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LITHIUM MINING AND ENVIRONMENTAL (IN)JUSTICE

EDITORS:

Olga Nikolić and Zoran Erić

Lithium Mining and Environmental (In)justice

Editors:

Olga Nikolić and Zoran Erić

Translation:

Nevena Manić

Graphic design:

Jelena Novaković

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INTRODUCTION: ENVIRONMENTAL JUSTICE AS A GLOBAL CHALLENGE

This publication was produced as part of the project “Environmental (In)justice: Project Jadar and Lithium Frenzy,” within the international initiative “Global Justice and Humanities Practices” of the Consortium of Humanities Centers and Institutes (CHCI). The aim of the initiative was to explore how the humanities and social sciences can respond to global challenges by connecting theoretical reflection with concrete social problems.¹ The project was conducted by the research team of the Institute for Philosophy and Social Theory at the University of Belgrade, in collaboration with interested researchers from Serbia and abroad. The research focus was directed toward the connection between lithium mining, environmental degradation, community displacement, and undemocratic patterns of governance, with particular emphasis on the controversial Jadar project in Serbia.

Through this project, we examined the broader context of the lithium “frenzy” that has gripped many countries worldwide in their attempts to secure key resources for the so-called green transition. This is a process often presented as a step toward a sustainable future, but one that in practice renews old patterns of exploitation and inequality. As the texts gathered in this publication demonstrate, the idea of a “green transition” often obscures the fact that the burden of this transition is shifted onto those who have contributed least to the ecological crisis, while the benefits are primarily reaped by economically developed, wealthy countries and multinational corporations.

As part of the project, two workshops were held: an internal workshop at the Institute for Philosophy and Social Theory and an international webinar “Lithium Mining and Environmental (In)justice,” which brought together domestic and international experts.² The aim was

¹ You can find more about the initiative’s objectives, as well as all the projects involved, at: [Global Justice and Humanities Practices | Consortium of Humanities Centers and Institutes](#).

² See: <https://youtu.be/uH-jYo0vKCc>.

to exchange experiences from different contexts, identify common problems, and highlight the specificities of local struggles. The discussions revealed that lithium, although presented as the “metal of the future” and included among the priorities of the European Union’s proposed new Critical Raw Materials Act, is also a symbol of the numerous social, ethical, and political dilemmas accompanying the global green transition.

The papers collected in this publication emerged from these encounters and represent a contribution to both academic and broader public debate on environmental justice, sustainability, and the future of communities affected by extractivist projects. In the first part of the publication, following an introductory text that points to the global problem of extractivism and the necessity of overcoming the capitalist logic that leads to it, readers will have the opportunity to learn about the problems of lithium exploitation in Chile, Argentina, Portugal, and Germany. The second part of the publication is dedicated to the Jadar project and the widespread resistance of Serbian citizens and the local population to this project. The publication in digital format, in both Serbian and English, is freely available through the websites of CHCI and the Institute for Philosophy and Social Theory, in order to be accessible to researchers, students, journalists, activists, and all interested citizens.

Extractivism and (In)justice

The global environmental justice movement has generated numerous principles that define the framework for action by populations threatened by extractivist projects and other forms of injustice to which they are exposed. As fundamental rights, the movement emphasizes the ethical, balanced, and responsible use of land and renewable resources, and opposes the destructive extractivist projects of multinational corporations, repression and exploitation of countries, peoples and cultures, and other forms of life. The harmful consequences of accelerated economic development and industrialization, such as water, air, or soil pollution, are not experienced in the same way or to the same extent by all segments of the population. Class, racial, or gender inequalities in the context of environmental issues can be examined in particular ways. The struggle for empowerment and self-respect of marginalized, disenfranchised, and race/gender-marked positions of the most vulnerable social groups, connected with the struggle for environmental protection, demonstrates that the environmental justice movement brings together the goals of environmental and social

justice. The problem of environmental justice can therefore only be examined through an analysis of the firm connections between climate change and the development of capitalism, accelerated industrialization, as well as the legacy of colonial politics.

Lithium mining today takes place within a global race for resources necessary for electric vehicles, batteries, and renewable energy sources. However, although the goal is to reduce carbon dioxide emissions, the means employed often repeat the logic of colonial and neocolonial plunder. Environmental risks and social consequences accumulate at the expense of local populations, while economic benefits flow to global centers of power. In these processes, the absence of democratic control and public debate is particularly problematic. In many cases, including the Jadar project, decisions are made behind closed doors, without genuine participation of local communities. When “national interest” is defined non-transparently and without the possibility of public contestation, expropriation and displacement become a form of structural injustice and political domination, even when they are formally legal.

As the studies presented in this book demonstrate, such projects are often implemented through the derogation of environmental regulations, reduction of mining rents and taxes, corruption and clientelist practices, leading to the destruction of ecosystems and deterioration of the quality of life for local populations. Instead of promised development, extractivism in many cases produces poverty, social fragmentation, and violence. In practice, it becomes evident that within existing political-economic frameworks, those who contribute least to the climate crisis pay the highest price. Local and national communities that provide raw materials miss out on tangible benefits, yet bear the consequences of pollution, forced displacement, and the erasure of tradition.

These power asymmetries reflect deeper contradictions in the very concept of green transition – “green” for whom and under what conditions? If the logic of rapid industrial expansion continues without citizen participation, one cannot speak of truly sustainable and just development.

In Serbia, the planned Jadar project has become a symbol of the conflict between promised economic prosperity and real social and environmental risks. Experts warn of the pollution of surface and groundwater, degradation of agricultural land, disruption of biodiversity, and

threats to traditional ways of life. This situation reveals a deeper dilemma of sustainable development: how to reconcile economic interests with the right of local communities to preserve their living space and decide their own future? The Jadar project is not an exception, but rather an illustration of a broader pattern of self-colonization, in which political elites of underdeveloped countries, under the pretext of development, cede natural resources to global corporations and violently suppress civic resistance. Nevertheless, through organized struggle, local communities in the Jadar Valley have demonstrated a high degree of resilience and solidarity, thereby becoming part of the global movement for environmental justice.

Conclusion: Toward New Paradigms

Given the scale of environmental catastrophes and social tensions that accompany extractivism, the question arises: what next? Systemic change is needed – a transition toward post-extractivist economies, the development of alternative models based on sustainability, communality, and participation. This also implies a change in how we view nature – not as a resource to be depleted, but as a shared world in which people, as well as other living beings and ecosystems, have the right to exist. We need new ethical frameworks for thinking about the relationship between humans and nature, as well as visions of more just societies based on the principles of environmental justice, in which decisions are made transparently and with respect for local communities.

GLOBAL NETWORKS OF SOLIDARITY IN THE STRUGGLE AGAINST EXTRACTIVISM

Introduction

In the introductory examination of a whole range of problems arising from the analysis of global models of extractivism, with particular attention to lithium mining, several key questions immediately present themselves, which we will illuminate in this text.

How do we methodologically approach the discourse of extractivism? Is it causally connected to and dependent on imperialism, (neo)colonialism, and global capitalism? Are the strategic and economic (not necessarily technological) approaches to exploiting and extracting lithium specific to each major deposit across different geographical latitudes and longitudes: in the Atacama salt desert in Chile, the Salinas Grandes desert in Argentina, the Barroso “projects” in Portugal, or Jadar in Serbia? Can we learn something from all the cases of local communities’ and activists’ struggles against the environmental injustice inflicted upon populations and the land, the living and non-living world? And finally, is there potential for global networking, solidarity, and the formation of common fronts against the ecological catastrophes that these projects inevitably produce or would produce in the future if not prevented?

Extractivism as Discourse

Let us recall at the outset that the term *extractivismo* (extractivism) emerged in the 1970s in Latin America to denote, in the broadest sense, the extraction and appropriation of large quantities of resources from their natural deposits, primarily for export purposes. The first formulations of extractivism as a discourse were produced by two authors: Alberto Acosta, an Ecuadorian economist, professor, and former Minister of Energy and Mining in that country, and Eduardo Gudynas, a Uruguayan biologist. Both define extractivism in a similar way as a type of natural resource extraction of large scale or high intensity, em-

phasizing that it is actually a mechanism of colonial and subsequently neocolonial plunder and appropriation of resources necessary for the development and prosperity of the global North, while the countries providing the resources gain little economic benefit from such policies.¹

Analyzing the genealogy of the discourse in Ecuador, American author Thea Riofrancos traces its development in the activities of indigenous peoples and environmental activists during the neoliberal government of the 1990s. The key moment that Riofrancos identifies are the protests of 2005-2006, when two different critiques of oil extraction coexisted, a phenomenon the author calls *resource radicalisms*.² The first and predominant one was radical resource nationalism, while the second, retrospectively called proto-anti-extractivism, primarily articulated the struggle of indigenous communities for their well-being,³ and was later crystallized through the concept and discourse of *extractivismo* (extractivism). In the case of Latin America, a debate emerged over whether emancipation lies in a particular form of economic development or in alternative development paradigms rooted in relations of colonality. Riofrancos thus presents the thesis of extractivism as a central term that unifies an *emic discourse*⁴ articulated by situated actors who reflect on and critique historically specific regimes of resource governance.⁵

Today's understanding of extractivism as a discourse has been transformed and expanded beyond the focus on natural resource extraction. Recent research thus examines the expanded concept of extractivism and its "organic" relationship to financialization, in order to more systematically determine the key features of how contemporary global extractivist capitalism functions beyond conventional divisions

¹ Acosta, A. (2013). "Extractivism and Neoextractivism: Two Sides of the Same Curse". In: Lang, M., Fernando, L. & Buxton, N. (eds.), *Beyond Development: Alternative Visions from Latin America*, Amsterdam: Transnational Institute & Quito: Fundación Rosa Luxemburg, 63; Gudynas, E. (2018). "Extractivism: Tendencies and Consequences". In: Munck, R. & Delgado Wise, R. (eds.), *Reframing Latin American Development*, London & New York: Routledge, 61-76.

² Riofrancos, T. (2017). "[Extractivismo Unearthed: a Genealogy of a Radical Discourse](#)", *Cultural Studies* 31(2-3): 277-306. The main demands were the expulsion of foreign oil companies, nationalization of oil, and directing oil revenues toward meeting social needs.

³ Including territorial sovereignty and integrity, self-determination, and their collective rights over resources and control, including veto power over extraction projects that would pollute and impact the natural environment.

⁴ A term from the field of anthropology that denotes an approach to studying or describing a particular language or culture in terms of its internal elements and their functioning, rather than any existing external schema; thus from within, as it is produced by the very actors who use it.

⁵ Riofrancos, T. (2017). *op.cit.*, 280-284.

into sectors by raw materials.⁶ Moreover, although extractivism was primarily viewed as a model of colonial exploitation of poor countries in the global South, this phenomenon has always existed and is gradually escalating in the global North⁷ thereby taking on planetary significance and giving rise to new terms such as *total extractivism*.⁸ Finally, the processes of extractivist practice have been abstracted and applied to entirely new sectors, from the digital and intellectual sphere all the way to finance and the global economy.⁹ As a common denominator of all modalities of extractivism, the emerging conclusion is that they are constituted through inequalities, which are created and deepened by monopolies over resources held by a small number of beneficiaries of accumulated wealth, at the expense of a large number of people who experience the consequences of injustice inflicted upon their environment.¹⁰

New Global Hegemonic Struggles

In the new geopolitical constellation that emerged after the second period of the *Great Acceleration*¹¹ at the beginning of the 21st century, there has been even greater competition in the struggle of economic powers for resources necessary for their further industrial and technological development. Extending the imbalance of benefits and burdens of extractivism to the entire biosphere, the climate consequences of the wealth of the industrially developed North are now most severely felt by the impoverished countries of the global South.¹² These processes are facilitated by global economic and political structures and the financial system, which are based on various mechanisms regulating the outflow of natural and human resources along the South-North axis (rentierism, creditor-debtor relations, trade subsidies, labor tariff deregulations, etc.) to enable the politics

⁶ Gago, V. & Mezzadra, S. (2017). [“A Critique of the Extractive Operations of Capital: Toward an Expanded Concept of Extractivism.”](#) *Rethinking Marxism* 29(4): 577.

⁷ An example is the invasive “fracking” technology for natural gas extraction in the United States.

⁸ Dunlap, A. & Jakobsen, J. (2020). *The Violent Technologies of Extraction: Political Ecology, Critical Agrarian Studies and the Capitalist Worldeater*. London & New York: Palgrave Macmillan, 5.

⁹ Chagnon, C. W. et al. (2022). “From Extractivism to Global Extractivism: The Evolution of an Organizing Concept”. *The Journal of Peasant Studies* 49(4): 761, 768.

¹⁰ Ye, J., van der Ploeg, J. D., Schneider, S. & Shanin, T. (2019). [“The Incursions of Extractivism: Moving From Dispersed Places to Global Capitalism.”](#) *The Journal of Peasant Studies* 47(1): 155–183.

¹¹ The “Great Acceleration” denotes a sudden increase in a wide range of human activities that significantly impact the planet’s system and the disruption of its ecosystem.

¹² Willow, A. J. (2019). *ExtrACTIVISM: Culture and Power in Natural Resource Disputes*. London & New York: Routledge, 22.

of extractivism. However, the complexity of geopolitical relations and the way global extractivism functions introduces nuanced dynamics of new colonial relations and new destinations and routes for resources in the global market.¹³

In the wave of economic neocolonialism and global extractivism, China is taking an increasingly significant position, with a strategy that involves large amounts of loans to economically underdeveloped countries in sub-Saharan Africa, Latin America, but also in the European semi-periphery of the Western Balkans, in order to place them in a position of dependency and control over resource extraction and to enable its companies to build infrastructure for extractivist projects. In this context, we are witnessing a *second scramble* for Africa, where many multinational but also national corporations (from the USA, Australia, China, South Africa, and wealthy European countries) – the new global *resource omnivores* – are plundering countries rich in resources but poor in legal regulations, and torn apart and divided by civil wars.¹⁴

It is characteristic that in numerous African countries, due to the struggle for control over natural wealth and greed for profit, conflicts have erupted characterized as *resource wars*.¹⁵ Another effect of the new hegemonic struggles for remaining resources is the process of *self-colonization* in which economically poor but resource-rich countries compete with each other to attract foreign investments and companies whose technologies will implement extractivist policies. The ecocides that the land and local population will suffer from these actions, as well as the numerous protests by environmental and civic activists, do not represent an obstacle to such economic-financial alliances in the struggle for energy sources and profit.

State Frameworks Supporting Extractivism

To ensure favorable conditions for attracting investments, globally increasingly present authoritarian regimes do not shy away from various corrupt practices, complete deregulation of legal frameworks,

¹³ Chagnon, C. W. at. all (2022). *op.cit.*, 768. Examples include the expansion of extractivism to the Arctic, as well as the increased exploitation of raw materials in the global North for the needs of the Chinese market.

¹⁴ Nixon, R. (2011). *Slow Violence and the Environmentalism of the Poor*. Cambridge, MA / London: Harvard University Press, 21.

¹⁵ Ikelegbe, A. (2005). "The Economy of Conflict in the Oil Rich Niger Delta Region of Nigeria". *Nordic Journal of African Studies* 14(2): 209.

and clientelism, all of which contribute to the further weakening of democratic potentials and the dehomogenization of social bonds. Numerous mechanisms that facilitate and encourage extractivist projects include: accelerated issuance of permits for resource extraction while disregarding environmental regulations, lowering mining rent rates, tax reductions, negligent treatment of the workforce while approving unsafe and unhygienic working conditions, etc. Such “flexible” policies and pandering to global companies, violations of the human rights of local populations, as well as the rights of nature, often lead to major territorial changes where, due to mining concessions, local agricultural communities are bought out or forcibly displaced, even protected indigenous areas, as is the case in Latin America.¹⁶

Instead of the prosperity and economic development promised by political propaganda, extractivism produces precisely the opposite effects – widespread poverty and social tensions that result in various forms of violence and crime in communities and regions exposed to such projects. Two key and mutually connected socio-economic problems that emerge in such countries are *enclave economies* and *detritorialization of the state*. A state economy based on resource exports and extractivism functions according to the principle of creating extractive enclaves: mining, but also other sectors that are isolated and not integrated into other segments of the national economy and society, but rather fully connected to the global market and dependent on external capital and technologies.¹⁷ The second aspect is that precisely because of the connection and dependency on transnational capital and corporations, political oligarchies relinquish control of mining or other enclaves to them, thus delegating a significant part of their social responsibilities, which leads to a complex process of *detritorialization of the state*. The consequence of state withdrawal is that the interests of global corporations are favored, as well as the clientelist politics of corrupt power-holders, which brings more harm than good to national and local development plans.

