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.

Literature

KOCOUREK, T. § 7. In: BAHÝLOVÁ, L., KOCOUREK, T., VOMÁČKA, V. Zákon o posuzování vlivů na životní prostředí. Komentář. 1. vyd. Praha: C. H. Beck, 2015.

MAYER, B. Environmental Assessment as a Tool for Climate Change Mitigation. Oxford: Oxford University Press, 2024. ISBN 978-0-19-893918-4.

SONTER, L. J., ALI, S., WATSON, J. E. M. Mining and biodiversity: key issues and research needs in conservation science [online]. Available at: https://pmc.ncbi.nlm.nih.gov/articles/PMC6283941/

About the author

Lucie Zdráhalová works as an assistant at the Faculty of Law, Masaryk University.

ORCID

0009-0000-4629-345X

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.