repository-related proceedings. This law strengthens the consultative role of the public and affected municipalities in selecting the final site, conducting surveys, and defining protected zones.

Planning and preparation process

The planning of the repository proceeds in several stages. Following initial geological assessment comes the designation of the exploration area under the special act, then the selection of the preferred site. The Government of the Czech Republic confirms the final site, which opens the way for environmental impact assessment (EIA), engineering and preparatory works, zoning, and building permits.

After construction comes the operational phase, which includes long-term monitoring. An important principle here is gradual closure of the repository, which maintains flexibility in the first decades of operation—and thus the possibility of retrieving stored waste (*retrievability*).

Role of the state and key institutions

The Radioactive Waste Repository Authority (*SÚRAO*) plays the central role, as a state organization responsible for preparation, construction, operation, and closure of the repository. SÚRAO also prepares strategic documents and manages public information campaigns.

The State Office for Nuclear Safety (*SÚJB*) oversees nuclear safety, approves safety documentation, and issues licenses for each stage of preparation and operation.

The Ministry of the Environment (*MŽP*) plays a crucial role as the authority responsible for the EIA process and as the contact point for cross-border environmental assessments.

Together, these institutions form a multi-level system of governance intended to balance safety oversight, environmental protection, and public accountability.

This comprehensive system enables the Czech Republic to meet demanding safety and environmental requirements for radioactive waste disposal while simultaneously strengthening strategic control over the nuclear fuel cycle as an element of national sovereignty.

7. Retrievability

DGR is not only a key element of strategic energy independence, but also a long-term and responsible method of managing high-level waste. An important component of modern repository concepts is the possibility of future retrieval (*retrievability*) and re-use of stored waste if technical or energy conditions require it.[13]

[13] NEA. *Reversibility and Retrievability in Geologic Disposal of Radioactive Waste: Reflections at the International Level*, p. 13.

Retrievability represents an important element of both technological and legal flexibility. With the development of reprocessing technologies and Generation IV reactors, retrievability may become a key instrument of energy self-sufficiency. The Czech Republic has the technical capacity and strategic documents addressing this option, but clear legislative anchoring is missing.

Comparative experience shows that this principle is increasingly reflected in international instruments and national policies, where it serves as a means of preserving flexibility in light of future technological developments. Enshrining retrievability in Czech law would therefore align domestic regulation with emerging international standards and strengthen the legitimacy of the repository project by demonstrating openness to innovation and responsible long-term stewardship of nuclear materials.

At the same time, it is crucial that the scope of retrievability be carefully limited in time. A repository cannot remain indefinitely accessible without undermining its primary function as a final disposal solution. Extended or unlimited retrievability would create long-term safety risks, increase the vulnerability of the facility, and delay the eventual closure that is essential for intergenerational responsibility. A legal framework that guarantees retrievability for a defined period—sufficient to allow for potential reuse or reprocessing should viable technologies emerge—while simultaneously setting a clear end point for closure, would best reconcile the competing objectives of flexibility, safety, and legal certainty.

Such an approach would allow the Czech Republic to fulfil the principles of responsible and sustainable management of strategic materials and to align with European standards in nuclear policy. Examples include national waste management programs of Finland, France, Germany, and Switzerland.

Anchoring retrievability in law would therefore not weaken but rather reinforce the DGR's role as a pillar of both safety and sovereignty.

8. Legal and Regulatory Challenges of the Project

The planning of DGR represents not only a technical and scientific challenge, but also a legal and regulatory task unparalleled in other areas of infrastructure. One of the key aspects is the time horizon extending over tens to hundreds of thousands of years, far exceeding the lifespan of ordinary legal, political, or economic systems.

In my opinion, from a legal perspective, it is necessary to ensure that:

- decisions are sufficiently reasoned and documented for future generations,
- mechanisms of oversight and review are established even in the long-term perspective (*post-closure oversight*),
- the possibility of interventions remains as long as technically feasible, e.g. through retrievability.

The legitimacy of decisions concerning radioactive waste management cannot rest solely on technical expertise or legal compliance; it must also be grounded in public trust. For this reason, public participation is not merely a procedural formality but a substantive element of governance in the nuclear field.

A deliberative model of participation provides the most promising framework. Under this approach, affected communities and the broader public are engaged from the earliest stages of decision-making and are granted meaningful opportunities to contribute throughout the planning, siting, and licensing processes. Participation is conceived not as a right of veto but as a right of involvement—ensuring that societal concerns are heard, debated, and reflected in outcomes, while ultimate responsibility remains with the competent authorities. Unlike purely consultative or adversarial models, deliberative participation fosters a shared responsibility between the state and the public, while maintaining the state's ultimate decision-making authority.

Embedding such a model in the Czech regulatory framework would strengthen both transparency and societal legitimacy. Early and continuous engagement fosters informed dialogue, reduces the likelihood of entrenched opposition, and enables the balancing of technical, environmental, and ethical considerations. Moreover, it reflects the intergenerational nature of nuclear waste governance: decisions taken today will affect citizens for centuries to come, and it is therefore imperative that those citizens perceive the process as fair, inclusive, and responsive.

9. Conclusion

DGR's are not only a technical solution for radioactive waste management, but also a strategic instrument of national energy sovereignty. The Czech Republic faces the challenge of establishing a stable legal framework, ensuring technological safety, and strengthening public trust. Experience from European countries shows that the success of such projects depends on the combination of scientific expertise, legal certainty, and transparent communication. If these three pillars are effectively integrated, the Czech DGR can serve not only as a safe disposal facility, but as a symbol of technological responsibility, legal foresight, and democratic legitimacy for generations to come.

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Abstract

This article examines the deep geological repository for radioactive waste (DGR) as a strategic instrument of energy sovereignty and technological responsibility in the Czech Republic. It situates the DGR within the broader nuclear fuel cycle, emphasizing its role not only as a safe and sustainable solution for the disposal of high-level radioactive waste, but also as critical infrastructure for safeguarding long-term national sovereignty over sensitive nuclear materials.

The paper outlines the current Czech legal framework, including the recently adopted Act No. 53/2024 Coll., and compares national approaches in Central Europe, with particular reference to Poland, Slovakia, and Germany. Special attention is devoted to the principle of *retrievability*, which reflects the potential future reuse of spent nuclear fuel and the tension between technological flexibility and the imperative of final disposal.

Finally, the article discusses long-term legal and regulatory challenges, highlighting the need for transparent governance, intergenerational responsibility, and a deliberative model of public participation. It argues that Czech legislation must evolve to embed both safety and legitimacy within a legal order capable of operating across time horizons spanning multiple generations.

Keywords

Deep geological repository (DGR); radioactive waste; nuclear fuel cycle; energy sovereignty; retrievability; Czech law; legal framework; Central Europe; public participation; intergenerational responsibility

ČASOPIS „ČESKÉ PRÁVO ŽIVOTNÍHO PROSTŘEDÍ"

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Dne 4. 2. 2014 zařadila Rada pro výzkum, vývoj a inovace časopis České právo životního prostředí na Seznam recenzovaných neimpaktovaných periodik vydávaných v ČR.

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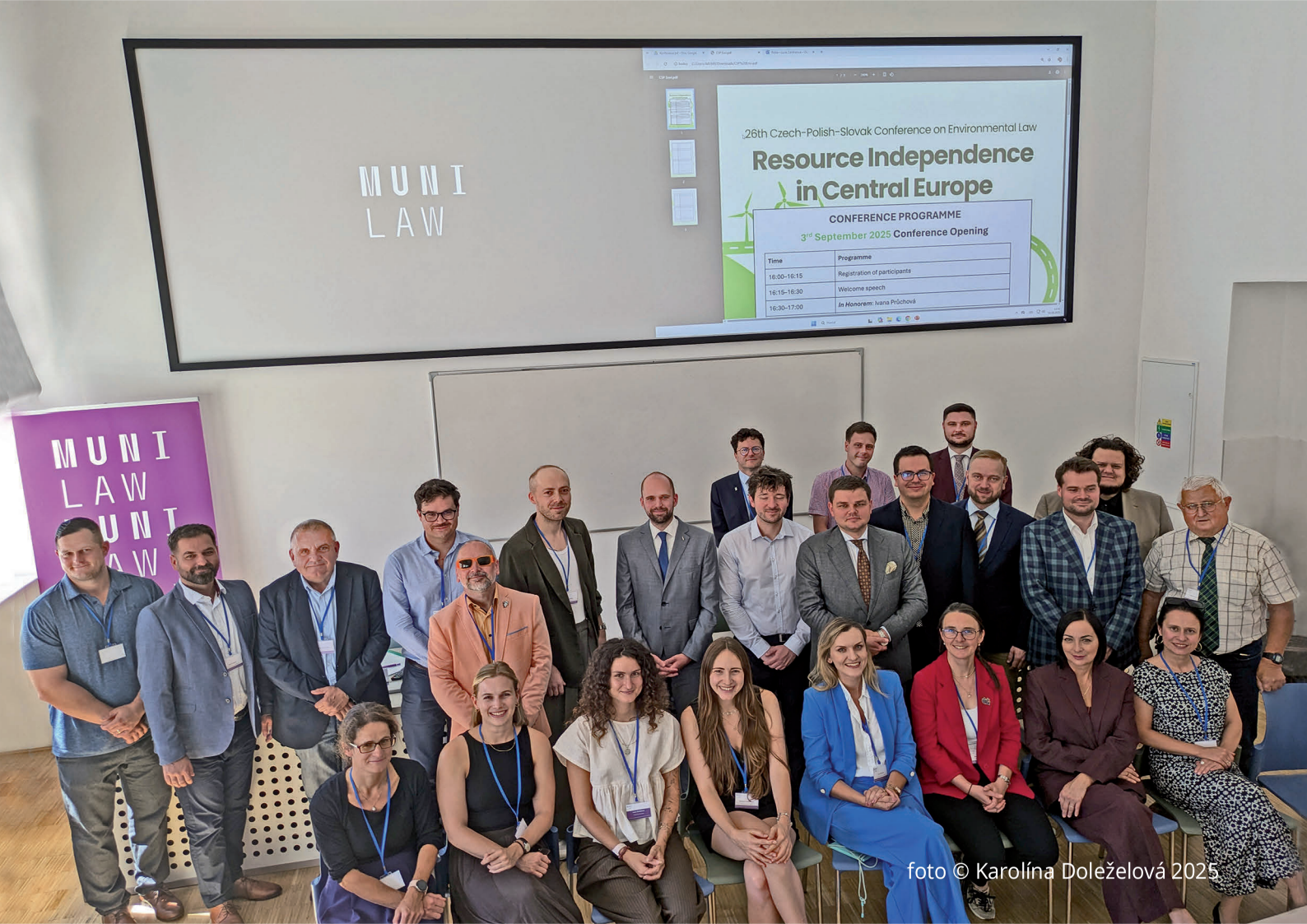

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Vědecký časopis vydává
Česká společnost pro právo životního prostředí, z. s.
náměstí Curieových 901/7, 110 00 Praha 1, Staré Město

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Special issue devoted to the **26th Czech–Polish–Slovak Conference on Environmental Law**
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ISSN 1213-5542