¹⁶ Acosta, A. (2013). *op.cit.*, 63-64.

¹⁷ Gudynas, E. (2018). *op.cit.*, 69.

The Jadar Project

The mechanisms of functioning of self-colonizing, deregulated states can be observed through the example of the Jadar project and the state's cooperation with the multinational company Rio Tinto in Serbia. Since 2004, the company and its local subsidiary Rio Sava, established in 2001, received state concessions to conduct geological research. On that occasion, a new mineral rich in lithium and boron was discovered and named jadarite,¹⁸ after the Jadar River valley where it was found. The current government has done everything to accelerate the process and expedite legal frameworks so that the company Rio Tinto could unobstructed carry out all preparatory actions¹⁹ to obtain a permit for the exploitation of lithium and boron in the Jadar valley. Already Article 1 of the current Law on Expropriation²⁰ introduces the essence of the problem: Real estate can be expropriated or ownership rights on it can be restricted only in the public interest established on the basis of law, with compensation that cannot be lower than market value. For the authorities in Serbia, "public interest" is actually identical to the interest of Mr. "Choo-Choo" in Sergio Leone's film "Once Upon a Time in the West," whose gunslingers drive away landowners who stand in the way of building a transcontinental railroad. The minimal mining rent to the state of 4% from the company Rio Tinto, with the freedom to collect the rest of the revenue, gather all the resources through complex chemical and technological processes of lithium exploitation, and thereby produce major pollution of air, water, and soil, is presented as "public interest," more important than preserving people's health, protecting the environment, and ultimately fertile land that has great agricultural potential. In 2021, the Serbian Parliament adopted amendments to the Law on Expropriation which triggered an escalation of environmental protests.

¹⁸ Jadarite is a white, powdery, non-radioactive mineral, lithium sodium boron silicate hydroxide, which contains lithium and boron as useful components. It was recognized as a new mineral in November 2006.

¹⁹ The signing of the Memorandum of Understanding between the Government of Serbia and Rio Tinto in 2017, along with the formation of a working group for the implementation of the "Jadar" project, created a favorable political environment, and the company continued with international political lobbying as well as land purchases. Preparatory actions also include an environmental impact assessment study which is still the subject of expert debate and has not passed the formal-legal procedures for obtaining the company's mining permit.

²⁰ See: [Zakon o eksproprijaciji](#).

However, these legislations are merely a “legal façade” serving to expedite large infrastructural projects, because the company Rio Tinto, even under the existing Law on Mining and Geological Research,²¹ can carry out expropriation unobstructed, which, according to lawyer Miloš Igić, has already been done by the Chinese company Zijin in Bor with the opening of the “Čukaru Peki” copper and gold mine.²² Igić emphasizes that the expropriation process already came into practice in early 2020 when, as a “lex specialis,” the Law on Special Procedures for the Implementation of Projects for the Construction and Reconstruction of Linear Infrastructure Facilities of Special Importance for the Republic of Serbia²³ was introduced, and that 90% of expropriations are already being carried out under that law.

Such *ad hoc* legislative frameworks indicate that Serbia, like many other self-colonizing states, is not guided by long-term planning and sustainable development strategies that would protect the environment. On the contrary, numerous politically imposed decisions that disregard ecological standards contribute to the pollution of clean and potable water, which is becoming an increasingly important resource, for the sake of the short-term financial interests of privileged social groups and foreign companies. The state’s role is actually to represent an “interface” between the local semi-peripheral subvariant of capitalism and natural wealth. At the same time, a common feature of all self-colonizing states is that, to the irresponsible management of resources, they add political violence and repressive suppression of every form of civic resistance by environmental activists to extractivist projects, along with the criminalization of those involved, all under the pretext of hindering development and economic growth.²⁴

Activist Movements

The politics of extractivism leaves multiple immeasurable consequences for the environment, various ecosystems, the living and non-living world, and especially communities exploited on racial or gender grounds, including indigenous populations. The most immediate and obvious effects of extractivism on nature and the living environment

²¹ See: [Zakon o rudarstvu i geološkim istraživanjima](#).

²² BBC News (5.12.2021). [Srbija i politika: Šta treba da znate o izmenama Zakona o eksproprijaciji](#) The Chinese company, as well as the state, promote this project as “the first green mine in Serbia.”

²³ See: [Zakon o posebnim postupcima radi realizacije projekata izgradnje i rekonstrukcije linijskih infrastrukturnih objekata od posebnog značaja za Republiku Srbiju](#).

²⁴ Acosta, A. (2013). *op.cit.*, 68-75.

include: the disappearance of natural areas, reduction of biodiversity through deforestation, contamination of soil, water, and air with toxic materials, deterioration of soil conditions, loss of watercourses, etc. On the other hand, extractivism produces diverse social imprints such as displacement of local communities, various corrupt and criminogenic actions and resource smuggling, as well as erosion of indigenous worldviews. In response to all these consequences of extractivist policies, numerous activist initiatives across different geographical latitudes and longitudes have created the foundations of a global environmental justice movement network. However, even before this term and discourse emerged, it is necessary to highlight numerous examples of struggles to preserve the environment throughout both the global South and North, and the powerful voices of individuals and groups that opposed exploitative extractivist projects. As early as the 1960s, the indigenous Navajo people opposed the multinational energy corporation Peabody Coal, owners of coal mines on the territory of their reservation in the USA. Their struggle against colonizing extractive politics, based on resource extraction under the pretext of economic “development” and progress, was an attempt to preserve the indigenous way of life and relationship to the land from complete collapse. Movements against environmental injustices that followed around the world, such as those in the Niger Delta, Chipko in the Indian Himalayas, or the Green Belt in Kenya, became symbols of local community resistance. They are crucial in creating new alliances on the South-South and South-North axis and provide broader visibility and resonance to each of the local cases of *slow violence*.²⁵ Such resistance efforts gave impetus to numerous subsequent environmental justice movements that developed globally in the late 1980s and early 1990s.²⁶

Emphasizing the necessity of activist engagement by local populations against extraction, new terms appear in the literature as signifiers of resistance strategies, such as *extrACTION*²⁷ and *extrACTIVISM*²⁸.

²⁵ Nixon, R. (2011). *op. cit.*, 24, 36-37.

²⁶ Powell, D. E. (2017). “Toward Transition? Challenging Extractivism and the Politics of the Inevitable on the Navajo Nation”. In: Jalbert, K. et al. (eds.), *ExtrACTION: Impacts, Engagements, and Alternative Futures*, London & New York: Routledge, 215.

²⁷ Jalbert, K. (2017). “Introduction: Confronting Extraction, Taking Action”. In: Jalbert, K. et al. (eds.), *ExtrACTION: Impacts, Engagements, and Alternative Futures*, London & New York: Routledge, 1-14.

²⁸ Willow, A. J. (2019). *ExtrACTIVISM: Culture and Power in Natural Resource Disputes*. London & New York: Routledge.

Activist resistance to extractivist projects has helped numerous local communities to empower themselves and articulate the goals of their struggle. However, a common occurrence in the struggle for environmental protection continues to be that environmental movements around the world remain confined to specifically local environmental problems.²⁹ Unlike earlier activist uprisings that were locally limited and thus more easily suppressed, new strategies are based on synergy with local communities but also on global networking, and are accompanied by broad campaigns that point to violations of internationally established human rights and the necessity of responsible environmental governance.³⁰

Due to the drastic consequences of extractivism, one of the most complex tasks is therefore conceiving and implementing a strategy that will lead to a post-extractivist economy and the development of more just social relations beyond an anthropocentric view of nature as a resource. Alternative forms of economies in which economic capital should not be allowed to completely replace natural capital should open pathways to new paradigms of organizing societies based on environmental justice, community, and active participation in which extractivism will be suppressed.³¹

Conclusion: Strategies of Resistance

The question is whether it is possible today to form a supranational constellation with emancipatory, anti-imperialist, and anti-colonial potential, without hidden economic interests. The Non-Aligned Movement, which from the early 1960s brought together two-thirds of the world's states, gave rise to ideas that the barriers to cooperation between poor and developed countries were insurmountable. The Group of 77 (G77) platform of non-aligned countries was then established to take action toward solving the problem of economic inequality in the world. Lateral integration and economic cooperation of "third world" countries through the G77 represented a logical option and orientation within the Movement.³²

²⁹ Local communities from different parts of the world, including certain environmental movements in Serbia, thus struggle primarily against polluters of their homesteads. At the same time, the fragmentation of all small initiatives does not contribute to global networks of solidarity advocating for comprehensive change in social relations.

³⁰ Willow, A. J. (2019). *op.cit.*

³¹ Acosta, A. (2013). *op.cit.*, 80-81.

³² Mates, L. (1970). *Nesvrstanost: teorija i savremena praksa*. Beograd: Institut za međunarodnu politiku i privredu, 28-29.

However, insufficient organization and the limited effects produced by the Movement led one of its leaders, Tanzanian President Julius Nyerere, to describe the G77 as a trade union of the poor. The threat posed by transnational corporations, as well as the need for permanent protection of sovereignty over the natural resources of the Movement's member countries, was pointed out at the very beginning of the 1970s by the then President of Chile, Salvador Allende.

From the perspective of recent environmental movements, a similar question arises as to whether there is potential for global networking, solidarity, and the formation of common fronts, naturally not at the state level. The idea of “environmentalism of the poor” by Spanish economist Joan Martínez-Alier and Indian historian Ramachandra Guha opens theoretical spaces for conceiving horizontal networks of ecological-activist initiatives originating from countries of the global South. Environmentalism of the poor, for Alier and Guha, denotes social movements close to environmental justice approaches, where the poor struggle to defend their means of livelihood and common access to natural resources, which are threatened by large market demands. Finally, it is also a reaction against environmental degradation caused by unequal exchange and poverty.³³ What is key for the authors is that global ecological ideas are used for local struggles that support them.³⁴ The strength of the poor certainly does not lie in legal or institutional frameworks that constrain them, criminalize them, and drive them from the land, but rather in the mountains, rivers, and all locations of potential ecocides where battles for environmental justice must be fought.

³³ Guha, R. & Martínez Alier, J. (1997). *Varieties of Environmentalism: Essays North and South*, London: Routledge, 36.

³⁴ Ibid., 41.

Ingo Gentes, Jorge Rowlands and Pablo Policzer

Alumni Freie Universität (FU) Berlin

L'École des hautes études en sciences sociales (EHESS)

Associate Professor in the Political Science Department, University of Calgary

THE HIDDEN COST OF THE LITHIUM RUSH

Introduction

In the global push for decarbonization and renewable energy, lithium has become a cornerstone of the green transition. In its Sustainable Development Scenario (SDS), the International Energy Agency (IEA) estimates that demand for lithium will increase by a factor of 42 by 2040 compared to 2020.¹ Used primarily in electric vehicle (EV) batteries and large-scale energy storage systems, lithium is seen as a clean and sustainable alternative to fossil fuels. However, beneath this promise lies a paradox: the shift away from oil and coal does not reduce extractivism but rather reconfigures and even expands it. The push for sustainable energy requires understanding the full extent and impact of the emerging new supply chains, and developing new governance mechanisms suited to them.

As demand for critical minerals such as lithium, cobalt, and nickel surges, large-scale resource extraction has expanded into ecologically fragile regions. The urgent demand for lithium, particularly in South America's Lithium Triangle, underscores a troubling reality: the rapid expansion of lithium mining threatens both water security and Indigenous rights, revealing the exploitative nature of 'green' energy initiatives. Meanwhile, in industrialized countries like Germany, the rush to electrify transportation has spurred new supply chain dependencies and regulatory challenges, further entrenching extractivist models.

¹ Lithium-containing batteries are increasingly commonly used. In 2020, 82,500 tons of lithium were mined worldwide; this figure more than doubled to 180,000 tons in 2023. For more details see: IEA (2024). [Global Critical Minerals Outlook 2024](#). Licence: CC BY 4.0.; Quarks (3.12.2024). [Was du über E-Auto-Akkus wissen solltest](#).

We examine this problem through two case studies:

The Salar de Atacama (Chile) – One of the world’s largest lithium reserves, where mining operations have sparked water shortages, socio-environmental conflicts, and Indigenous resistance.

Tesla’s Gigafactory in Grünheide (Germany) – A major EV production site that has raised concerns over water security, regulatory loopholes, and local opposition to industrial expansion.

These two cases not only represent critical points at the beginning and end of the emerging lithium supply chain, but they are also deeply interconnected. According to projections by Fraunhofer ISI, Germany’s annual battery manufacturing capacity is expected to reach nearly 400 gigawatt-hours by 2030—enough to power approximately 6.5 million cars at current consumption levels.² At present, 72% of Germany’s lithium carbonate imports originate from Chile, where it is all extracted from the Salar de Atacama, in the north of the country.³

Governance in the new green economy

As the global transition to low-carbon technologies accelerates, the governance structures underpinning this shift are increasingly under scrutiny. In theory, the green economy promises to decouple economic growth from environmental harm. In practice, however, its implementation often replicates extractivist logics—favoring industrial expansion over ecological protection and sidelining local communities in decision-making processes. This subsection examines the governance dimensions of the lithium supply chain through a comparative lens, highlighting how regulatory frameworks in both extraction zones and industrial centers reinforce territorial inequalities. It is structured in three parts: first, it analyzes the shortcomings of national and international governance frameworks in Chile and Germany; second, it explores the asymmetrical distribution of power and participation across the supply chain; and finally, it proposes collaborative

² Deutschland.de (21.2.2024). [Germany Ramps Up Battery Production](#).

³ dw.com (12.3.2024). [Alemania y el riesgo de depender de materias primas críticas](#).

China is increasingly important as a lithium supplier. 49% of German imports of lithium and lithium-containing products come from China. Although China accounts for only 11% of global lithium reserves and 18% of global lithium mine production, the country holds a near-monopoly on the global market for processed lithium products. Chinese companies supply 80% of the world’s battery cells and produce almost 60% of all batteries for electric vehicles, as German strategy consulting firms stated. Roland Berger & BDI (11.11.2024). [Wege aus der Abhängigkeit: Wie Deutschland die Rohstoffe für eine zukunftsfähige Wirtschaft sichert](#), 19.

governance as an alternative model capable of aligning ecological integrity with democratic legitimacy. Together, these analyses interrogate the underlying assumption that the green economy is inherently just, and argue instead that a meaningful energy transition requires a deep transformation of how environmental decisions are made and by whom. The comparison between lithium extraction in Chile’s Atacama Desert and electric vehicle production in Grünheide, Germany reveals the political ecology of resource frontiers in the global energy transition. While both sites are critical to the lithium-ion battery supply chain, their regulatory and environmental governance diverge sharply, illustrating two distinct models of state-market relations in the green economy. In Atacama, lithium extraction operates within a policy framework that prioritizes private property rights and economic output, where the Chilean state, despite its formal control over lithium reserves, largely accommodates multinational mining interests. Chile is unusual even among lithium producers in having a highly privatized system over water rights. In contrast, Grünheide, as a site of high-tech industrial expansion, exists within a highly regulated European policy environment that subjects corporate activity to greater public scrutiny and procedural hurdles. This juxtaposition exposes a geographical asymmetry in global environmental governance—where extraction zones experience regulatory leniency to sustain industrial centers that are subject to stricter environmental oversight.

Table: Comparative Governance in the Salar de Atacama (Chile) vs. Grünheide Gigafactory (Germany)

Factor	Salar de Atacama	Grünheide Tesla Gigafactory
Position in Supply Chain	Extraction zone (raw lithium from brine)	End-use manufacturing (battery-powered EVs)

Legal & Governance Model	- Water Code (1981): Full water rights privatization - Weak enforcement of environmental regulations - National Lithium Strategy (2023): Promotes participation, but not binding	- Lieferkettengesetz (2023): Corporate due diligence required - WHG & EU Water Framework Directive: Strong regulatory environment - Constitutional protection of public water
Participation Mechanisms	- Consultations with Indigenous groups often symbolic - No legally binding FPIC (Free, Prior, and Informed Consent) - Protests (e.g., Toconao blockade, 2024) - Environmental complaints from CPA	- 3 rounds of public hearings - Municipal vote rejected expansion (2024) - Result overridden by political intervention - Civil society campaigns: <i>Stop Tesla, Dreht Tesla den Hahn ab</i>
Environmental Concerns	- Severe water scarcity in Atacama Desert - Brine extraction causes ground subsidence (Delgado et al., 2024) - Brine not legally considered “water” — excluded from Water Code	- Factory in water protection zone - Contamination detected (phenyl chloride) - Heavy industrial water use (1.4M m³/yr) - Deforestation and habitat disruption
Corporate Influence	- Dominated by SQM and Albemarle - Brine defined as non-water to evade regulation - State accommodates corporate agendas	- Tesla received 19+ preliminary exemptions - Fast-tracked approvals under political pressure - Economic benefit (40,000 jobs projected) framed as outweighing risk

Impact on Local Communities	-Atacameño culture and ecosystems threatened -Limited benefit sharing -Grassroots resistance escalating	-Drinking water concerns in Berlin area -Local distrust due to side-stepping of legal vote -Legal complaints from NGOs and citizens' coalitions
Regulatory Gaps	- No legal requirement for brine usage rights - Lack of transparency in Environmental Impact Assessments - Fragmented environmental enforcement	-Procedural integrity questioned by opposition parties -Regulatory exemptions enabled construction in protected zones -Scientific oversight questioned by civil society
Core Asymmetry	-Global South: -Weak protections, deep environmental impact, procedural participation -Local communities bear ecological/social costs	- Global North: - Stronger laws, more substantive participation, but enforcement undermined - Multinational firms benefit
Proposed Governance Shift	- Multi-stakeholder governance councils - Legally binding Indigenous consent - Adaptive, science-based monitoring	-Need for consistent enforcement of environmental protections -Transparent decision-making -Inclusion of civil society and local governments

Moreover, the political ecology of the lithium supply chain reveals a mismatch in environmental governance. While Chile's lithium extraction has profound long-term ecological consequences, its regulation remains permissive and extractivist, driven by geopolitical pressures to maintain global supply security. Conversely, Grünheide, despite its comparatively lower environmental footprint, faces disproportionate regulatory scrutiny and resistance due to local environmental activism and stronger institutional safeguards. This dynamic reflects a broader pattern in which resource peripheries in the Global South bear the ecological burden of extraction with limited political power, while industrial centers in the Global North exert greater agency over production processes under stringent regulatory oversight. Understanding this discrepancy is crucial to critically assessing the

political economy of the lithium supply chain—not merely as a material flow but as a deeply uneven political-ecological landscape, where regulatory regimes shape who benefits from and who bears the costs of the transition to renewable energy.

A major governance challenge is the absence of binding international agreements regulating lithium extraction and water rights. While the EU and Germany have introduced supply chain regulations, these measures focus on risk mitigation rather than structural reform. In practice, resource governance remains deeply asymmetrical: multinational corporations and industrialized nations reap the benefits of lithium extraction, while affected communities remain largely excluded from decision-making.

In Chile, the National Lithium Strategy (2023)⁴ was designed to increase state control over lithium resources, shifting power away from private corporations. While the strategy promotes community participation and sustainable extraction methods, Indigenous communities in the Salar de Atacama remain deeply skeptical. Local groups have voiced strong opposition, arguing they were excluded from the decision-making process. Their resistance highlights the failure of top-down governance models that treat consultation as a procedural formality rather than a mechanism for real power-sharing.

Similarly, in Germany, the approval process for Tesla's Grünheide Gigafactory has raised governance concerns. The German government promoted the project as a cornerstone of the green transition, citing billions in private investment, thousands of new jobs, and technological advancements. However, the accelerated approval process sidelined environmental concerns raised by local residents, particularly regarding water consumption and deforestation.

Tesla, as a powerful global corporation, has influenced political decision-making at multiple levels, framing the Gigafactory as essential to accelerating the energy transition while downplaying local environmental concerns. Meanwhile, opposition groups such as Bürgerinitiative Grünheide (BI Grünheide) mobilized protests, filed legal complaints, and launched public awareness campaigns under the slogan,

⁴ Glob.cl (2024). [National Lithium Strategy](#).

“Stop Tesla! Save our drinking water!” Environmental organizations also took legal action, arguing that Tesla’s water consumption (1.4 million cubic meters per year) threatens regional water security.⁵

A 2023 study by the Leibniz Institute for Spatial Social Research⁶ found that the approval process lacked transparency, particularly under intense political pressure. The study emphasized that superficial participation procedures undermine trust in democratic institutions and reduce public acceptance of large-scale industrial projects. The Tesla case demonstrates that there are gaps even in a highly regulated policy environment such as Germany’s. While project acceleration is possible, restricting public participation not only fuels procedural conflicts but also deepens distrust in democratic governance. Both the Chilean lithium strategy and the Tesla Gigafactory case illustrate systemic failures not only in the global distribution of risks and benefits across the lithium supply chain, but also in participatory governance. In both instances, procedural frameworks for community engagement have been superficial or selectively applied, resulting in unresolved tensions: in Grünheide, public opposition led to a municipal survey rejecting Tesla’s expansion plans. Yet, political pressure ultimately secured approval for a revised proposal despite public disapproval. Similarly, in Chile, Indigenous communities have contested the legitimacy of the lithium strategy, arguing that government consultation efforts were insufficient and non-binding—yet these protests have not substantially altered extraction practices. Such procedural shortcomings erode trust in democratic governance and deepen resistance to large-scale industrial projects. Rather than relying on superficial consultations, a more effective governance strategy would shift toward obtaining broad, informed consent.

Generating openness for Collaborative Governance

There is no reason why the extractive sector—including lithium mining—cannot transition toward collaborative governance. Lithium extraction is inherently complex, affecting water resources, ecosystems, and Indigenous land rights, making it an ideal candidate for a governance model that prioritizes local participation and adaptive management. Instead of relying on corporate self-regulation and weak state oversight, lithium governance could follow these principles:

⁵ Metzner, T. *Tagesspiegel*/ PNN (17.2.2023) [Neue Klage wegen Tesla-Genehmigung : Nabu und Grüne Liga sehen Verfahrensfehler.](#)

⁶ Kühn, M. (2023). “[Planning Conflicts and Participation: The Gigafactory Tesla](#)”. *Spatial Research and Planning* 81(5): 538–556.

- Creating legally binding, multi-stakeholder governance councils that include Indigenous communities, local governments, environmental groups, and industry representatives.
- Establishing transparent decision-making mechanisms where affected communities have a real say in extraction projects before permits are granted.
- Developing adaptive, science-based monitoring systems that allow for ongoing adjustments based on local environmental and social conditions.

Effective governance is not about eliminating conflict but about managing it through inclusive and adaptive institutions. In high-stakes sectors, collaborative governance has already become the norm—there is no reason why lithium extraction, one of the defining industries of the green transition, should remain an exception. Yet, rather than breaking from extractivist governance patterns, lithium extraction often continues under a sustainability narrative that obscures underlying power asymmetries. The governance structures shaping Atacama's lithium extraction and Grünheide's electric vehicle production exemplify the territorial inequalities embedded in the green economy. Regulatory regimes do not merely respond to environmental concerns; they actively shape the distribution of ecological risk and economic opportunity. To truly align with sustainability principles, lithium governance must embrace participatory, multi-level structures that have already proven effective elsewhere.

A genuinely sustainable green economy requires rethinking governance from the ground up. Corporate-led models that prioritize rapid industrial expansion over meaningful participation are fundamentally unsustainable. Instead, governance must integrate community engagement from the outset, backed by legal mechanisms that empower affected populations and enforce binding local approval requirements. This approach is not about procedural inclusion for its own sake or simply addressing past injustices—it is about ensuring better decision-making in a rapidly changing world. Without these structural changes, the green economy risks replicating the very extractivist logic it claims to replace.

Beyond capitalist extractivism?

The global push for electrification and decarbonization has positioned lithium as a cornerstone of the energy transition. Yet, rather than signaling a departure from the exploitative dynamics of fossil-fuel-based

industrial capitalism, the lithium supply chain often reproduces the same extractivist patterns under a new, “green” guise.

A central paradox lies at the heart of this transition: while lithium is essential to lowering global carbon emissions, its extraction displaces environmental harms to ecologically fragile and politically marginalized territories. Communities in the Global South, especially Indigenous groups, bear the brunt of these impacts, while industrialized economies reap the benefits of “clean” technologies. This asymmetry is reinforced by governance systems that prioritize economic growth and corporate interests over participatory decision-making and ecological justice.

Although regulatory frameworks such as Chile’s National Lithium Strategy and Germany’s Lieferkettengesetz⁷ aim to address sustainability concerns, they fall short in practice. Both cases illustrate how consultation is often treated as a procedural formality, rather than a vehicle for shared power and accountability. As a result, affected communities remain structurally excluded from shaping decisions that profoundly alter their environments and livelihoods.

To prevent the green transition from becoming a new chapter in the long history of resource-driven injustice, governance must be fundamentally reimaged. This requires moving beyond voluntary corporate commitments and state-centric models toward collaborative, multi-level governance anchored in binding community consent, scientific transparency, and local empowerment. As other sectors—from healthcare to disaster management—have shown, inclusive and adaptive institutions are not only possible but more effective in managing complex systems.

The green economy must not replicate the very systems it claims to replace. A truly just energy transition depends not only on decarbonizing energy systems, but on democratizing resource governance and redistributing environmental risks and benefits. Without these structural changes, the lithium rush may offer cleaner technologies but will leave behind familiar scars—on ecosystems, communities, and democratic institutions.

⁷ Bundesministeriums der Justiz & Bundesamts für Justiz (16.07.2021). [Gesetz über die unternehmerischen Sorgfaltspflichten zur Vermeidung von Menschenrechtsverletzungen in Lieferketten](#).

Verónica Zuccarelli Freire

Max Planck Institute of Geoanthropology (Jena, Germany)

Instituto Regional de Estudios Sociales (IRES)

-Universidad de Catamarca/CONICET (Argentina)

THE COST OF GREEN: WATER, LITHIUM AND TERRITORIAL CONFLICTS IN ARGENTINA

The current boom in lithium extraction in the Andes is often framed through the lens of technological optimism and green transition. Yet beneath these narratives lies a familiar pattern: the deepening of colonial legacies under a new guise of sustainability. The case of Argentina reveals how the pursuit of “clean energy” is reproducing extractive inequalities, violating the rights of Indigenous and rural communities, and reshaping fragile ecosystems in the name of global decarbonization.

In the north of Argentina, what might seem like an empty white desert is, in fact, a living landscape. Across these salt flats—known locally as *salares*—numerous Indigenous communities have lived for millennia. They harvest salt, breed llamas, cultivate high-altitude, drought-resistant crops, and maintain sophisticated systems of water management. In recent years, these communities have been demanding free, prior, and informed consent for the mining projects being developed on their territories. Their message is clear: these lands are not empty, and their future should not be decided without them (Figure 1).

Despite this, such territories are often represented as “sacrifice zones,” unproductive and thus expendable.¹ Even well-intentioned scientific articles reproduce this view by describing the “lithium triangle” of Argentina, Bolivia, and Chile as an uninhabited desert.²

This framing erases the social and ecological complexity of these regions. Paradoxically, those who contribute least to global carbon emissions are now paying the highest price for the energy transition,

¹ Svampa, M. & Viale, E. (2014). *Maldesarrollo: La Argentina del extractivismo y el despojo* (1st ed.). Buenos Aires: Katz Editores.

² Đorđević, D., Tadić, J.M., Grgur, B. et al. (2024). “The Influence of Exploration Activities of a Potential Lithium Mine to the Environment in Western Serbia.” *Scientific Reports* 14.

both through the impacts of climate change and as providers of the raw materials intended to mitigate it.³ A just transition must recognize that the Andes are not void spaces, but inhabited and historically shaped landscapes.



Figure 1. Banner placed by Indigenous communities at Salinas Grandes (NW Argentina) opposing lithium exploitation. Thirty-eight communities demand protection under the ILO Convention 169 since 2010.⁴

In Argentina, lithium is present in both pegmatites and salt flats. This abundance of mineral wealth has been described as a potential pathway to development, but under current political and economic structures, the benefits elude local or national populations. The abundance of resources sustains a persistent regime of environmental injustice, shaped by both national and international interests. Today, eight lithium mines are active or expanding, while forty-six more are under development.⁵ Among them are projects led by multinational corporations such as Rio Tinto, which are expanding operations toward the Salinas Grandes, one of Argentina's most emblematic natural attractions, and into areas legally protected as national biodiversity parks or glacier reserves (Figure 2). These designations, however, seldom impede mining authorizations.

³ Svampa, M. & Viale, E. (2014). *op. cit.*

⁴ Delfino, E. (2024). "Salinas Grandes, The Puna that Resists the Arrival of Lithium Mining." *Pulso Ambiental Magazine* 22 – [Who Defends the Environment in Argentina?](#), 6–10. Fundación Ambiente y Recursos Naturales (FARN). Licensed under CC BY-NC-ND.

⁵ [El Servicio Geológico Minero Argentino \(SEGEMAR\)](#) (2024).

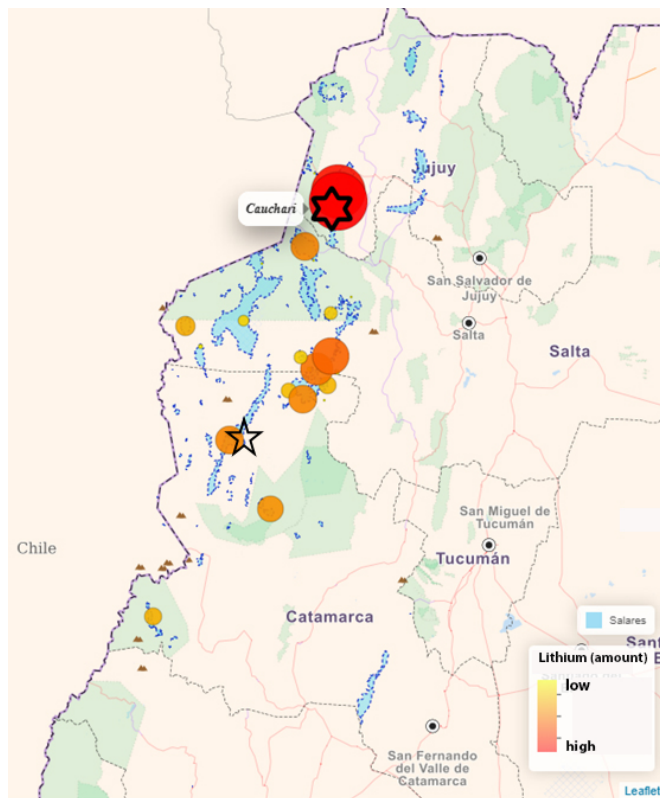


Figure 2. Location of lithium projects, (adapted from SEGEMAR, Argentina). The star marks the location of concessions of Rio Tinto. The green areas indicate protected RAMSAR sites and national parks.

Salt flats may appear static and lifeless, but they are integral components of endorheic basins, that are unique hydrological systems that connect wetlands, groundwater, precipitation, and biodiversity. Lithium extraction disrupts these delicate balances. The evaporation process used to separate lithium from brine consumes enormous volumes of water. As saline and freshwater layers mix, hydric collapse occurs, leading to the degradation of ecosystems that depend on scarce freshwater resources.⁶ In this sense, lithium mining is not only the mining of minerals; it is the mining of water.

The three countries that form the lithium triangle—Bolivia, Chile, and Argentina—have adopted contrasting approaches to resource governance. Bolivia and Chile treat lithium as a strategic national resource. Bolivia’s model has been characterized by strong state control, and aimed to export industrialized products such as batteries rather than raw materials. Before the 2019 coup, state-owned enterprises were developing industrial complexes with German and Chinese partners, but these projects were interrupted since the above-mentioned political disruption. Chile, despite facing significant environmental challenges, has established taxation schemes linked to international lithium prices, with revenues intended to be directed toward research, local communities, and mineral industrialization. Argentina, by contrast, has

⁶ De la Fuente, A., Meruane, C. & Suárez, F. (2021). [“Long-Term Spatiotemporal Variability in High Andean Wetlands in Northern Chile.”](#) *Science of the Total Environment* 756.

taken a path of liberalization. Foreign companies hold full concessions for extraction and exportation, while the state retains only about 1% to 3% of the production value. Tax exemptions, long-term fiscal stability, and self-declared export prices further weaken public oversight. Environmental impact assessments are conducted by the very companies seeking approval, raising serious concerns about their impartiality and quality. This regulatory framework reflects a broader neoliberal model that privileges private profit over environmental stewardship and social justice.

The socio-environmental consequences of these extractive projects extend far beyond their immediate sites. By altering the fundamental hydrological balance of the region, lithium mining affects both wildlife and the livelihoods of local communities. Traditional activities such as llama herding, salt harvesting, and the cultivation of Andean crops depend on water availability and the stability of wetland ecosystems. At the same time, the salt flats themselves are of exceptional scientific importance. They host, for example, rare living stromatolites, primitive microorganisms whose ancestors helped oxygenate the Earth's atmosphere billions of years ago. These same organisms are now being studied for their potential to capture atmospheric CO₂, yet their habitats are being destroyed in the name of combating climate change.⁷ Archaeological and ethnographic research in the Puna and the high valleys of northwestern Argentina has revealed how these environments have been shaped by human ingenuity over millennia.⁸ Ancient terraces, irrigation channels, and wetlands testify to long histories of adaptation and water management in extreme conditions. In places like Cusi Cusi, Jujuy, fluvial wetlands (*vegas*) combine natural and artificial elements, forming crucial grazing areas and reservoirs. Local communities continue to maintain and expand them, ensuring biodiversity and water conservation. (Figure 3) Such practices demonstrate a form of environmental governance rooted in reciprocity and care, rather than extraction and accumulation.

When low population density is invoked to justify mining expansion, it obscures the immense ecological value of these practices and the communities that sustain them.

⁷ Farías, M.E., Rascovan, N., Toneatti, D.M., Albarracín, V.H., Flores, M.R., et al. (2013). [“The Discovery of Stromatolites Developing at 3570 m above Sea Level in a High-Altitude Volcanic Lake Socompa, Argentinean Andes”](#). *PLOS ONE* 8(1).

⁸ Vaquer, J.M. & Pey, L. (2022). [“Towards a Dialogical Archaeology: An Andean Perspective on Hermeneutics, Interpretation and Political Praxis”](#). *Antiquity* 96(385): 179-193.



Figure 3. Agrarian landscapes in Cusi Cusi (Andean Highlands of NW Argentina) where wetlands are managed by Indigenous communities to sustain agriculture and lama herding in arid environments at 3800 m.a.s.l. (Credits: V. Zuccarelli Freire)

This Andean ethic of life, often described as *mutual nurturing*, expresses an ontology of coexistence between humans, mountains, water, and other living beings. It offers a radically different understanding of sustainability—one that emphasizes dialogue, interdependence, and continuity. In the community of Orqos Runas (Cusi Cusi, Argentina), for example, farmers rebuild ancient terraces to grow maize, quinoa, and potatoes at nearly 4000 meters above sea level. Others produce textiles from their own llamas, using natural dyes, or cultivate native crops in home gardens. These practices not only sustain livelihoods but also embody living archives of ancestral knowledge, maintaining ecological balance through collaboration with, rather than domination over, the landscape.

Despite these forms of resilience, the pressures are intensifying. Several companies operating in northwestern Argentina have faced complaints from Indigenous and rural communities over abusive working conditions, water contamination, and tax evasion. For example, Livent was fined for exporting raw minerals to its own subsidiaries at under-declared prices but continues to operate with minimal accountability. Furthermore, in June 2023, the provincial government of Jujuy re-

formed its constitution without prior consultation with Indigenous peoples, threatening communal land rights and even prohibiting public demonstrations. The Inter-American Commission on Human Rights condemned the excessive use of force against peaceful protests, yet repression persists.

At the national level, Argentina continues to accumulate public debt under neoliberal administrations,⁹ while the International Monetary Fund and foreign governments frequently emphasize the country's "rich natural resources" as collateral. Lithium thus becomes a symbol of the contradictions embedded in the global energy transition—a "green" solution built on the same extractive logics that have long underpinned colonial economies.

The Andean highlands remind us that landscapes are not inert backdrops but living archives of human-environment relations. They hold the memory of long-term sustainability, based on reciprocity rather than exploitation. To treat these territories as empty, and their inhabitants as obstacles to progress, is to erase the very practices and ethics that could guide more just and resilient futures. A truly sustainable energy transition must begin by acknowledging that the Andes are inhabited—not only by people, but by histories, knowledges, and ecologies that the world cannot afford to lose.

⁹ During Mauricio Macri's presidency, Argentina acquired ca. 40 billion dollars from the IMF surpassing a law that implied assessing this acquisition through the congress votes. In 2025, Javier Mile's administration acquired an additional 20 billion under the same mechanism.

BEYOND AN EXTRACTIVIST LOGIC? THE CONTESTED EXPANSION OF CHILE'S LITHIUM FRONTIER

Introduction

Chile occupies a paradoxical position in the global energy transition. As the world's second-largest lithium producer and holder of the largest currently exploitable reserves, the country has become essential infrastructure for low-carbon futures imagined elsewhere. Yet lithium extraction remains geographically concentrated in the Salar de Atacama, where since the 1980s two corporations—SQM (Chilean-Chinese) and Albemarle (American)—have extracted and evaporated vast quantities of mineral-laden groundwater to produce lithium in one of Earth's driest regions as the Atacama Desert.

The 2022 election of Gabriel Boric's progressive government, emerging from Chile's 2019 Social Outburst with its demands for greater public control over natural resources, appeared to herald fundamental change. The 2023 National Lithium Strategy (NLS) promised not merely to scale up production but to transcend what it explicitly termed "an extractivist logic", advancing the generation of productive linkages to overcome the primary export character of the country's economy. Presidential rhetoric was ambitious: Chile would reclaim global lithium leadership—lost to Australia in 2015—while ensuring "sustainable development" through technological innovation, value addition, and enhanced protections for ecosystems and Indigenous communities.

Yet beneath these aspirational declarations lie profound contradictions. The NLS aims to expand the lithium frontier to approximately 69 salt flats and lagoons beyond Atacama, opening many for exploitation under various public-private partnerships. This expansion raises fundamental questions: Can these transformative strategies dependent on expanding mining operations to new territories achieve "more just" extraction, or do they merely produce "just more" extraction under green rhetoric?

State Control and Private Accumulation

The NLS establishes a tripartite classification system dividing salt flats into “strategic,” “flexible,” and “open” categories. Strategic salt flats—including Atacama and Maricunga—are reserved for majority state-owned companies, primarily CODELCO. Under this framework, CODELCO partnered with SQM to quintuple Atacama production and extend operations until 2060. Critically, CODELCO acquired Minera Salar Blanco’s Maricunga project, where private companies had received environmental approval in 2020 without proper Indigenous consultation partnered with Rio Tinto to advance extractive projects.

“Flexible” salt flats involve public-private partnerships led by state companies with private minority stakes. Companies like Rio Tinto, BYD, and LG have been shortlisted for partnerships. “Open” salt flats are available for private companies seeking Special Lithium Operating Contracts (CEOLs), with six prioritized and government pursuing accelerated timelines to conclude agreements before March 2026.

This architecture reveals fundamental contradictions: while increasing nominal state control, the NLS +simultaneously enables dominant private corporations to exploit new lithium territories. The state’s role becomes less direct operation than facilitation of private accumulation through partnerships transferring substantial control and benefits to capital.

Historical Dispossession and Brine-Grabbing

Lithium expansion builds upon historical geographies of dispossession, structuring resource extraction in northern Chile for centuries. Legal fictions of *terra nullius* and *aqua nullius*—designating Indigenous lands and waters as empty and ownerless—enabled successive mining enclosures from saltpeter through copper to lithium. Most salt flat ecosystems with lithium potential lie within or near territories that Aymara, Quechua, Atacameño, and Colla Indigenous communities have occupied through cattle raising, transhumant grazing, and plant gathering. Yet colonial and post-colonial registration systematically erased these patterns, classifying territories as “fiscal property.”

Although Chile’s 1993 Indigenous Law theoretically provides for communal property recognition, implementation has been minimal. As one Colla member explained: “Only a few streams were registered as Indigenous in the mid-1990s. By then, much land along traditional

routes had been privatized and mining concessions granted. Lands were fenced off, routes lost, waters dried up. Fewer people maintained traditional practices.”¹ This progressive abandonment, accelerating urban migration and cultural assimilation, cannot be separated from mining enclosure’s material infrastructure.

In Salar de Maricunga, fiscal registration dates to 1964 despite documented Indigenous use since the mid-19th century. Water rights have been perpetually assigned to private companies while the state granted perpetual mining concessions covering entire salt flat surfaces. Lithium adds a novel dimension: legally classified as mineral rather than water, brine can be appropriated under mining concessions even in overexploited watersheds. This legal alchemy—transforming integrated hydrological systems into separable “resources” subject to different property regimes—facilitates “brine-grabbing,” a form of green resource capture appropriating mineral-laden groundwaters sustaining salt flat ecosystems.

A CEOL signed with CODELCO in 2018 authorized Maricunga mining until 2057. Yet increased state presence does not necessarily translate into Indigenous recognition. President Boric’s statement crystallizes this contradiction: “No one owns the wealth in the territory, not even the communities that inhabit it, because these must benefit all Chileans”²—subordinating local claims to national development imperatives while presenting extraction as collective good.

Fast-Track Consultations and Manufactured Consent

The NLS explicitly commits to binding Indigenous consultation before signing CEOLs, positioning this as a fundamental departure from past practices. Yet implementation reveals how procedural improvements coexist with substantive limitations constraining meaningful participation.

When Minera Salar Blanco (MSB) and Simco submitted environmental assessments for lithium projects in Maricunga in 2018, both asserted their activities would not disturb Colla Indigenous Communities (CICs). MSB consulted only with distant Diego de Almagro communities supporting the project, excluding “territorial CICs” that opposed extraction.

¹ Interview with member of Colla community of the Atacama region, September 2023.

² Speech by President Gabriel Boric in Berlin to German NGOs. June 11, 2024, Berlin, 2024.

The Environmental Assessment Service approved both projects in 2020 despite objections. Only after the Supreme Court ruled in favor of CICs in 2022, requiring retroactive consultation under ILO Convention 169, did formal processes begin. Yet even court-mandated consultation proved problematic, with members reporting “discussions on the new CEOLs are focused on compensation rather than halting the project” and expressing distrust: “With or without consultation, our knowledge on the territory is excluded.”³

The Boric administration’s approach represents both continuity and change. While introducing prior consultations across ten salt flats, the process remains temporally constrained. The government seeks to close CEOLs before March 2026, creating pressure for fast-track consultations. As sources acknowledged: “Our idea is to close CEOLs before this government ends.”⁴ Experts consider this timeline “unrealistic given the time required for meaningful consultation.”⁵ Nevertheless, to date, some consultations have been closed, like the one for SQM/Codelco extension agreements in Salar de Atacama, considering approximately US\$150 million per year for the participant Indigenous communities.

For some actors, consultation content further circumscribes autonomy. Discussions center on economic compensation—benefit percentages, cultural funds, training—rather than fundamental questions about whether extraction should proceed. When CIC leaders proposed “consultations should grant Indigenous groups the right to designate CEOL recipients,”⁶ the government stated this “will not be subject to consultation.”⁷ The framework thus often channels participation toward predetermined outcomes, offering negotiation over extraction terms while foreclosing debate about extraction itself.

Ecosystemic Sacrifice and False Solutions

Salt flats are complex hydrogeological systems essential for biodiversity conservation in arid zones. Among 69 saline systems identified in the NLS, only twelve have national protection covering just 17.8% of total area. Seven are Ramsar priority conservation sites supporting

³ Interview with member of Licanantay (Atacama people) community of the Antofagasta region, March 2024.

⁴ Interview with executive from the Ministry of Mining, June 2024.

⁵ Interview with expert consultant on mining and communities, August 2024.

⁶ Interview with member of Colla community of the Atacama region, September 2023.

⁷ Interview with executive from the Ministry of Mining, June 2024.

[illegible]

Figure 1: Salt flats distribution in Northern Chile.
The author's elaboration, based on the [Government of Chile](#) (2024) and [Sernageomin](#) (2024).

The Maricunga salt flat for example, is partially protected by Nevado Tres Cruces National Park, approximately 28% enjoys formal protection while northern areas remain open to extraction. When MSB and Simco submitted assessments in 2018, their hydrogeological models claimed brine extraction from deep aquifers would not affect shallower aquifers sustaining wetlands. Yet stakeholders identified inadequate data, and Simco later admitted the clay layer supposedly isolating wetland aquifers might not function as claimed. Despite concerns, environmental approval proceeded with monitoring plans—a reactive rather than precautionary approach.

This pattern replicates Atacama dynamics, where contested models proved inadequate and recent non-compliance has resulted in ecosystem damage. As water agency officials acknowledged: “In Ataca-

ma, exploited since the 1980s, we still don't fully understand how the system works. For other salt flats, information is worse. To anticipate industrial extraction will be harmless borders on science fiction."⁸

The NLS attempts to address critiques through establishing a "Network of Protected Salt Flats" covering 30% of surfaces and mandating technologies like Direct Lithium Extraction (DLE) and brine reinjection. Yet both mechanisms reveal contradictions. Protected areas still permit extraction where pre-existing permits exist. Experts characterized DLE and reinjection as "false technological solutions," noting that "re-injections serve to enrich brines, allowing companies to extract more while claiming to mitigate impacts. DLE requires significant water and energy inputs with unknown long-term effects."⁹ The contradiction crystallized when CODELCO acquired MSB's Proyecto Blanco, which relies on conventional brine extraction-evaporation rather than "sustainable technologies" the NLS purportedly mandates.

Failed Industrialization and Perpetuated Inequality

The promise of transcending extractivism rests substantially on industrial policy: value addition through battery and cathode production, technological capacity building, and productive linkages. Yet companies granted contracts to produce batteries in Chile have begun abandoning these projects, exposing the fragility of strategies depending on private capital's voluntary participation. The failure of productive chain development returns Chile to familiar patterns: raw material export without added value, classic extractivism despite the "green" label.

Benefit distribution mechanisms foster the production of extractive subjectivities and might compounds rather than mitigate inequalities. In Atacama, Albemarle allocates 3.5% of annual sales (approximately US\$38 million in 2023) to eighteen Indigenous communities, while SQM contributes US\$10-15 million annually that could reach US\$150 annually under the new SQM/Codelco contract. These "shared value" agreements receive mixed responses due to insufficient community control, internal tensions about its distribution and lingering environmental harm.

⁸ Interview with professional from the General Directorate of Water, October 2023.

⁹ Interview with an academic specializing in salt flats and mining, March 2024.

In Maricunga, Proyecto Blanco negotiated with three Diego de Almagro CICs, committing 0.3% of annual sales while excluding broader CICs. Simco offered agreements including cultural funds, but four of six CICs rejected these terms, stating: “We were not willing to put a price on our land, territories, and natural resources.”¹⁰

The regional context amplifies contradictions. Atacama Region (where salt flats like Maricunga are sited) is Chile’s third-largest mining GDP contributor yet has second-highest multidimensional poverty. Local Indigenous community members articulate this paradox: “Here in Tierra Amarilla, surrounded by eight mining companies, we lack hospitals or educational institutions. Young people must leave. We face daily environmental impacts, unbreathable air, and scarce opportunities. This could be our salt flats’ fate.”¹¹

The complexity of Indigenous responses defies simple narratives. As one community member explained: “Those who don’t negotiate end up with nothing. So they conclude opposing serves no purpose. It’s the dissenters who lose.”¹² Another articulated strategic pragmatism: “We must position ourselves strategically. This is not about simply refusing or accepting; it’s about managing the reality that this will probably happen and trying to minimize harm, preserve our culture.”¹³ These positions reflect the ambivalent and constrained agency of communities navigating extractive enclosure with limited institutional power to refuse it entirely (Figure 2).

Conclusion

The Chilean case reveals profound tensions resource-rich peripheral countries face when attempting to leverage green commodity advantages toward development genuinely transcending extractivism. Despite explicit commitments to moving beyond extractivist logic, the National Lithium Strategy reproduces core dynamics of dispossession, exclusion, environmental degradation, and entrenched inequality. The NLS represents continuity masked as rupture: green sacrifice zones multiply despite sustainability rhetoric; fast-track consultations produce consensus around extraction terms rather than enabling deliberation about whether extraction should proceed; technological

¹⁰ Interview with member of Colla community of the Atacama region, July 2024.

¹¹ Ibid.

¹² Interview with member of Licanantay (Atacama people) community of the Antofagasta region, March 2024.

¹³ Interview with member of Colla community of the Atacama region, September 2023.

fixes promise salvation while deferring engagement with ecosystemic limits; industrial policy ambitions collapse, returning to raw export; benefit-sharing offers monetary compensation while leaving intact fundamental power asymmetries. Yet the NLS also embodies genuine advances: prior consultations, however flawed, represent institutional recognition previously absent; territorial planning, however inadequate, exceeds past approaches; state participation requirements establish principles of public control; environmental commitments create baseline standards. These advances matter even as they fall short of transformation.



Figure 2: “Do I drink lithium? Do I eat copper? Protect the territory”. Intervention in advertising space on the route between Calama and San Pedro near the Atacama Salt Flat, Chile.

Beyond Chile and beyond lithium, the case illuminates broader green extractivism dynamics. The patterns documented—brine-grabbing as layered dispossession, controlled participation as manufactured consent, technological fixes as deferred accountability, failed industrialization—recur across lithium and other kind of so-called green proj-

ects globally, suggesting these contradictions are structural features of green transitions organized through capitalist accumulation rather than Chilean specificities.

As Chile's government races to close contracts, as companies abandon industrial commitments while maintaining extraction rights, as consultations proceed under accelerated timelines, the founding question returns: Can expanding extractive frontiers achieve "more just" extraction, or merely produce "just more" extraction? The evidence suggests that without fundamental transformation of political-economic structures and logics governing and pushing for more and more extraction—transformation encompassing genuine Indigenous sovereignty, radical environmental precaution, and alternative or degrowth based development models not dependent on mineral extraction and exports—the promise of moving beyond extractivism will remain a perpetually deferred horizon, a legitimating discourse masking old inequalities under new green banners.

Mariana Riquito

PhD Candidate, University of Amsterdam; Junior Researcher
Centre for Social Studies, University of Coimbra

CHALLENGING THE GREEN TRANSITION'S INEVITABILITY AND WEAVING OTHER FUTURES FROM THE BARROSO MOUNTAINS

In 2019, the European Union (EU) launched its “growth strategy,” the European Green Deal, and newly-elected President of the European Commission, Ursula von der Leyen, pledged that Europe would become the first climate-neutral continent by 2050. Framed as a forward-looking plan for a green future, this policy trajectory leaves unchallenged the logics of hyper-productivism and overconsumption, while driving an expansion of extractivist endeavours. Central to this push is a dramatic rise in demand for so-called “critical minerals,” namely lithium, cobalt, graphite, copper, and nickel. To secure domestic supply and reinforce its geopolitical autonomy, the EU adopted the Critical Raw Materials Act (CRMA) in 2024, setting binding targets for mining, processing, and recycling within Europe’s borders. This Act, the fastest-ever piece of legislation passed in EU history,¹ enables fast-track mining approvals, channelling of European funding to “strategic” projects in extraction, processing and recycling, all the while sidelining environmental protections and public consultation rights. Crucially, the rush for critical materials is not confined to policy papers: it is being enacted in territories, where communities’ ways of life are deeply intertwined with the land now targeted for extraction. In Covas do Barroso, a small village in northern Portugal, these tensions are starkly visible. Over the past eight years, inhabitants have resisted attempts to open what could potentially be Europe’s largest lithium mine on their ancestral lands. In doing so, they not only challenge the dominant green transition policies but also open a space to imagine – and begin to inhabit – futures beyond the confines of green extractivism, showing that another way of living-with the land, and another path for the future, is possible.

¹ Investigação Europa (25.3.2025). [O Jogo das Minas](#).

Nestled among mountains, meadows, and rivers, Covas do Barroso is a village in northern Portugal, in the mountainous rural region of Trás-os-Montes (Figure 1). Covas is considered the “prime jewel” of Barroso, the only region in Portugal recognized by the United Nations Food and Agriculture Organization (FAO) as a site of World Agricultural Heritage and as a Globally Important Food and Agriculture System. This classification, granted in 2018, celebrates inhabitants’ ancestral agricultural methods and communitarian practices, including the ownership and management of communal lands, *baldios*, recognizing how these practices contribute to the preservation of a diverse bio-cultural landscape.



Figure 1. View of Covas do Barroso from the sightseeing point ‘Olhar do Guerreiro.’ July 15th 2023. Source: Mariana Riquito

At the very moment Barroso was being celebrated for sustainable land use and a harmonious occupation of place, inhabitants discovered that their “little corner,” as they sweetly name it, had been earmarked for what could become Europe’s largest open-pit lithium mine. The news were received over the phone, with an emigrant calling home from London after reading it in an English newspaper.

The alarm bells rang at this point. Months earlier, inhabitants recall company representatives knocking on doors seeking access to private and communal lands for prospecting, claiming they already had all necessary governmental approvals. Inhabitants initially accepted, but, when the news came from London, and seeing the extensive damage caused by these prospections, they suspected something bigger was underway. Alarmed, they began piecing together what was happening. They knew that in 2006 the Portuguese state had signed a concession for quartz and feldspar extraction – the “Mina do Barroso” – covering 120 hectares, 16 hectares of which were the object of a rental agreement between the company and the Communal Lands Board. However, that exploration had always been inactive. As they were getting organised, they learned that, in 2016, the State signed an addendum, expanding that concession to 548 hectares and adding lithium to the contract. In 2017, those concession rights passed to Slipstream Resources, a joint venture with Savannah Resources, created specifically to develop the lithium mining project. Savannah Resources is a stock-exchange company, listed and regulated on the London Stock Exchange’s Alternative Investment Market (AIM), and it currently owns the “Mina do Barroso” project through its wholly-owned Portuguese subsidiary, Savannah Lithium, LDA.

Realizing the scale of the threat, inhabitants managed to stop those initial prospecting works in 2018, and resistance has continued ever since. From the start, my companions in Covas lament that transparency was scarce, or even inexistent, feeling especially their voices were neglected and dismissed. In June 2020, Savannah Resources submitted an Environmental Impact Assessment (EIA) for the Expansion of the Mina do Barroso, which foresaw enlarging the concession area to 593 hectares, and was declared “non-compliant” by the Portuguese Environment Agency (APA) twice. In January 2021, Montescola, a Galician NGO, formally requested access from the APA to all documents related to the “Mina do Barroso” contract, including the EIA submitted by Savannah, which APA ignored. In March 2021, the Portuguese Commission for Access to Administrative Documents (CADA) issued a definitive opinion demanding that APA provides the documents within ten days. Even then, the APA ignored the order and did not release the documents.

At the time, a UN complaint over inadequate public consultation was also filed, culminating, four years later, in August 2025, in a ruling by

the UNECE Aarhus Convention Committee² that those Portuguese agencies had violated the treaty, backing up locals' worries about the lack of transparency.

When Savannah's initial EIA was released for public consultation in April 2021, it received an overwhelming majority of negative opinions from the public. In June 2022, the Evaluation Commission of APA categorically rejected Savannah's project, due to the "very significant and irreversible negative impacts" of the project on the landscape, hydrology, and ecosystems.³ However, the Directorate-General for Energy and Geology (DGEG) did not endorse this opinion, arguing, in their voting, that "Lithium is a mineral that plays a central role in the entire agenda of the energy transition and the decarbonization of the economy, (...) the strategic relevance of lithium is indisputable".⁴ This statement exemplifies how, despite any anticipated socioecological impacts, recognized by the environmental governmental agency, lithium is framed as *indispensable*. The continuous use of terms such as "key," "essential," "strategic," "critical," "imperative" creates a rhetoric of inevitability surrounding lithium extraction. The concept of "critical raw materials" itself has its origins in the military-industrial complex and precisely reproduces its warlike ethos: an ethos grounded in urgency and security. Within this logic, what is *critical* is not merely important, but *vital*, and therefore non-negotiable. Once framed in these terms, these decisions become unquestionable – an imperative rather than a choice. This discourse of inevitability ultimately sacralises such decisions, rendering them unquestionable, especially because they are legitimized and backed up by the epistemological hierarchy of Western science, namely climate science, regardless of its ecological, environmental, human, and social consequences.⁵

Following DGEG's voting, Savannah was given another opportunity to reformulate its project and the company submitted a reformulated EIA in March 2023. This second public consultation registered a record number of 916 submissions, more than 98% expressing rejection of the project. Despite widespread public protest, the APA issued a conditional approval for the project's Environmental Impact Assessment (DIA) on May 31, 2023. In its current formulation, the project

² UNECE (22.8.2025). [ACCC/C/2021/186 Portugal](#).

³ Parecer da Comissão de Avaliação (June 2022). ["Ampliação da Mina do Barroso" \(AIA 3353\)](#).

⁴ Ibid., 312.

⁵ Riquito, M. (2023). ["Beyond the Master Narrative of 'Green' Modernity: A Critical Reading of the Energy Transition"](#). *Relações Internacionais* Special Issue: 23–34; Riquito, M. (2022). "Futuro Minado? Não, obrigado!". In: *FURO*. Vale de Gato, M., Manso, M. & Marques, N. (eds.), Sertão: Casa de Gigante, 98–106.

consists of four open-pit mines, a processing plant operating 24/7, and multiple waste tailings dams, in a total area of 592 hectares. The biggest open-pit would be located less than 500 meters from people's homes. Soil, air, and water pollution and contamination, as well as the potential loss of biodiversity and endangering of protected species are amongst locals' biggest fears. More so, and fundamentally, inhabitants perceive and experience this project as an existential threat to their way of life, based on, notably, ancestral irrigation and farming techniques, small-scale farming, and communal land usage and management.⁶

With a DIA in hands, Savannah must now complete the RECAPE (Environmental Compliance Report), proving they can meet the conditions imposed by the DIA, one of which is conducting additional conduct exploratory drilling, something which had been halted since 2018, when inhabitants stopped the initial prospections. In July 2023, the company sent letters to seven private owners and to the Parish Council and an email to the Communal Lands Directive Board, requesting permission to carry out prospecting work for six months in their respective fields. All of them refused. Unable to gain access to these plots of land, in November 2023, Savannah tried to enter a plot of land inhabitants claim to be *baldio* (communal land), which is subject to an ongoing legal dispute (Figure 2). As soon as it happened, people reacted, gathering in their mountains, and preventing the machine from working. Little did they know that this machine blockade would end up lasting for seven months.⁷

For seven months, people held off the company's excavator in a remote, hard-to-reach place, enduring heavy rain and biting cold. Organizing themselves into morning and afternoon shifts, usually two people were always together, ensuring no one would stand guard alone. Each day, they placed their bodies directly on what they claimed as *their* land, claims grounded in lived memory, customary use, and the stories passed down through generations – the very practices through which legitimacy over the baldios is continually made.

⁶ Riquito, M. (2025). "[Barroso is Not to Be Sold, it is to Be Loved and Defended:](#)" *Affective Mobilizations for Land and Life in the Context of Green Extractivism*. *Capitalism Nature Socialism* 36(4): 27–51.

⁷ Riquito, M. & da Montanha, J. Yes To Life No To Mining (2024). [New Tales from the Barroso Mountains: Usurpations, Intimidations and Resistances](#).



Figure 2. The plot of land carved with the company's excavator, November 16, 2023. Source: Mariana Riquito

Preventing the machine from advancing with their own presence, they transformed their bodies into a political territory. This political territory, however, does more than simply resisting mining expansion – food and drink was shared, stories were told, card games were played. At one point, a vegetable garden was planted there, a beautiful act of re-sowing life into soil that had been razed by the company's excavator (Figure 3). During the *bloqueios*, by practicing care, communing, and solidarity, other forms of inhabiting and claiming the baldios emerged – forms that reasserted belonging, endurance, and presence, ensuring the reproduction of life, instead of its destruction.

When Savannah finally withdrew its equipment in May 2024, a deep breath was taken. This relief, however, proved short-lived. In December 2024, inhabitants were informed by the GNR (police) that an administrative easement (*servidão administrativa*) had come into effect, granting the company one year of access to private and communal lands. A precautionary injunction (*providência cautelar*) temporarily suspended this measure in February 2025, but two weeks later the Ministry of Environment issued a reasoned resolution (*resolução fundamentada*) in the name of national interest, revalidating the easement.



Figure 3. The sowed vegetable garden, March 22, 2024. Source: Mariana Riquito

Since then, Savannah has continued to operate daily on private and communal lands – lands which have sustained, and continue to sustain, generations of livelihoods – backed not by community consent, but by the power of the State. In January 2025, the company announced it had filed for expropriation of the baldios, designating it a “perfectly normal step,” dismissing the bureaucratic, symbolic, material, epistemic violence behind extractivist endeavours. Furthermore, in March 2025, the project was elevated to “strategic” status under the EU’s CRMA, making it eligible for fast-track approval and European funding. This designation, contested by local and European organizations,⁸ as well as the recent decisions of the Ministry of the Environment actively reveal how lithium extraction is a policy priority within the energy transition agenda in Portugal and in the EU.

Meanwhile, the near-daily presence of police forces, private security patrols, and newly installed surveillance cameras has produced a geography of fear in Covas – one designed to deter dissent and normalize control. These mechanisms are not incidental but integral to the extractivist apparatus itself, reproducing the familiar patterns of surveillance, intimidation, and criminalization that accompany resource frontiers elsewhere. In Covas, as in many extractive contexts, corporate and state power converge through legal action, policing, and psychological pressure to silence resistance. The company’s lawsuits against environmental defenders exemplify this strategy of re-

⁸ ClientEart (12.6.2025). [Request for Internal Review - Covas do Barroso Mine.](#)

pression. Contrary to the self-image of Europe as a bastion of human rights and “best practices,” Covas exposes how the coercive arms of the State and the Law can be mobilized to enforce extractive imperatives, justified under a green banner, and suppress communities asserting their right to determine their own futures, one not determined by growth’s insatiable appetite.

The use of administrative easements, the attempts at expropriation, and the deployment of State police carries chilling echoes of Portugal’s authoritarian past, when peasant communities were violently dispossessed of their *baldios*. What had once been bushes and shrubs where sheep and goats grazed was forcibly transformed into regimented lines of pine trees. This episode was not an exception but part of a longer history of dispossession – one among many moments when the *baldios* were seized in the name of development or progress. Yet such incursions were never met with silence: generation after generation, mountain populations have stood in defence of their communal lands with unwavering determination.⁹ As one farmer from Covas told me once during an interview, “People come together when it is about defending the *baldio*... and it is precisely because of this attitude that the *baldio* has endured to the present day.”

That legacy remains alive in Covas. It is evident not only in the seven-month-long *bloqueio* to protect a single plot of land, which came to symbolize the defence of the entire *baldios*, but even more strikingly in the ongoing eight-year-long resistance. As it is clear by now, those resisting will not yield, for their struggle is inseparable from their very existence: they are who they are because they are *with* this place. As one inhabitant told me once over dinner, “I may die, but I die standing.” Mountains, rivers, animals, and rocks are not mere surroundings – they are part of the very fabric of life itself, shaping and sustaining their way of life for generations after generations. The mining project, thus, threatens the very possibility of being who they are, and the anticipation of mining has already caused a profound affective and existential rupture in their sense of place.

⁹ Castro, I. (2022). “Paiva, Vasco (2020), *O despertar das montanhas. As lutas dos agricultores e povos da montanha antes do 25 de Abril*”. *Revista Crítica de Ciências Sociais* 129: 209–212.; Hespanha, P. (2024). “The Old and New Uses of Communal Lands 1: How to Escape Commodification?” In: Duch-Plana, M. & Pons-Altés, J.M. (eds.), *Social Alternatives in Southern Europe and Latin America: Solidarity, Mutual Aid, and Cooperation in Comparative Perspective (19th-21st Centuries)*, London: Taylor and Francis, 49–72.; Hespanha, P. (2017). “O papel dos *baldios* na revitalização das comunidades rurais”. In: Cravidão, F. et al. (eds.), *Espaços e tempos em Geografia: homenagem a António Gama*, Coimbra: Imprensa da Universidade de Coimbra, 337–361.

As a place-based struggle, this struggle is, however, not place-bound. Recognizing that the push for lithium is not merely a national issue but part of a global reconfiguration of extractive frontiers, the inhabitants of Covas have forged alliances and built bridges, learning-with and being-with other peoples and places threatened by green extractivist displacement. From Spain to Serbia, from Ecuador to Brazil, from France to Finland, communities are coming together to challenge both the proclaimed “greenness” and the supposed inevitability of lithium mining – spreading an urgent call to confront the paradoxes of the dominant green transition and to change its course.

For those opposing lithium mining in Covas, these translocal connections have sharpened their critique of the so-called green transition. Through exchanges with other communities, they have come to see their local struggle as part of a wider confrontation with the contradictions of green capitalism. They recognize that what is unfolding in Covas is not an isolated case but a symptom of a system whose extractive frontiers are expanding everywhere. As one environmental defender put it during one meeting with a political representative, “But our motto has always been this: ‘we don’t want it here, but we want it elsewhere’? No! We understand very well what is happening, and what we reject is the narrative they try to sell us – that we must open mines here so we don’t open them somewhere else. No! We know perfectly well that this is about the model we live under, isn’t it? We keep consuming more and more... We know perfectly well that mines will have to open in Covas and elsewhere too, because we know perfectly well that resources are finite and will not last.”

Through such reflections, people begin to articulate an acute awareness that the green transition is not overcoming nor challenging productivism or infinite economic growth, but rather reconfiguring it. The transition, as currently envisioned, is thus experienced as an “absurdity” – a policy that deepens socioecological harm while claiming to mitigate climate change. They reject the notion that mining, and lithium mining in particular, can “save the planet” or meaningfully reduce emissions, insisting instead that it represents a “false solution.” What is presented as environmental progress appears as more business as usual, a continuation of extractivist and capitalist logics under a new name. This dissonance is felt not only as hypocrisy but as profound injustice, as inhabitants find themselves ignored, silenced, and ultimately sacrificed in the name of sustainability, when their own way of life is what they consider to be truly sustainable.

In resisting displacement and collaborating across places, the people of Covas are traversing—and dismantling—borders. Thinking with Édouard Glissant's *Poetics of Relation*,¹⁰ these borders become a site of transformation, a place where difference is shared, and contamination occurs, in a relational gestures which opens up other possibilities for dreaming of alternative futures. While the “view from nowhere” of dominant decarbonization policies imposes a rushed, urgent, and narrow vision of the future, Covas do Barroso reminds us that the future might just be what already *is*. Ailton Krenak, in one of his recent books *Futuro Ancestral*,¹¹ also provoke us to think about an *ancestral future*, suggesting that the “future” is here, in what persists, in what is worth preserving, and from what we can learn from. Looking closely and being-with these places, who are resisting the dominant green transition agenda, we might begin to feel that the green we so urgently seek already partially exists in their practices, knowledges, and ways of living and relating to the land, and that other futures might be envisioned from the seeds sowed by past generations and cultivated by present ones.

¹⁰ Glissant, É. (1990). *Poétique de la Relation*. Paris: Gallimard.

¹¹ Krenak, A. (2022). *Futuro Ancestral*. São Paulo: Companhia das Letras.

CAN WE MINE OURSELVES OUT OF THE CLIMATE CRISIS? WHY AND HOW TO RESIST EXTRACTIVISM¹

Introduction

Mainstream climate policies are based on the fundamental belief that decarbonisation is possible without systemic change. Whereas advocates of climate action frequently called for a change in the Western consumerist lifestyle, the opposing strategies have prevailed. The climate crisis is presented as an opportunity for business and innovation based on green growth. From this perspective, growth is not only compatible with decarbonisation, but it is in fact deemed essential to achieving it. Technological solutions indeed became safer, more efficient, and cheaper at a staggering pace, from batteries to solar panels. Techno-optimism represents the belief that technological innovation alone will be sufficient for solving the climate crisis.²

Yet while low-carbon energy sources make up an increasing share of total energy production, they only partially offset the growing demand. While the overall share of fossil fuels in energy production has been slowly declining, we can hardly speak of a dramatic absolute drop, which is essential for achieving climate goals. Energy production continues to rise across all sources, including fossil fuels, with the only exception of coal.³ The very concept of an “energy transition” is therefore misleading. Rather, what we are witnessing is “energy addition.”⁴ On the global level, decarbonisation is essentially non-existent. Techno-optimism and green growth are not solving the climate crisis;

¹ An earlier version of this text appeared as a chapter in Czech in the book *Vrchol je dno: Politika pro vyčerpané lidi a planetu* (Peak is the Bottom: Politics for Exhausted People and the Planet).

² Marcos, H. (2025). “Tech Won’t Save Us: Climate Crisis, Techno-Optimism, and International Law”. *Law, Technology and Humans* 7(1): 22-46.

³ New Scientist (4.8. 2021). [How to Understand World Energy Use – in 10 Graphs](#).

⁴ York, R. & Bell, S. E. (2019). “Energy Transitions or Additions?: Why a Transition from Fossil Fuels Requires more than the Growth of Renewable Energy”. *Energy Research & Social Science* 51: 40-43.

they are deepening it. The growing demand for energy is increasing the need for the so-called critical raw materials (CRMs) such as lithium, cobalt, nickel, or rare earth metals, which are key components of low-carbon technologies.

There is a profound mismatch between the projected demand for CRMs and their current availability.⁵ The green transition based on technofixes would require an unprecedented increase in mining production. The European Commission estimates that by 2050, demand for lithium could increase twenty-one times compared to 2024.⁶ CRMs are also central to digitalisation as well as aerospace and defence industries, and their importance is growing with the rising geopolitical tensions. Yet the extraction of these raw materials – just like mining in general – is one of the most polluting human activities, causing widespread environmental destruction and pollution of water, soil, and air. It also leads to conflicts with local communities, endangers their health, and harms entire ecosystems.⁷ The mining sector is one of the largest emitters of greenhouse gases, responsible for 4–7% of global emissions.⁸

The vision of green transition based on growth and extractivism is thus in direct contradiction with a just ecological transition. Communities affected by the new wave of mining projects are pointing precisely to these contradictions between supposed decarbonisation on one hand and the experienced violence and pollution on the other, such as is the case in Serbia.

The biggest lithium mine of Europe, which won't be

The war in Ukraine and growing awareness of China's dominance in low-carbon technologies have deepened concerns about the EU's material sovereignty, security, and competitiveness.⁹ As a result, securing access to CRMs has become one of the EU's priorities, sealed by the adoption of the European Critical Raw Materials Act (CRMA) in 2023. Serbia, an EU candidate country, was to play a key role in this regard. The mineral jadarite, discovered in 2004 in the western part

⁵ International Energy Agency (5.5. 2021). [Clean Energy Demand for Critical Minerals Set to Soar as the World Pursues Net Zero Goals](#).

⁶ European Commission (2024). [Critical Raw Materials Act](#).

⁷ Conde, M. (2017). "Resistance to Mining. A Review". *Ecological Economics* 132: 80-90.

⁸ Delevingne L. et al. *McKinsey* (28.1. 2020). [Climate Risk and Decarbonization: What Every Mining CEO Needs to Know](#).

⁹ Djukanović, N. *AMO* (27.6. 2025). [Material Dependencies: Competitiveness, Security and Socio-Environmental Issues of Critical Raw Materials](#).

of the country, is exceptionally rich in lithium and borates.¹⁰ The Jadar Project, led by Rio Tinto, one of the world's largest mining corporations, has been presented both as a green solution for the EU and a development opportunity for Serbia.

Construction of the largest lithium mine in Europe was set to commence in 2022. Yet the project attracted widespread resistance led by residents of the Jadar Valley, who refused to sell their land, leave their homes, or live next to a mine. The deep attachment of the local community in Jadar to their homes and to the land as a source of livelihood, as well as their desire to protect the environment from the devastation that mining would cause, have led to a wave of protests across Serbia and internationally. The anti-lithium mining movement has been mobilised above all by a profound sense of injustice, with fertile land to be transformed into a mining complex in order for the European upper classes to drive EVs, and for multinational corporations to profit from the extraction of natural wealth. In the autumn of 2021, tens of thousands of people took to the streets across Serbian towns and cities for weeks, blocking major economic arteries such as bridges and highways. Following the months of protest, the government was ultimately forced to officially cancel the project in January 2022.

Despite the project's cancellation, the plans to mine lithium in Serbia were not to be easily abandoned by the national and international interest groups. Only two and a half years later, in July 2024, Serbian political leaders hastily revived the project and signed a Memorandum of Understanding with the EU on "sustainable raw materials, battery value chains, and electric vehicles." In addition to Serbian and European officials, the signing was attended by then-German Chancellor Olaf Scholz and the ambassadors of Germany, Italy, and the United States. Additionally, a Letter of Intent was signed by the chief executives of Mercedes-Benz, Rio Tinto, and InoBat.¹¹ The support of the EU and other international powers for the mining project thus became official, while the interests of major powers and multinational corporations converged.

¹⁰ Stanley, C. J., Jones, G. C., Rumsey, M. S., Blake, C., Roberts, A. C., Stirling, J. A., ... & Lepage, Y. (2007). "Jadarite, LiNaSiB3O7 (OH), A New Mineral Species from the Jadar Basin, Serbia". *European Journal of Mineralogy* 19(4): 575-580.

¹¹ The Government of the Republic of Serbia (19.7. 2024). [Serbia, EU Sign Memorandum of Understanding on Mineral Raw Materials](#).

Resistance, however, has not subsided, and the plans for mining lithium across the country, not only in Jadar, are continuously met with waves of protests. Although activists have been increasingly subjected to arrest, intimidation, and surveillance, including receiving death threats and having their phones spied on using Israeli technology,¹² their resistance has not weakened. The struggle of local communities and their allies, both in Serbia and beyond, represents a fundamental challenge to a “green” transition which is based on endless growth, material consumption and relentless extractivism, and which is, by definition, unjust. The concept of extractivism is key to understanding these dynamics.

Why extractivism and not just mining

What do we mean by extractivism? What is the relationship between extraction and extractivism? In other words, when does the act of extracting raw materials become the logic known as extractivism?

The concept of extractivism originates in Latin America, where peasant and rural communities, Indigenous peoples, activists, academics, artists and many others sought to describe the long history of colonial exploitation of natural resources, primarily by Western empires. Alberto Acosta defined extractivism in the classical sense as “those activities which remove large quantities of natural resources that are not processed (or processed only to a limited degree), especially for export.”¹³ At the same time, understanding of extractivism has expanded, so that the concept is used not only to speak of physical or material extraction but also for instance financial or epistemic¹⁴ extractivism.

¹² Tesic, A. BalkanInsight (16.12. 2024). [Silent Spying: How Serbian Intelligence Hacks Activists' Phones – Without Them Knowing](#).

¹³ Acosta, A. (2013). “Extractivism and Neoextractivism: Two Sides of the Same Curse”. *Beyond Development: Alternative Visions from Latin America* 1: 61-86.

¹⁴ The Indigenous peoples of Latin America speak of epistemic extractivism as the exploitation not only of their knowledge but also of their very ways of thinking, their cultural heritage, and their cosmologies. See: Grosfoguel, R. (2019). “Epistemic Extractivism: A Dialogue with Alberto Acosta, Leanne Betasamosake Simpson, and Silvia Rivera Cusicanqui”. In: de Sousa Santos, B. & Meneses, M. (eds.), *Knowledges Born in the Struggle: Constructing the Epistemologies of the Global South*, London: Routledge, 203-218.

Moreover, extractivism is no longer limited to colonial powers. The massive increase in mining and other forms of resource extraction in Latin America since the late 20th century has often been carried out by states themselves, in close cooperation with transnational capital and international institutions.¹⁵

Extractivism has thus become a dominant development model promoted by both progressive and neoliberal governments, left and right. Although extractivism was also central in the Soviet Union or Yugoslavia, the “commodities boom” has been expanding on a planetary scale since the early 21st century. Extractivism is a foundational pillar of global capitalism. Alexander Dunlap and Jostein Jakobsen use the term “total extractivism” to describe how “how the techno-capitalist world system harbors a rapacious appetite for all life – total consumption of human and non-human resources – that destructively reconfigures the earth.”¹⁶ Extractivism is therefore not merely the act of extracting resources. It is a set of ontological practices and ways of thinking fundamentally reliant on violence in its many different forms, whether against human or more-than-human communities and ecosystems.

But whereas the destruction of the environment through the “traditional” forms of extractivism has long been accepted as the price to be paid for development, the extraction of CRMs represents the “greening” of extractivism. Green extractivism is no longer seen as incompatible with sustainability but rather as a necessary condition for achieving it.¹⁷ The significance of such a shift in perception cannot be overstated. It needs to be understood as a direct result of complex greenwashing by multinational corporations and their allied political forces.

Dominant Western strategies for combating the climate crisis maintain the same consumption patterns as fossil fuel-based economies, rather than seeking systemic change which would dismantle the highly consumerist – and imperial – way of life.¹⁸

¹⁵ Svampa, M. (2015). “Commodities Consensus: Neoextractivism and Enclosure of the Commons in Latin America”. *South Atlantic Quarterly* 114(1): 65-82.

¹⁶ Dunlap, A. & Jakobsen, J. (2020). *The Violent Technologies of Extraction: Political Ecology, Critical Agrarian Studies and the Capitalist Worldeater*. London/New York: Palgrave Macmillian, 1.

¹⁷ Voskoboynik, D. M. & Andreucci, D. (2022). “Greening Extractivism: Environmental Discourses and Resource Governance in the ‘Lithium Triangle’”. *Environment and Planning E: Nature and Space* 5(2): 787-809.

¹⁸ Brand, U. & Wissen, M. (2013). *The Imperial Mode of Living*. London/New York: Verso Books.

What is hegemonically labelled as a green transition is intrinsically dependent on the continual expansion of extractivism – from CRMs to low-carbon infrastructure. Green extractivism thus goes beyond extractivism in its classical sense, legitimising mining, extraction and destruction through moral signalling: whoever opposes green extractivism is considered a hinderer of the fight against the climate crisis.

Sustainable mining in Europe?

“Anyone interested in the green transition, anyone interested in our path toward electrification – and that doesn’t mean just electric vehicles, but also renewable energy – should be an ally of the Jadar project.”¹⁹ These words from the former director of Rio Tinto’s Serbian branch capture the logic of green extractivism. Rio Tinto, like other mining companies, has insisted that it can ensure the highest environmental standards. Green extractivism thus paints mining itself green – with the development of new technologies, environmental impacts are expected to be minimal. Extractivism is thus becoming not only “greener” but also “smarter” with automation and robotisation of mining. Yet such claims stand in stark contrast to the massive wave of deregulation and “simplification” of the EU legislation. Strategies such as the CRMA, along with various national initiatives, aim to speed up the implementation of projects deemed strategic.

The long-standing beliefs about the EU’s superior environmental standards are losing their validity. In March 2025, the European Commission selected a list of 47 “strategic projects” on the extraction and processing of CRMs within the EU, followed by a list of 13 projects outside the EU. The strategic projects are supposed to strengthen the EU’s control of the raw materials’ supply chains, and they are to benefit from fast-tracking and deregulation. The lists include some of the most controversial lithium mining projects such as Jadar in Serbia, Barroso in Portugal, or Cínovec in Czechia.

The rush to open new mines within the EU and in partner countries has not only to do with the proclaimed green transition but also with increased securitisation and militarisation. “[T]he new Strategic Projects contribute significantly to Europe’s green and digital transitions, while supporting Europe’s defence industry and aerospace industries,” writes the European Commission in a press release.²⁰

¹⁹ Nova S (2024). [GOST: Marijanti Babić, Glavna Zastupnica Rio Tinto.](#)

²⁰ European Commission (25.3. 2025). [Commission Selects 47 Strategic Projects to Secure and Diversify Access to Raw Materials in the EU.](#)

The current system, in which wealthy countries of the Global North rely primarily on mining in countries of the Global South, is neither just nor sustainable. The European Union consumes 25-30% of the world's metal production, while making up only 6% of the global population.²¹ Yet moving the production capacities closer to the imperial “core” and partner third countries through onshoring and “nearshoring”²² is not an attempt to correct injustices or to decolonise extractivism in the Global South, but rather a geopolitical race to the bottom and a new expansion of multinational capital. Opening new mines in Europe would not mean closing mines elsewhere. Decarbonisation based solely on low-carbon technologies, remaining in the paradigm of never-ending economic growth, would require an unprecedented amount of CRMs, with mining corporations expanding existing mines and opening new ones wherever possible. The projections are, of course, significantly more dire when considering the immense quantity of materials needed for militarisation, digitalisation and the expansion of AI and data centres.

Concrete policy proposals for meeting climate goals with minimal mining already exist. Demand regulation is necessary through policies of sufficiency – strategies that focus on reducing excessive consumption and strive to meet human needs fairly within ecological limits.²³ Recycling and circularity play a key role, yet circularity cannot be achieved without significantly reducing overconsumption, especially of the wealthiest, the most polluting and the most consuming parts of society. Energy and transport, the two most emission-intensive sectors of the economy, are central here. According to the International Energy Agency, more than 80% of lithium demand in 2040 will be driven by electric vehicles, the vast majority of them private cars.²⁴ A shift away from individual car ownership toward systemic solutions such as public and active transport is needed. Lithium demand in the US could be reduced by up to 92% by 2050 compared to scenarios assuming the highest growth in consumption by lowering car dependence.²⁵ These are not mere behavioural changes, but rather a broader shift toward

²¹ Friends of the Earth Europe (2023). *Mining the Depth of Influence: How Industry is Forging the EU Critical Raw Materials Act*; Marin, D. et al. European Environmental Bureau (2023). *Sacrifice Zones for Sustainability? Green Extractivism and the Struggle for a Just Transition*.

²² Riofrancos, T. (2023). “The Security–Sustainability Nexus: Lithium Onshoring in the Global North”. *Global Environmental Politics* 23(1): 20-41.

²³ Seas at Risk (2021). *Breaking Free from Mining: A 2050 Blueprint for a World Without Mining – on Land and in the Deep Sea*, 5.

²⁴ International Energy Agency (21.5.2024). *Critical Minerals Data Explorer*.

²⁵ Riofrancos, T. et al. (2023). *Achieving Zero Emissions with More Mobility and Less Mining*.

a less energy-intensive and material-intensive economy. Such a transformation would lead to lower energy and material dependence – and thus to greater self-sufficiency and security.

Moving out of the vicious circle of green extractivism

It is seemingly impossible to envision a system which would not be based on infinite economic growth, and with that on continuous extraction. A crucial part of any alternative must also be breaking free from the imperative of extractivism. In Latin America, the anti-extractivist and post-extractivist movements have a long tradition,²⁶ articulating alternatives which emphasise the importance of values such as *buen vivir* – a good life and well-being beyond the destructive logic of extractivism. They thus offer pathways toward liberation from an exploitative relationship with nature and toward genuine *transformation*, rather than mere transition.

Regrettably, parts of the climate movement have struggled to articulate a critical position towards green extractivism. Communities are far from equal even within Europe, and certainly not between the EU and the rest of the continent. Mining projects are often planned in peripheral areas and on Indigenous lands, such as in the Sápmi region of northern Europe. Those communities that are the most affected by planned mining projects are among the very ones least responsible for the climate crisis. Today, Western countries are abandoning even these non-systemic green policies based on technofixes. The promise of the green transition has been almost entirely replaced by the rhetoric of geopolitical rivalry, militarisation and economic growth based on digitalisation. Not only is it the case that growth-based climate policies could have never worked in solving the climate crisis – they are now, regardless, buried under the rise of far-right and genocidal forces.

Faced with the new wave of green extractivism, communities are organising across the Global North-South axis through networks of solidarity that insist on resisting extractivism anywhere. It is this resistance that presents the main obstacle to the uncontrolled expansion of capital and extractivism. Yet far too often are these communities left to fend for themselves, or their struggle becomes coopted by right-wing demagogues and climate change deniers.

²⁶ Acosta, A., et al. (2016). "Post-Growth and Post-Extractivism: Two Sides of the Same Cultural Transformation". *Alternautas* 3(1).

At least partially to blame are climate and environmental organisations, which fail to clearly oppose destructive mining projects – regardless of the material that is being mined – and the erosion of environmental protection and democratic participation.

So how to resist the logic of green extractivism? Misleading terms such as “renewable energy sources” or “energy transition” need to be critically interrogated. Energy sources are not entirely renewable – they require raw materials that must be mined somewhere, most often in countries of the Global South, but increasingly so wherever it is possible. And there is no energy transition taking place in the sense of one energy source replacing another – rather, overall energy consumption is growing. Such climate policies are neither sustainable nor just. It is only through resistance to green extractivism that a different kind of future will be possible.

SYSTEM CHANGE OR JUST AN ENGINE CHANGE?



Figure 1. Flooding in the Valley of River Jadar, March 27, 2025. Photo: Stefan Kostić

In May 2014, following intense rainfall, major floods hit the Balkans, especially Bosnia and Herzegovina, and Serbia. The valley of river Jadar in western Serbia was inundated. Upstream from the valley, a disused tailing dam of Stolice antimony mine collapsed, releasing 70,000-100,000 m³ of deposited waste, spilling into the waterways and accumulating along the river banks.¹ The overall damage from the floods in Serbia was estimated at 1,525 billion EUR.² The floods were later found to be linked with climate change.³

¹ Nišić, D. et al. (2024). "[Review of the Failure at the Flotation Tailings Storage Facility of the 'Stolice' Mine \(Serbia\).](#)" *Appl. Sci.* 14.

² UN Serbia, EU, World Bank. (2014). [Poplave u Srbiji 2014.](#)

³ Stadtherr, L. et al. (15.4.2016). [Record Balkan Floods of 2014 Linked to Planetary Wave Resonance.](#) *Sci. Adv.* 2.

The wider region of the Balkans is warming above the world average and is struck by more intense droughts and heat waves, and extreme events such as floods and storms. “While the observed increase in the global average temperature is 1.1°C, Serbia is already at 1.8°C, and in the summer, it is as much as 2.6°C.”⁴

The valley where rivers Jadar and Korenita meet is now a site where the major mining company Rio Tinto Group is attempting to open a large lithium and borates mining and processing project, met with strong opposition. Rio Tinto’s history began with pyrite and copper mining in Andalusia, Spain, in the 1870s. In the 1920s, it began expanding, first into Southern Africa and later across Australia, South-East Asia and Americas. Since its merger with Australia’s CRA in 1962 and the formation of Rio Tinto-Zinc Corporation, it has been one of the largest mining companies in the world. In the process, the company and its subsidiaries have been accused of human rights violations, breaches of indigenous peoples’ rights, anti-unionism, environmental pollution etc.⁵ Activists continue to report and contest the negative socio-environmental impacts of Rio Tinto’s operations in Arizona, Australia, Guinea, Madagascar, Mongolia, and Serbia.⁶

The project in the Jadar Valley has been opposed by local communities and allies across the country and internationally because of a perceived lack of transparent information, the planned “relocation” of the residents, and predicted negative consequences on biodiversity, land, and water. Rio Tinto Group opened its local subsidiary in Serbia in 2001, and discovered the mineral deposit in Jadar in 2004.⁷ Impacts have been documented during the exploration phase, which is considered only a fraction of what could occur if the mine were built.⁸ Yet, the effects of the company’s activities on Jadar extend beyond local activities. The company and its subsidiaries have mined coal in a large scale for almost six decades. According to the Carbon Majors database, Rio Tinto ranks 46th among all entities – state-owned or private – based on cumulative fossil fuel-related emissions since 1854. According to

⁴ Ministry of Environmental Protection, Republic of Serbia (2024). [Climate Change Adaptation Programme for the period 2023-2030](#), 6.

⁵ Moody, R. (1991). *Plunder!* London: PARTIZANS; London Mining Network (1.4.2021). [Rio Tinto Alternative Timeline](#); London Mining Network (February 2000). [Cut and Run: How Britain's top two mining companies have wrecked ecosystems without being held accountable](#); West, R. (1972). *River of Tears. The Rise of the Rio Tint-Zinc Corporation Ltd.* London: Earth Island Limited.

⁶ London Mining Network (31.3.2025). [Investor Alert: MIND THE GAP! Rio Tinto Versus Reality.](#)

⁷ Balkan Green Energy News (20.9.2024). [Jadar Project Timeline: a Full Overview of the Most Controversial Investment in Serbia's Recent History.](#)

⁸ Đorđević, D., Tadić, J. M., Grgur, B. et al. (2024). “[The Influence of Exploration Activities of a Potential Lithium Mine to the Environment in Western Serbia](#)”. *Scientific Reports* 14(1).

these estimates, 0,34% of the total fossil fuel emissions during the period can be tied to Rio Tinto.⁹ In the period 1988-2015, the company was responsible of 0,7% global fossil fuel emissions, ranking 24th.¹⁰ These reports calculate only fossil fuel and cement production, not from other products, an issue to which I return below. Rio Tinto sold its last coal assets in 2018 and thus may argue that their long fossil fuel history is over.

Even without the mine, the Jadar Valley is experiencing severe environmental changes due to the climate crisis. In addition to the catastrophic events in May 2014, the valley has recently suffered floods in 2020, 2023 and 2025. The bioregion, reliant on small-scale farming, is also vulnerable to increasingly frequent droughts, and conditions are projected to get worse during this century.¹¹

The company now claims to “put the energy transition at the heart of [its]business strategy”.¹² In its 2024 Annual Report, “climate change” appears 160 times, compared to only 10 times a decade earlier.¹³ This noticeable change in communication reflects a broader industry shift in which mining companies embrace the material-intensive “energy transition.” In this “transition,” the demand for raw materials, including lithium, is projected to increase significantly to supply low-carbon technologies.¹⁴ The “Jadar” project, for instance, is explicitly marketed as part of climate mitigation efforts.

Rio Tinto presents itself as deeply engaged in decarbonisation. To assess this claim, it is essential to examine at the entire chain of the company, including operational (“direct”) emissions and “indirect” emissions, i.e. emissions “downstream” and “upstream.”¹⁵ This is significant because Rio Tinto’s core revenue-generating products – iron and bauxite/aluminium – are both highly energy-intensive materials.

⁹ Carbon Majors (2023). [Rio Tinto](#).

¹⁰ CDP (6.7.2017). [CDP Carbon Majors Database: Methodology Report 2017](#).

¹¹ See: [Digitalni atlas klime Srbije](#).

¹² Rio Tinto (2025). [Annual Report 2024](#).

¹³ Ibid; Rio Tinto (2015). [Annual Report 2014](#).

¹⁴ Whitmore, A. War on Want (25.3.2021). [Material Transition. Exploring Supply and Demand Solutions for Renewable Energy Minerals](#); Bolger, M. et al. European Environmental Bureau (5.10.2021) [“Green Mining” is a Myth: The Case for Cutting EU Resource Consumption](#).

¹⁵ For more information on the Greenhouse Gas Protocol, and its classification of emissions into Scope 1, Scope 2 and Scope 3 emissions, see: <https://ghgprotocol.org/>

According to the company's report for 2024, its Scope 1 and 2 emissions amount to 30,7 Mt CO₂-eq, while Scope 3 emissions were 574,6 Mt of CO₂-eq¹⁶ This level of Scope 3 emissions is about 1,5% of the current world's energy emissions.¹⁷ Most emissions across the company's value chain by order of scale thus come from the so-called indirect emissions, a proportion similar to fossil fuel companies, whose highest emissions lie not in extraction but in the actual use of the fuels. This amount of Scope 3 emissions places Rio Tinto not only among the top emitters in mining, but in the category comparable to large fossil fuel producers.¹⁸ While Rio Tinto has reduced its Scope 2 emissions from purchased energy in recent years, its Scope 1 and especially Scope 3 emissions have remained essentially unchanged since 2020.¹⁹ Although some major fossil fuel and mining companies have introduced Scope 3 reduction targets, Rio Tinto has so far refrained from doing so, despite shareholder pressures. The company claims to have "limited direct influence" on their customers and instead seeks to "partner" with them to "help them achieve targets earlier."²⁰

This assessment illustrates an analytical need not to neatly separate the fossil fuel industry on one and "transition minerals" on the other. The reality is that iron, copper, aluminium are some of the most mined materials²¹ and their extraction generates massive quantities of waste and greenhouse emissions. These materials have been central to the "great acceleration,"²² and their demand is expected to rise for low-carbon technologies. Today, iron/steel industry alone emits approximately 7% of global energy-related emissions, while aluminium accounts for circa 2% of global GHG emissions.²³ According to IEA, the two industries are "not on track" to meet net-zero scenarios by 2050.²⁴ While Rio Tinto claims that its business is aligned with 1,5°C pathway, the company's "core scenarios" envisage global temperature

¹⁶ Rio Tinto (2025), 58.

¹⁷ Ritchie, H., Roser, M. OurWorldinData.org (January 2024). [CO₂ emissions](#).

¹⁸ For example, compare to: Equinor Sustainability Data Hub (2025). [Climate](#); TotalEnergies (2025). [Sustainability & Climate 2025 Progress Report](#).

¹⁹ Ibid, 74.

²⁰ Ibid, 58.

²¹ Visual Capitalist (15.11.2023). [All the Metals We Mined in One Visualization](#).

²² Steffen, W., Broadgate, W., Deutsch, L., Gaffney, O., Ludwig, C. (2015). "[The Trajectory of the Anthropocene: The Great Acceleration](#)." *The Anthropocene Review* 2(1): 81–98.

²³ World Economic Forum (28.9.2023). [Steel industry net-zero tracker](#). In: *Net-Zero Industry Tracker 2023*, 54-65; International Aluminium (2024). [Aluminium Sector Greenhouse Gas Emissions for 2023](#).

²⁴ Kuepers, M. et al. (2023). International Energy Agency [Iron & Steel. Tracking Clean Energy Progress](#); Simon, R, Vass, T. (2023). International Energy Agency [Aluminium. Tracking Clean Energy Progress](#).

increase between 2,1° and 2,5°C by 2100.²⁵ The aluminium and iron/steel industries thus may not enable keeping the temperature “well below 2°C above pre-industrial levels,” as stipulated by Paris agreement.

Steel is used primarily in construction, while aluminium’s main applications are in construction, electronics, transportation and packaging. Some of these uses are oriented towards low-carbon technologies, yet many, if not most, are superfluous or outright harmful in a rapidly heating world. It remains unclear how much iron, bauxite/aluminium and copper from Rio Tinto’s mines is used in eco-socially just ways and how much perpetuates wasteful and destructive consumption.

Most climate mitigation scenarios proposed by the private sector some intergovernmental bodies are based on “baselines” shaped on the excesses of extractivist modernity. Dominant transition models for transportation sector rely on substituting internal combustion engines with batteries – technologies that produce fewer emissions but require more minerals and metals. These lower-carbon technologies certainly play a role in an eco-socially just transition that will ensure universal access to energy, food, and water. Yet a central question remains: is the profit-driven extraction sector suited to supporting this epochal mission? Attempting to *reproduce* an unbridled capitalist mode of transportation, which has put around 1,3 billion cars on the roads, is a gamble with dire socio-environmental consequences. It is this type of “transition” that lithium from Rio Tinto’s “Jadar” project would reinforce.

As greenhouse gas emissions continue to soar, a capitalist transition based on mere substitution of the dominant technologies may be too little, too late. The effectiveness of these business solutions must also be considered beyond one company itself. A relevant example is Rio Tinto’s “exit” from coal, completed between 2014 and 2018. As it appears, virtually all of the “divested” mines continue to operate, with planned closure dates ranging from 2026 to the 2040s.²⁶ Many are applying for or planning for extensions, even in the face of legal challenges by environmental groups and communities.

²⁵ Rio Tinto (2025), 44.

²⁶ Former Rio Tinto’s coal operations or mines they held a share in: [Hail Creek Open Cut](#); [Clermont Open Cut](#); [Kestrel Coal](#); [Hunter Valley Operations](#), [Mount Thorley Warkworth](#), [Port Waratah coal port](#); [Bengalla Joint Venture](#) (formerly 40 held by Rio Tinto); [Benga coal mine in Mozambique](#).

In 2018, Rio Tinto also sold two coal mine projects in Australia: one was subsequently cancelled (formally put “under review”) by the owner,²⁷ while the other has secured approvals but faces challenge in court.²⁸ A project in Zimbabwe, divested in 2014, considered one of the “carbon bombs,” is still being pursued.²⁹ In selling its coal operations, Rio Tinto earned almost 9 billion USD³⁰ and retains a “contingent royalty income from these divestments,” which generate revenue until today.³¹ From the climate perspective, the coal from Rio Tinto’s former mines has not stayed in the ground, it is continues to be extracted, feeding steel industry and thermal power plants.

The climate justice movement insists on “climate debt”– the responsibility of wealthy countries towards the Most Affected Peoples and Areas. From this perspective, major mining companies with their deep carbon trails, instead of being leaders of a post-fossil transition, are debtors to the climate-struck communities, to humanity, and to the planet. This debt cannot be repaid by recklessly extracting and selling ever more materials for newer, “cleaner” and more “responsible” products. The climate crisis did not begin in 2018 or with the Paris Agreement. It began with the large-scale industrialisation driven by states and the companies, and their joint ventures. These entities hold the responsibility to first and foremost repair the loss and damage, both historical and future. Unlike quarterly or yearly business cycles, emitted carbon remains with us for a long time. As Hansen et al. estimate, “about one-third of anthropogenic CO₂ emissions remain in the atmosphere after 100 years ... and one-fifth after 1000 years ... for practical purposes 500–1000 years is ‘forever,’ as it is long enough for ice sheets to respond and it is many human generations.”³²

The accumulated evidence from corporate-led and state-facilitated (primarily by the countries in the global North) “energy transition,” with its “net-zero” strategies, “targets,” “ambitions,” “pledges,” clearly indicates that this kind of transition is not fit to the task of protecting humanity from catastrophic heating.

²⁷ [Valeria Coal Mine.](#)

²⁸ ABC (21.7.2025). [Queensland Land Court Begins Hearing Conservation Group Challenge Against Proposed \\$1 Billion Coal Mine.](#)

²⁹ [Sengwa Coal Mine.](#)

³⁰ Hume, D. Financial Times (27.3.2018). [Rio Tinto Completes Coal Exit With Kestrel Mine Sale.](#)

³¹ Rio Tinto. (2025), 160.

³² Hansen, J. et al. (2007). “Dangerous Human-Made Interference with Climate: A GISS ModelE Study”. *Atmospheric Chemistry and Physics* 7(9).

The “Jadar” project, with its millions of tonnes of lithium-carbonate, would not help the Jadar Valley and the Balkans to face the rapidly escalating climate crisis, nor would it assist the most vulnerable communities and ecosystems across the global South. It is these communities from the peripheries of the South and the North, which have contributed the least to the climate crisis and yet suffer its gravest impacts that are charting eco-socially just transitions beyond extractivism with their knowledges, visions and organising. They teach us that what is needed is a change of system, not merely a replacement of the car engine.³³



Figure 2. Jadar Valley after a river flood in early 2022. Photo: Stefan Kostić

³³ I. K. Mašina (5.4.2024). [Aktivisti poručili akcionarima Rio Tinta i ministarstvu: Nismo zona za žrtvovanje!](#).

SOCIAL MEDIA NARRATIVES ON LITHIUM MINING IN SERBIA

At first glance, protests against lithium mining in Serbia appeared nationalist, with slogans on neocolonialism and Western exploitation. However, a deeper analysis drawing on digital ethnography and social media narrative analysis reveals a more nuanced storyline. Generation Z, which has been at the forefront of the protests, translates ecological and political grievances into the memetic language of digital platforms, opening new pathways for transnational activism and cross-border solidarity. Examples of multimedia messaging on Instagram, X and TikTok demonstrate that the issue of lithium mining is embedded within a broader context of global crises such as climate change and unrestrained technological expansion. A local struggle quickly becomes part of a larger, macro-level puzzle. This paper examines the juxtaposition of multi-layered nationalist and transnational narratives and the critical role of social media in sustaining resistance.

Serbian Kryptonite: From Nationalist Slogans to Transnational Critiques

Serbia's unique mineral jadarite, has been promoted as a historic opportunity, promising economic prosperity and a green transition. Frequently compared to kryptonite from DC Comic's *Superman* saga due to its similar chemical formula, jadarite is embedded in a narrative of technological success and future growth. Serbia's Finance Minister Siniša Mali has claimed that lithium could add €10–12 billion annually to national output and contribute "around 16% of GDP," a figure repeatedly invoked by senior officials as evidence of a once-in-a-generation opportunity.¹

¹ Politika (28.7.2024). [Mali: Litijum bi podigao BDP za 10–12 milijardi evra, vodićemo transparentnu politiku.](#)

At the EU level, the partnership is framed as a path to “new local industries,” “high-quality jobs,” and deeper integration into the single market under high environmental and social standards.²

Most citizens of Serbia, however, reject this narrative, arguing that mining entails severe environmental degradation and that genuine sustainability lies in traditional farming and modest lifestyles. Their concerns are based on peer-reviewed research documenting contamination from exploration activities, elevated boron, arsenic, and lithium levels downstream, and forecasts of irreversible environmental damage.³

The kryptonite metaphor operates on two levels: it represents both superhuman power and the anxieties surrounding nuclear weapons and technopower.⁴ Jadarite is similarly framed through a grammar of ambivalence. As a lithium-borate mineral, it promises a clean-energy future through battery production, yet its extraction requires deep mining, intensive water use, and environmental harm.

The ecological uprising that began in 2021 merged with student protests against corruption, drawing in farmers and workers. Led by Generation Z, the movement shifted the battle over lithium-mining narratives to social media, where they are remixed into memetic forms. At first glance, anti-lithium mining protests in Serbia deploy nationalist rhetoric, invoking the defense of territory, natural resources, and identity. Hashtags such as #NeDamoJadar (We don’t give Jadar Away) or #SerbiaIsNotForSale reflect Serbia’s historical memory of foreign exploitation, NATO bombing, and unresolved national issues like Kosovo. These links are reinforced through strategic uses of hashtags, memes, and other textual and visual elements that frame mining as a new form of neo-colonial intrusion by foreign corporations and their domestic partners.

A closer analysis of social media narratives reveals a simultaneous transnational critique across both left and right leaning messages. Activists frequently juxtapose Serbian case with examples from Chile, Argentina, or Portugal. What emerges is a rejection not only of for-

² European Commission (19.7.2024). [EU and Serbia Sign Strategic Partnership on Sustainable Raw Materials, Battery Value Chains and Electric Vehicles](#).

³ Đorđević, D. et al. (2024). “[The Influence of Exploration Activities of a Potential Lithium Mine to the Environment in Western Serbia](#)”. *Scientific Reports* 14.

⁴ Szasz, F. M. & Takechi, I. (2007). “[Atomic Heroes and Atomic Monsters: American and Japanese Cartoonists Confront the Onset of the Nuclear Age, 1945–80](#)”. *The Historian* 69(4): 728–752.

eign control but also of the broader paradigm of transnational green capitalism, which seeks to decarbonize by displacing environmental burdens onto more vulnerable regions. Protesters argue that the EU's Green Deal externalizes environmental costs, thereby reproducing extractivist logics of colonialism as mining spreads into Europe's peripheries.

This dual framing challenges the binary of nationalist versus globalist sentiment. Instead, it demonstrates how localised resistance contributes to broader critiques of climate injustice. The prevailing argument is that the green transition sacrifices peripheral regions for the benefit center and therefore fails to address the structural causes of global environmental crises. Activists highlight that the logic of growth-based progress is on the opposite end of fighting climate change.

Consequently, public awareness of lithium-mining risks in Serbia is unusually high. A significant proportion of citizens appear to grasp the costs behind technological progress based on lithium batteries. Moreover, the protests intertwine elements of ecological activism, anti-corruption efforts, and even solidarity with global causes such as resistance to the war in Gaza. They exemplify “transnational activism as a form of contentious politics that goes beyond the boundaries of the contemporary nation state, spilling over across borders”.⁵

Memes, Multimedia, and Hybrid Activism

Digital platforms have played an essential role in the anti-lithium movement. They function simultaneously as infrastructures for communication, mobilization, and visibility, as well as repositories of collective memory. Platforms such as Twitter/X, Instagram, TikTok and Reddit enable activists to disseminate real-time updates, circumvent mainstream media censorship, coordinate decentralized protests through flash mobs and roadblocks, amplify the voices of affected communities and independent experts, and develop narratives through multimedia content.

This constellation of practices exemplifies what Treré describes as *media hybridity as resistance*: a comprehensive communication strategy that navigates fluid borders between the physical and the digital

⁵ Milan, C. (2025). “The Transnationalization of Political Contention in Europe and Its Wider Neighbourhood During the Political Backlash: An Introduction”. In: Milan, C. & Buzogány, A. (eds.), *Contentious Politics in the Transnational Arena: Political Contention in Europe and its Wider Neighbourhood*, London: Palgrave MacMillan, 2.

spaces.⁶ Hybridity transforms choke points into detours and enhances credibility and durability by ensuring cross-platform longevity. As messages circulate across multiple channels, they become more resilient and harder to erase.

Digital activism, however, is shaped by platform algorithms.⁷ Visibility is uneven, engagement-driven, and influenced by platform logics that favour sensational content. Activists must compete with a saturated attention economy.⁸ Moreover, they must navigate convergence between activist and influencer cultures, the latter being profit driven.⁹ Activism is more precarious because the boundaries between work, entertainment and social action fluctuate, while the algorithms are perpetually reconfigured. Constant shifts in algorithmic design require protesters to adapt continuously.¹⁰ The labor underpinning digital activism—unpaid content creation, data extraction, and surveillance—is frequently overlooked.¹¹

Resistance to lithium mining has developed a hybrid aesthetic that combines slogans with memes, videos, protest songs, and visual art. These cultural forms serve political functions such as emotional expression, transmedia storytelling, collective memory, and identity formation. Memes incorporate platform-native elements such as emojis, filters and AI effects. Multilayered visuals convey complex political messages and emotions and circulate easily across platforms and formats, ensuring continuity and translatability into offline protest slogans. Because memetic language transcends linguistic barriers, it facilitates transnational activism. Such visuals foster a sense of shared purpose and belonging across local, regional, and global audiences.

English hashtags such as #YesToLifeNoToMining, #EyesOnSerbia, #StopRioTinto, and #SerbiaIsNotForSale – broaden international visibility. Viral audio and AI filters enhance the distribution of short videos, while both human-made and AI-generated artworks circulate as

⁶ Treré, E. (2019). "Nomads of Cyber-Urban Space: Media Hybridity as Resistance". In: Mortensen, M., Neumayer, C. & Poell, T. (eds.), *Social Media Materialities and Protest: Critical Reflections*. London: Routledge, 42–56.

⁷ Treré, E. (2018). "From Digital Activism to Algorithmic Resistance". In: Meikle, G. (ed.), *The Routledge Companion to Media and Activism*, London: Routledge, 367–375.

⁸ Goldhaber, M. (2006). "The Value of Openness in an Attention Economy". *First Monday* 11(6).

⁹ Alperstein, N. (2021). "[Social Influencers, Content Creators, and Network Mediators in Social Movements](#)." In: *Performing Media Activism in the Digital Age*. London: Palgrave Macmillan.

¹⁰ Glatt, Z. (2022). "Precarity, Discrimination and (In)Visibility: An Ethnography of 'The Algorithm' in the YouTube Influencer Industry". In: Costa, E., Lange, P., Haynes, N., Sinanan, J. (eds.), *The Routledge Companion to Media Anthropology*. London: Routledge, 546–559.

¹¹ Fuchs, C. (2021). *Social Media: A Critical Introduction*. Thousand Oaks, CA: SAGE.

memes that draw international attention. Serbian hashtags #necetekopati (“you will not dig”) frequently accompany pastoral imagery of idyllic rural life that contrasts with the devastation implied by mining. These narratives blend elements of nationalism and transnational solidarity, critique corruption and capitalism, and celebrate ecological harmony.

At the centre of this resistance iconography stands the rural figure—the farmer as moral witness and foil to “dirty industry.” A prominent example is Zlatko Kokanović of the Jadar Valley, a dairy producer and leading activist against Rio Tinto’s project, who appears frequently as a spokesperson for agrarian livelihoods. Memes recast the “Serbian villager” as a superhero opposing both multinational corporations and corrupt domestic elites. One recurring template features Popeye (Figure 1), whose spinach-induced strength becomes a metaphor for “healthy” power drawn from land, food, and community. This idealization contrasts industrial promises with an ethics of care: protecting the environment, traditions, and identity becomes a part of broader critique of extractivism and capitalist exploitation. Through humour and pop-culture references, the message becomes legible beyond Serbia, while the agrarian hero crystallizes a simple proposition—fertile fields over tailings ponds.

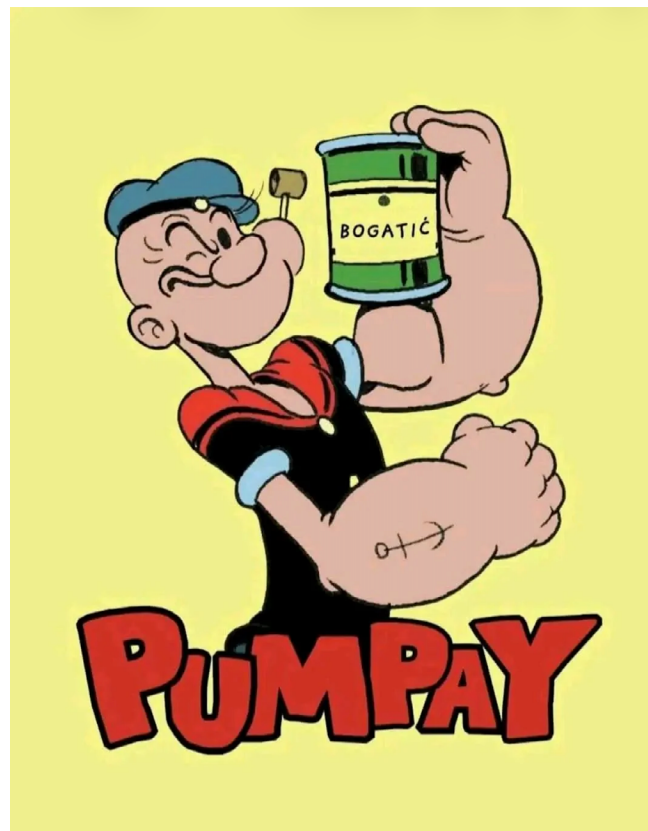


Figure 1. Popeye meme symbolising resistance to lithium mining in Serbia

Together, these memetic narratives perform multiple functions: they remix and gamify political messages for broader audiences, mobilise local and international supporters, facilitate fundraising and legal aid, and catalyse emotional bonds that sustain online communities of resistance. Algorithms, meanwhile, impose visibility constraints yet also foster connectivity.

Conclusion: Toward a Just Ecological Future

This study shows that Serbia's anti-lithium movement mobilizes a hybrid media ecology in which ecological, anti-corruption, and anti-colonial claims are reframed through memetic forms and circulated across platforms and borders. What may initially appear as purely nationalist resistance is in fact dual-coded: local idioms—territory, food, rural life, care for land—intersect with transnational critiques of green extractivism and the growth-oriented technological progress. The kryptonite/jadarite trope encapsulates this ambivalence by simultaneously symbolising promise and peril. Likewise, the rural hero iconography, epitomised in Popeye and other #neceskopati memes, establishes a moral contrast between fertile fields and industrial waste. Media hybridity strengthens the movement: when one channel is constrained, messages are rerouted, archived, and reinvigorated elsewhere.

At the same time, visibility alone does not guarantee outcomes that guarantee social change. AI-driven recommendation systems and the dynamics of the attention economy constrain reach and continuity, and social media narratives do not readily translate into policy, especially when governing elites disregard public opinion even in moments when activists win the narrative battle.

The Serbian case illustrates that hybrid activism can sustain issue salience, connect local struggles to global ones, and challenge dominant mining discourse through grassroots strategies. As Europe's energy transition accelerates, the Jadar case functions as a bellwether: social media are not merely mirrors of contention but infrastructures of resistance, capable of transforming localized grievances into cross-border solidarities and, when paired with legal, regulatory, and electoral tactics, potentially into institutional leverage.

COMMUNITY RESILIENCE AND THE STRUGGLE AGAINST THE JADAR PROJECT

Introduction

This text examines how social resilience emerges in the context of resistance to the Jadar project, focusing on the ways communities navigate between promises of economic development and the real environmental and social costs. It highlights strategies of collective action, institutional and legal practices, and the role of scientific expertise in legitimizing community-based resilience. The Jadar case offers an important illustration of the complexity of contemporary infrastructure projects and of how local communities shape policies that affect their environment, social development, and the prospects for a sustainable economy.

Resilience as a Social Phenomenon

Community resilience refers to a group's capacity not only to recognize and withstand external threats and crises, but also to actively adapt and reorganize in ways that preserve its interests and enable future collective action. In this sense, resilience is not a static trait, but a dynamic process that develops through experiences, learning, and ongoing interaction with the broader environment.

Theoretical approaches to resilience emphasize its different dimensions. From the perspective of social capital, communities characterized by trust, solidarity, and cooperation are more capable of effective collective action. This symbolic capital enables rapid mobilization and the efficient use of local resources that are crucial when facing environmental, economic, or social pressures. On the other hand, environmental justice theory emphasizes that marginalized groups often bear disproportionate consequences of decisions made by public authorities and investors regarding infrastructure and environmental projects (e.g. construction of mines, energy facilities, or landfills), as well as consequences of the lack of adequate regulatory and protec-

tive mechanisms. In this sense, resilience manifests as collective mobilization for the preservation of local resources, protection of health and the environment, but also as a demand for community participation in decision-making processes regarding projects that directly affect their living space.

From a sociological perspective, resilience is conceived as a multidimensional and relational process that encompasses collective mobilization, social innovation, and structured participation in decision-making arenas¹. Rather than being reducible to reactive adaptation, resilience denotes a community's proactive and reflexive capacity to articulate its interests, contest dominant power arrangements, and shape the policies and institutional practices that determine its living conditions.

This process develops across several interdependent dimensions that reinforce one another. At the organizational level, resilience emerges through the formation and maintenance of formal and informal networks, civic initiatives, and local committees that enable sustained coordination, resource pooling, and collective agency. At the social level, it is grounded in relations of trust, mutual recognition, and solidarity that allow communities to withstand pressures, negotiate internal differences, and maintain social cohesion.

The cognitive dimension involves the shared capacity to identify and interpret risks, to contextualize them within broader socio-economic and political structures, and to make informed and anticipatory decisions. Finally, the political dimension refers to the community's ability to influence institutional actors, mobilize public pressure, contest harmful policies, and assert claims over rights, resources, and modes of governance that shape everyday life.

The Jadar project, which envisages the opening of a lithium and borate mine in the Jadar Valley in western Serbia, has attracted significant attention due to its potential for economic development, but also some serious environmental and social implications. The project operator, the company Rio Tinto, emphasizes the importance of exploiting jadarite, a lithium-rich mineral crucial for battery production and the development of renewable energy sources.² In 2025, the European Commission classified the project as one of strategic significance

¹ Bulatović, A., Pavićević, O. (2018). „Otpornost, dobrobit i društveni kapital: sadejstva i kolizije”. *Kultura polisa* XV(35): 542.

² