



THE CURRENT CONTEXT OF GOLD-SILVER MINING PROJECTS IN ROMANIA – LEGAL CONTINUITIES AND DYSFUNCTIONS

Paul Leonard GRIGORESCU^{1*}, Maria LAZĂR²

¹ University of Petroșani, Petroșani, Romania, e-mail: paul.grigorescu@yahoo.com

² University of Petroșani, Petroșani, Romania, e-mail: marialazar@upet.ro

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Abstract: Starting from some of the most representative case studies in the Apuseni Mountains, respectively Rosia Montana, Certej and Rovina, the article examines the legal framework and administrative practices applicable to gold-silver mining projects in Romania, from an integrated technical-legal perspective. The central hypothesis of the research is that the major bottlenecks of these projects do not derive exclusively from technological solutions or environmental impact assessment, but from the accumulation of legal vulnerabilities from the early stages of the authorization chain. The analysis highlights the existence of structural continuities and recurring dysfunctions in the management of mining concessions, with direct effects on the legality, predictability and sustainability of projects. Through comparative reference to the three analyzed projects, the article proposes the concept of cumulative legal vulnerability, understood as a process through which the initial deficiencies regarding the license, urban planning, environmental assessment, heritage protection and institutional coordination are progressively amplified and become sources of administrative litigation. The practical implications of this model consist in the need for an integrated ex ante verification of the legal compatibility of mining projects, so that future investments are not assessed in fragments, but as a coherent procedural whole, capable of reducing litigation and enhancing legal certainty.

Keywords: mining projects, legislative impact, mining concession, legislative dysfunctions, procedural chain, exploitation method.

1. Introduction

In recent decades, gold and silver mining projects in Romania have generated some of the most intense legal, administrative and social debates in the public space. Discussions have almost constantly focused on the environmental impact and the exploitation methods used, which are frequently perceived as the main causes of conflicts between investors, authorities and civil society. Around these projects was built the image of conflicts dominated by technology, environmental risks and public opposition to modern mining.

However, carefully analyzing the gold-silver projects in Romania, a more complex reality emerges, the legal and administrative blockages do not arise exclusively due to the method of exploitation or the impact on the environment, but originate from the early stages of the concession and authorization procedures. The vulnerabilities generated by the fragility of the initial administrative acts, the incoherence of the procedures and the lack of an integrated verification of legal compatibility subsequently propagate over the entire authorization chain and transform mining projects into a permanent space of litigation and administrative instability. To highlight this pattern, the article uses three of the most relevant case studies of gold-silver mining in Romania — Rosia Montana, Certej and Rovina. Although different in procedural stage and legal context, these projects illustrate the same structural difficulty, consisting in the inability of the authorisation system to ensure a coherent correlation between the mining concession, environmental assessment, urban planning, heritage protection and judicial review. In all three cases, the legal vulnerabilities that emerged in the initial stages generated successive challenges, suspensions, cancellations or long-term investment blockages. In this context, the paper develops the model of cumulative legal vulnerability, according to which procedural deficiencies and fragmentation of regulatory regimes do not produce isolated effects, but progressively

* Corresponding author: Paul Leonard Grigorescu, University of Petroșani, Petroșani, Romania, e-mail: paul.grigorescu@yahoo.com

accumulate and affect the legal stability of the entire mining project. At the same time, the paper highlights the fact that the exploitation method, although it does not benefit from an explicit normative status in the Romanian mining legislation and is formally treated as a technical element, acquires legal relevance in practice through its influence on the risk profile, on the environmental impact assessment and on the level of social acceptability of mining projects.

In this perspective, the issue of mining projects goes beyond the debate on the environmental impact or the technological solutions used and reveals the existence of legal and procedural vulnerabilities capable of influencing the stability of the entire authorization process.

2. The legal regime of mining concessions in Romania

2.1. The mining title as an indispensable legal premise of the authorisation chain

In the legislative context that regulates mining activities in Romania, the exploitation license proves to be the main legal title, having the power to empower the economic operator to capitalize on the mineral resources belonging to the public domain of the state. According to the provisions stipulated in the Mining Law (Law no. 85/2003), mineral resources are public property assets and the exercise of the right to exploitation is possible exclusively through concession [1].

By the expression "mining title" I mean the legal document by which the state authorities grant an economic operator permission to carry out mining activities in a determined perimeter, in accordance with the provisions of the Mining Law [2]. Even if the expression is not defined as a distinct technical term in Romanian law, in practice it usually refers to the exploitation license (approved by a government decision and allowing the exploitation of mineral resources), the exploration license (which authorizes the carrying out of exploration works, without the right to commercial exploitation) or the exploitation permit (issued for small-scale activities, for a limited period) [2].

From a legal perspective, the Exploitation License is the competent basis for all subsequent administrative acts (environmental agreements, permits, sectoral approvals, etc.). The lack of a valid licence affects the very competence of the authorities to issue subsequent administrative acts [3].

In other words, if there is no valid exploitation license (i.e. a clear and definitive legal right that allows mining activities to be carried out), the project becomes vulnerable (it does not have a solid legal basis) lacking that essential foundation. In that case, the environmental authority would assess and issue administrative acts on an unstable and uncertain legal situation, and those acts, ironically, could be challenged and possibly annulled in court, as it would prove that a fundamental element of the legal framework on which the project should be based is missing.

The issue must be seen in the light of the principle of legality enshrined in the Romanian Constitution, which requires all public authorities to act only within the limits of the competence conferred by law. It is also relevant to require the issuing authority to have substantive competence (i.e. to be empowered to issue that type of act) and temporal competence (to act within the procedure and time limits provided for by law). If these conditions are not met, the acts may be considered illegal and subject to annulment in administrative litigation [4].

3. Problematic continuities in administrative practice: vulnerabilities in the initial phase of projects

The analysis of gold-silver mining projects in recent years highlights the fact that legal problems do not arise exclusively at the stage of environmental impact assessment, but are generated from the initial phase of the start of administrative procedures. Among the most common vulnerabilities are the initiation of projects in the absence of clear or definitive documents (concession license, environmental agreement, authorizations, permits, etc.), inconsistency between the successively submitted technical documentations and the lack of a procedural order in accordance with legal requirements.

The analysis of gold-silver mining projects in recent years reveals a surprising reality: legal problems do not only arise at the stage of environmental impact assessment, they have their roots from the early stages of the start of administrative procedures. Among the most common vulnerabilities is the fact that many projects are launched without being based on essential documents, such as concession licenses, environmental agreements or various permits and permits, all of which are either non-existent or incomplete. In addition, the inconsistency between the technical documents presented over time and the chaos of the procedures, which do not comply with the legal orders at all, amplifies the problems and further complicates the situation.

These initial deficiencies affect the validity of the entire administrative approach, since the subsequent acts are built on uncertain legal premises. In practice, this situation leads to a weakening of the position of public authorities and investors in possible disputes, even before the substance of environmental issues is

discussed. Moreover, the non-transparent nature of the early stages of mining projects amplifies public suspicions and stimulates the reaction of civil society, turning the administrative procedure into a conflictive terrain from the beginning [5].

4. The role of non-governmental organisations and early administrative litigation

Non-governmental organizations (NGOs) for the protection of the environment and heritage have become main actors in administrative litigation processes related to mining projects. In most of the cases that we will analyze, NGOs are the first entities to challenge administrative decisions, invoking procedural defects, lack of competence of the authorities or non-compliance with legal steps.

These actions are not accidental, but result from a legal framework that recognises that civil society has an active role in protecting the public interest. The right of access to justice in environmental matters, enshrined at both European and national level, allows administrative acts to be challenged from the early stages of projects [6].

In many mining projects, disputes do not necessarily arise because civil society would reject the idea of exploitation, but because administrative procedures may present irregularities, incomplete documentation, omitted steps, lack of solid legal foundation, or failure to meet legal requirements as well as the environmental impact assessment or method of exploitation chosen. When such situations/problems exist, they can be challenged in court. In this context, both the public administration and investors are facing an almost unavoidable litigation.

5. The current status of the Roşia Montană, Certej and Rovina mining projects and the legal implications of the procedural dysfunctions

In the comparative evaluation of the three large-scale mining projects in the Apuseni Mountains — *Roşia Montană, Certej and Rovina* — it is not enough to discuss only the theoretical issues or the legal framework. It is important to see what concrete stage each project is at from an administrative and legal point of view: what authorizations have been obtained, what acts have been suspended or canceled, what litigations are pending and what is the current state of affairs.

Procedural blockages, repeated appeals, court annulments or administrative delays do not remain at a theoretical level, but directly influence the evolution of projects. Therefore, the current legal status of each project becomes an indicator of how structural vulnerabilities of the authorisation system translate into concrete consequences.

5.1 Roşia Montană — the definitive deadlock and legal implications

The Roşia Montană gold mining project, promoted by Gabriel Resources through the Roşia Montană Gold Corporation (RMGC), has not progressed towards the actual exploitation phase because **the mining complex has been included on the UNESCO World Heritage List** as a "cultural landscape", a status that attracts superior legal protection and conditions any intervention on the area according to the Law on Historical Monuments and the UNESCO regime for the protection of universal cultural heritage [7].

For this approach, an international arbitration process (ICSID) initiated by Gabriel Resources against the Romanian state followed, in which Gabriel Resources requested compensation for the blocking of the project. The International Tribunal (ICSID) ruled in Romania's favor in 2024, so the state will not pay billions of dollars in damages as a result of the blocking of the project. Moreover, it concluded that the Romanian authorities **did not act arbitrarily and discriminatoriously** in the management of the authorisation procedures.

However, the company subsequently filed requests to set aside the ICSID award and continues to seek its review, citing the existence of alleged conflicts of interest in the composition of the arbitral panel, the elimination of conditions considered restrictive, as well as the illegality of some national administrative decisions. That procedural conduct prolongs the state of legal uncertainty and keeps the litigation open in a manner that affects the predictability of the final solution.

Roşia Montană is no longer an active project, but international litigation and appeals highlight how early **procedural problems can create a long-lasting conflicting legal framework**, even without the actual exploitation stage [8].

5.2 Rovina — cancellation of the environmental permit and difficulty of procedural coagulation

For the "Rovina Valley" project, developed by Euro Sun Mining through its subsidiary Samax Romania, recent developments show that it is still in the authorization phases, without the actual exploitation having begun. In April 2024, the Cluj Court of Appeal **definitively cancelled the environmental permit** previously

issued for the project, on the grounds of deficiencies in the environmental impact assessment and signatures not certified in the documentation. This cancellation of the permit prevented the start of exploitation and generated a need to redo the EIA procedure, together with new technical documentation.

Although the European Commission has included the Rovina project on a list of strategic investments in key raw materials, which could speed up some administrative phases, the **project remains procedurally blocked** in the context of legal challenges over the environmental permit. Rovina illustrates the pattern in which **the authorization procedure is suspended due to the lack of a procedural evaluation**, highlighting that the malfunctions are not only environmental, but also administrative.

5.3 Certej — *uncertainty of the operating licence and blockage of the administrative procedure*

From the perspective of the uncertainty of the exploitation license and the blockage of the administrative procedure, a relevant example is the proposed gold-silver mining project in the area of the Metalliferi Mountains (Certeju de Sus commune), Hunedoara County. Although it obtained the environmental permit, the project did not have a valid concession license for the exploitation of the mining perimeter at the time of issuance.

This situation highlights a major legal problem regarding the order and conditionality of the administrative acts necessary for the realization of a mining project. According to the applicable regulatory framework [1], the exploitation concession license is the essential legal prerequisite for the environmental impact assessment, as it defines the holder of the exploitation right, the perimeter, duration and the main technical parameters of the activity. The issuance of an environmental permit in the absence of a valid mining license raises serious questions in terms of the legality of the procedure and legal certainty.

In addition, the environmental report related to the project introduces another relevant malfunction, **the substantial modification of the technological method**. Although gold-silver mining projects in Romania have traditionally been associated with the use of cyanide, the documentation subject to environmental assessment explicitly excludes this substance, opting for the flotation method and obtaining a saleable concentrate. This approach raises the risk of underestimation of the actual environmental impact, as the impact assessment must analyse the realistic and complete scenario of the operation, including the subsequent stages of processing the concentrate [9].

From a legal perspective, this practice can be understood as a form of artificial fragmentation of the project, contrary to the requirements of European environmental legislation. The case law of the Court of Justice of the European Union has consistently held that the environmental impact assessment must cover all the effects of a project and not the partial reduction or exclusion of vital elements that lead directly to the risks generated by the project. Therefore, the problem is not a purely technical one, but one of legality of the administrative procedure, confirming the fact that the deficiencies found in Roşia Montană have not been corrected, but they are reproduced in forms adapted to the current context. Environmental impact assessment continues to be treated predominantly as a formal technical exercise, to the detriment of its fundamental legal role of safeguarding the public interest, environmental protection and compliance with the precautionary principle [10].

These issues resulted in the authorities' inability to complete the pre-exploitation procedures, which led to repeated administrative challenges, with the legal deadlock occurring in the preliminary phases, long before the actual environmental assessment.

After the individual analysis of each project, it is useful to have an overview comparing the functioning of the authorisation mechanism. All three projects operate (theoretically) in a common system of conditions: **license + urban planning (PUZ) + environmental assessment (SEA/EIA) + building / operating permits**. The major difference in 2026 is not "if there is a resource", but **where the chain breaks**:

- **Roşia Montană**: the chain is "tightened" by a **high-ranking protection regime (UNESCO)**, which functions as a **framework of maximum constraint**; even if theoretically there are procedures, the compatibility of an intensive mining intervention with the protection obligations becomes a structural problem.

- **Certej**: the chain is in tension on two links: (i) **urban planning/SEA** (environmental permit issued for PUZ) and (ii) the "foundation" of the project, i.e. **the validity of the license** invoked as a vulnerability by the contestants.

- **Rovina**: the chain is explicitly broken by **the annulment of the environmental act** (with a procedural "reset" effect). At the same time, the draft receives a political-procedural "impetus" (CRMA statute), but this **does not replace the legality of internal acts**.

Comparatively, the conclusion is that the major risk of mining projects in 2026 is not a geological one (the existence or quality of the resource), but the legal-procedural risk of the authorization route. The projects are based on a chain of successive conditions – exploitation license, urban planning, environmental assessment, authorizations – and their stability depends on the coherence and validity of each link.

6. Cumulative legal vulnerability model

The analysis of the three projects highlights a pattern that can be conceptualized as **a model of cumulative legal vulnerability**. The idea is simple, but relevant - legal problems do not arise suddenly, at a single point in the procedure, but accumulate gradually, from the initial phase of the project, and each insufficiently consolidated stage becomes a source of instability for those that follow.

- The first level of the vulnerability occurs from the moment the license is granted or modified. If the concession license raises questions about the duration, conditions or legal basis, the entire subsequent administrative construction rests on a fragile foundation. It is like a building erected on insufficiently checked ground, even if the upper floors are solid, the crack at the base remains.

- The second level of vulnerability occurs in the relationship between the stages of authorization. In practice, the license, the environmental agreement and the building permit are analyzed separately, by different authorities, with distinct institutional logics. The lack of a real verification of compatibility between these acts creates a gap between the technical plan of the project and the legal framework that should support it. What is valid in one stage can become problematic in the next.

- The third level occurs when the requirements for the protection of heritage and the environment are integrated late or formally. When these dimensions are not internalized from the initial design phase, they subsequently reappear in the form of appeals, suspensions or cancellations. It is not the opposition itself that produces the blockage, but the lack of early harmonization between the economic and public interest.

- The last level of cumulative vulnerability is reflected in the litigation phase. The court ends up becoming the place where what has not been sufficiently clarified administratively is corrected. The role of non-governmental organizations and civil society actors must be understood in this context, they do not create conflict, but intervene where it already exists. Basically, they use the available legal instruments – administrative appeals, litigation actions, requests for access to information, European mechanisms – to activate or expose inconsistencies, omissions or inconsistencies in the legal architecture of the project.

Usually, the discussion about mining projects focuses on the moment when appeals and disputes arise – this consists of moving the discussion from the question "why are mining projects challenged or what is bothering civil society?", to a deeper question, where does the legal vulnerability of the project actually begin?"

If the rules, procedures and conditions of authorisation are not thought of as a coherent system (i.e. if there is no correlation between the mining title, urban planning, environmental assessment, financial guarantees and post-closure obligations), weaknesses may arise. These weaknesses do not become visible immediately, but can later be exploited legally – through appeals or litigation.

Therefore, the solution cannot only be to speed up procedures or limit the possibilities of appeal, but to strengthen the law. An integrated ex-ante (pre-event) check of compatibility with all incident regulatory regimes could reduce the build-up of these vulnerabilities and turn litigation into an exceptional mechanism, not an almost inevitable step.

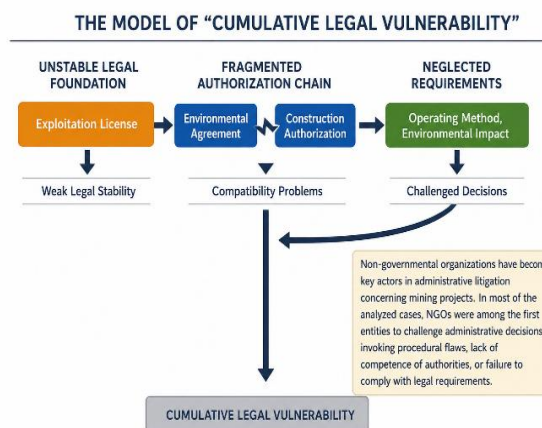


Fig. 1. Decision-making chain and legal vulnerability in mining projects

In practice, non-governmental organisations challenge almost every link in the authorisation chain. When they identify defects in the license, they are attacked; where the environmental procedure has deficiencies, the environmental agreement is challenged; And in the absence of obvious formal vulnerabilities, the debate shifts to the method of exploitation and its compatibility with the requirements of protection of the environment,

heritage or public health. Thus, judicial review is not limited to a single administrative act, but ends up looking at the project as a whole, from multiple legal perspectives.

In this litigious dynamic, the legal dimension comes to almost completely eclipse the analysis of the economic opportunities and social impact of mining projects. The debate focuses predominantly on procedural flaws, administrative powers and restrictive interpretations of environmental or heritage rules, while the effects on local development, employment, budget revenues and the revitalization of mono-industrial areas remain marginalized in the public and legal discourse.

Thus, the project is evaluated almost exclusively in terms of its risks and vulnerabilities, not in terms of potential benefits. The absence of an integrated analysis, balancing economic and social costs and benefits, leads to an unbalanced approach, in which legal caution becomes dominant and development considerations are treated secondarily or even ignored, while the analysis of economic opportunities and social impacts often remains secondary. Mining projects are assessed primarily in terms of risks – actual or potential – and not through a balanced analysis that includes economic benefits, regional development, job creation and increased public revenues [11].



Fig. 2. Conceptual representation of the imbalance between procedural vulnerabilities of the permitting chain and the economic development opportunities generated by mining projects

This orientation produces a decision-making imbalance because any procedural vulnerability becomes sufficient to block the project, while arguments regarding the positive social impact or the need to capitalize on natural resources are treated as auxiliary elements. Consequently, the decision-making process moves from the sphere of the full assessment of the public interest to the area of formal control of legality, where development considerations have little weight.

A balanced approach would imply the systematic integration of the economic and social dimension in the legal analysis, without diminishing the standards of protection, but recognizing that the public interest is multidimensional in the light of the fact that environmental protection coexists with legitimate development objectives. Only an assessment that balances costs and benefits can lead to legitimate and sustainable decisions, which avoid both irresponsible exploitation and the blocking of projects on criteria that do not fully reflect the socio-economic reality.

The analysis of the tension between the logic of the concession of natural resources and that of the protection of the public interest must be contextualized within the framework of the principle of structural proportionality. This concept, which originates in the case law of the Court of Justice of the European Union (CJEU), stipulates that restrictions on economic rights must be appropriate, necessary and proportionate to the legitimate aim pursued. [12]. In Romanian law, the principle of proportionality is recognised as a standard for the control of administrative interference, including in the field of concessions [13].

The mining concession is not an absolute right, but a right conditioned by the compatibility of its exercise with the higher values protected by the legal order, such as the protection of the environment (the Romanian Constitution) and the preservation of cultural heritage (Law no. 422/2001). The doctrine of administrative law emphasizes that the rights conferred by administrative acts are exercised within the limits established by law and may be subject to revision when superior public interests so require. Judicial review of legality is not a disruptive element, but a mechanism to guarantee legal certainty, as the court verifies compliance with administrative competence and the consistency of acts with higher rules [14][15]. In this logic, judicial review functions as a subsidiary area of harmonisation when administrative procedures fail to ensure a balance between competing interests, in accordance with the principle of judicial subsidiarity.

The comparative approach of the Roşia Montană, Certej and Rovina projects highlights dysfunctions generated by a sequential normative architecture, in which the authorization stages are treated autonomously, without a substantial coordination mechanism. Directive 2011/92/EU on environmental impact assessment requires the assessment of the cumulative effects of projects and public participation as guarantees of decision-making legitimacy. The CJEU has ruled that the assessment must be complete and carried out before the adoption of the authorising decision [16]. In the absence of an integrated ex ante legal compatibility check, each regulatory regime acts independently, which increases the likelihood of conflict and litigation.

Case studies confirm this hypothesis. In the case of Roşia Montană, the conflict between mining and the heritage protection regime was amplified by the inclusion of the site on the UNESCO World Heritage List, which implies international conservation obligations (UNESCO Convention of 1972). International case law has shown that the protection of heritage can prevail over economic interests when the impact is irreversible [17]. In the case of Certej, the uncertainties regarding the validity of the concession license affected the stability of the authorization chain, demonstrating that the primary legal basis of the project is the premise of exercising the other administrative rights. The theory of the administrative act emphasizes that the lack of a sufficient legal basis can lead to the nullity of subsequent acts. In the Rovina case, the annulment of environmental acts highlighted the limits of procedural assessment when the documentation does not comply with the standards of integrity and cumulative assessment imposed by European law.

From a systemic perspective, these situations are not isolated failures, but manifestations of a non-integrated sequential authorisation model. The concept of "authorization chain" implies coordination between the relevant legal regimes (mining, urban, environmental, heritage). Comparative doctrine shows that integrated models reduce litigation (e.g., the German system provided by the Bundes-Immissionsschutzgesetz). In Romania, the lack of an ex. ante compatibility mechanism transfers the conflict to the jurisdictional area, where the court becomes the space for arbitration between competing interests. This reality confirms the role of administrative litigation as a mechanism for controlling legality, not as an obstacle to investment.

Therefore, the fundamental problem is one of institutional structure and concerns the absence of a unitary procedure for verifying the compatibility of the project with all applicable legal regimes, prior to the granting of the exploitation right. Such a reforming approach would be in line with the requirements of European law and the principle of legal certainty, ensuring greater predictability for investors and helping to reduce the number of disputes.

7. The exploitation method as a determining technical-legal element

The analysis focuses on **the legal relevance of mining methods**, with the aim of determining whether the modification or choice of a particular method produces, in itself, legal consequences provided for by mining legislation. The approach does not aim at the technical evaluation of the methods or their economic implications, but at identifying the normative effects that the law attaches to the technological options, respectively the situations in which the change of method triggers additional legal obligations (such as the resumption of administrative procedures, the adjustment of the license or the updating of environmental assessments). The central question is whether the mining law conditions certain legal effects on the chosen technological solution or whether the exploitation method remains, from a normative point of view, neutral, with legal consequences limited to compliance with the general standards of environmental protection and the obligations assumed by the license [1].

Romanian legislation does not ignore the technical part of mining operations. On the contrary, the exploitation methods are analysed in detail in the exploitation development plan, technical documentation, [18] feasibility studies and in the documents submitted in the licensing and authorisation procedures. Therefore, the technical dimension exists and is dealt with in practice.

7.1 Mining method in other mining jurisdictions Benchmarking:

A comparative analysis shows that the legal treatment of the change in the method of exploitation varies significantly between jurisdictions, depending on the conception of the relationship between technology, the environmental impact and the regulatory effects of the authorisation.

In **the European Union**, environmental legislation and rules for high-impact projects are based on the principle of prevention and early risk assessment. European directives require environmental impact assessments for projects that can generate significant effects, but do not uniformly define the legal consequences of changing the method of exploitation.

Some legislation links the change of method to the obligation to resume the assessment, others make this effect conditional on the existence of a substantial change in the impact [19].

In **Canada**, provincial mining legislation (e.g. British Columbia or Ontario) may require permits and assessments to be updated if the change in method significantly changes the environmental impact [20]. In some cases, the shift to a higher-risk technology triggers the obligation to resume assessment procedures. The system is oriented towards the principle of substantial modification: not every change produces legal effects, but only those that alter the conditions of authorization [21]. In Quebec and Ontario, there have been cases of expansion of open quarry mining and transitions between exploitation phases, which have required the updating of environmental assessments and the modification of permits. (Ex: Detour Lake Mine, Canadian Malartic Mine). Legal model: review if the change is substantial in impact.

In **Australia**, state-level mining regulation links technological changes to additional obligations when they affect impact assessment. If the amended method involves new risks, the authorisation may require revision and financial guarantees may be adjusted. The Australian model emphasizes risk control and adaptation of authorisation conditions. There have been changes in mining methods such as quarry extensions, changes in tailings management or tailings dams (e.g. Super Pit-Kalgoorlie, Cadia Mine). Legal model: changes that change the risk profile trigger the review of environmental approvals and the adjustment of financial guarantees.

In **the United States of America**, regulation depends on federal and state law. Mining projects are subject to environmental assessments (e.g. under the National Environmental Policy Act), and changing the method can trigger a new assessment if the change has the potential to generate previously unanalysed impacts. There is no absolute automaticity, but impact analysis is mandatory when the project conditions change substantially. There have been transitions between surface and underground exploitation, as well as technological changes - leaching vs. flotation. (e.g. Carlin Trend Mines). Legal model: If the change affects the previously analyzed impact, the assessment under federal environmental law must be completed or resumed.

In **Sweden**, the mining regime is strict, but also impact-oriented. The permit may be revised if the change in method influences environmental risks or conditions. Environmental courts have a central role in controlling legality. There are no automatic effects for any technological change; The consequences depend on the concrete impact assessment [22]. There have been expansions and operational changes that have required additional proceedings before the environmental courts. (Ex: Kittilä Mine) Legal model: changes with an impact on the environment require the revision of the permit.

In these jurisdictions, practice shows that changes in the method of exploitation have been possible, but do not automatically produce absolute legal effects, the consequences depend on the extent to which the change generates a substantial impact on the authorised conditions. In most situations, it is necessary to revise or supplement the environmental assessment to reflect the new operating conditions, and financial guarantees are adjusted when risks increase. Thus, those systems combine flexibility with control mechanisms, making the legal effects conditional on the analysis of the concrete impact, not on the simple formal change of the method.

7.2 Mining technique as a legal factor - why the mining method should be explicitly regulated

Mining is one of the most intrusive economic activities on the environment and territory. The principle of proportionality requires that legal obligations be calibrated according to the intensity of the intervention, the level of risk as well as the duration of the impact - the method of exploitation is the main indicator of these elements.

Recent mining projects in Romania have revealed a recurrent structural tension between mining technical configurations and their legal treatment. Although the mining method fundamentally determines the intensity of land use, waste generation, environmental risk and post-closure obligations, the Romanian mining legislation (Law no. 85/2003) does not attribute distinct legal consequences to the different mining methods. This aspect addresses the following question - Does the exploitation method work as a determining legal criterion within the Romanian mining regulations?

Using the three case studies — **Rosia Montană, Certej and Rovina valley** — the article demonstrates that, although the exploitation method does not have an explicit normative status, it operates in practice as a decisive factor shaping the legal trajectory of mining projects.

The exploitation technique is the fundamental technical variable of any mining project, as it determines the geometry of the intervention, the volume of tailings generated, the water requirement, the long-term stability of the landfills and the intensity of the relief change, **as well as the intensity of the impact on the environment and the community.**

From this perspective, the exploitation method is not a simple descriptive technical element, but the factor that structures the risk profile of the project. In other words, the exploitation method is not just a technical choice in the project, but the element that decides how the **mine will actually look like and what type of risks it will generate.**

If you choose surface exploitation (open quarry), you intervene directly on the relief, uncover large volumes of rock, generate significant amounts of tailings and modify the landscape on a large scale. If you choose underground mining, the intervention on the surface is reduced, but other risks arise: the stability of mining voids, acid drainage, settlements, etc. If you change the processing method (e.g. cyanide use vs. flotation), you change the water management regime, the type of waste resulting and the toxicological profile of the project.

However, the Romanian regulatory framework treats the method predominantly as an object of administrative approval, without establishing an explicit legal differentiation between surface exploitation (open-pit), underground exploitation or wet or dry tailings storage technologies. The differences between those methods are substantial and produce major indirect legal consequences. For example, open-pit exploitation involves extensive land occupation and irreversible relief modification, which generates increased pressure on urban planning documentation and environmental impact assessments, as observed in the case of Roşia Montană or Certej. In contrast, underground mining has a small territorial footprint, but may involve different geotechnical risks (subsidence, underground stability), which require a different type of monitoring and safeguards.

Also, the difference between wet tailings (dam tailings management) and dry-stack storage implies distinct levels of risk regarding long-term stability and the potential impact in the event of an incident. In the absence of an explicit normative correlation between the method used and the applicable legal regime (financial guarantees, monitoring obligations, additional standards, possible territorial restrictions), differentiation is achieved exclusively through individual administrative mechanisms, which reduces predictability and amplifies the contentious vulnerability of projects. Explicitly regulating the method as a differentiating regulatory variable would allow obligations to be calibrated proportionately according to the intensity of the intervention and would transform a decisive technical factor into a transparent legal criterion, reducing uncertainty for both authorities and economic operators.

Regardless of the resource exploited (gold, copper, salt, mineral aggregates, etc.), the change of the exploitation method in a mining project in Romania, from a legal point of view, does not automatically modify the license, does not recalibrate the financial guarantees by law, does not change the legal regime of liability, does not appear a distinct legal category, practically does not produce, by itself, distinct legal effects.

One of the conclusions of the comparative analysis is that, although many jurisdictions expressly enshrine the concept of "substantial modification" of the project (as a trigger for the resumption of the evaluation or the revision of the authorization), Romanian law does not formulate an autonomous, clear and unitary mechanism linking the change of the method of exploitation to predetermined legal effects. This absence can be explained by several structural factors. The rules governing mining operations are not exclusively in the mining law, but in a combined system - mining legislation sets the conditions for exploitation, and environmental legislation requires impact assessment and control. This system is harmonised with European Union standards, which impose impact assessment procedures for projects with a potential significant impact.

In practice, when the mining method is changed, the authorities do not treat the amendment as an autonomous legal regime of the mining law (i.e. there is no special regime that automatically produces consequences just because the method has been changed). Instead, the change is analysed in terms of impact, if the new method changes the risks or effects on the environment, additional procedures, updating the assessment or adjusting the permit may be necessary. In other words, the legal focus is on the concrete effects of the change, not on the simple technological change.

This dual structure leads to an indirect approach: the legal effects are not explicitly attached to the change in the method, but to the possible change in the environmental impact. The mining legislation, as such, does not define a distinct category of 'substantial change of method'.

The Romanian mining legislation developed in a framework in which the emphasis was placed on the existence and validity of the administrative act (license, authorization), not on the technological dynamics of the project. The method of exploitation is part of the approved technical documentation, but it is not treated as an autonomous normative element, capable of producing automatic legal effects by its mere modification.

The concept of changing the method of exploitation appears implicitly in the legislation on impact assessment, but it is not defined in a way that automatically correlates it with obligations such as the modification of the license, the recalculation of financial guarantees, the adaptation of the liability regime or the establishment of additional post-closure obligations. This lack of explicit regulation makes the legal effects depend on the interpretation of the competent authority, not on an automatic regulatory mechanism.

Compared to other jurisdictions, where the administrative guides detail the criteria for material modification, Romanian law remains less explicit in delimiting the legal effects of changing the method. The absence of an explicit mechanism produces ambivalent effects. On the one hand, it allows projects to evolve technologically and be adjusted according to concrete conditions, without automatically triggering new

procedures with each change. On the other hand, this flexibility comes at a cost, it is not always clear to the operator or the authorities whether the change requires the resumption of assessments or the modification of the authorization, which can generate different interpretations and disputes.

Although the framework mining method is subject to an approval and revision procedure (2025 Instructions on the content of documentation for the approval of framework mining methods in quarries/gravel mines), the regulatory framework does not establish a legal classification of the methods and does not correlate their typology with differentiated obligations regarding financial guarantees, liability or compatibility with special regimes. The current regulation establishes the method as an object of administrative control, but does not transform it into a differentiating normative variable.

The applicable instructions provide that the project owner has the obligation to request the approval of the modification of the framework exploitation method, with the agreement of the zonal inspectorate and the approval of the competent regulatory authority. This regulation confirms the binding nature of the approval procedure, the express competence of the regulatory authority and the impossibility of implementing the amendments without obtaining the opinion. Consequently, the method of exploitation cannot be treated as a purely technical element devoid of legal relevance; it is subject to administrative control and conditions the legality of the mining activity. In the absence of precise criteria, the decision depends on the assessment of the competent authority and administrative practice may vary from case to case.

8. Conclusions

The results of the analysis show that the performance of mining projects is mainly conditioned by the quality of the procedural framework and the consistency of regulations, not by the technological nature of the exploitation. The fragmentation of the authorisation process and the lack of substantial coordination between administrative steps generate legal uncertainty and vulnerabilities that can affect the stability of public decisions and investor confidence. The operating method remains a relevant element for defining the impact and risk profile, but the legal consequences occur only in the event of substantial changes affecting the authorised parameters, confirming the need for an integrated assessment, based on proportional criteria and cumulative effects analysis.

Even within a compliant formal legal framework, practical experience shows that the method of exploitation can become the main source of debate and challenge when its technical and environmental impact raises legitimate issues of proportionality and compatibility with the interests protected by law. If procedures are followed correctly and regulations are followed, the dispute inevitably shifts to the technological solution and how it manages the risks and effects on the environment and communities. Therefore, the exploitation method cannot be considered a neutral element, it is a determining factor of the risk profile and the social and legal acceptability of the project.

From the perspective of the projects analyzed, it is not that Romania rejects mining, but that the current authorization model does not integrate the analysis of the compatibility between the concession and public interests early enough. Without a harmonization procedure, capable of verifying in a unitary way the legal compatibility of the project as a whole, each stage becomes vulnerable to challenge, and investment stability is transferred, paradoxically, to the area of legal conflicts.

From a normative and academic perspective, strengthening the legislative framework (legislative structures) through clarity of concepts, collaboration between institutions and prior assessment of compatibility with relevant legal regimes are fundamental conditions for reducing uncertainty and aligning economic development objectives with the protection of the public interest. A systemic approach, integrating legal, economic and environmental dimensions, can contribute to the decision-making legitimacy and sustainability of projects, transforming potential sources of conflict into mechanisms for institutional improvement and increasing the quality of governance.

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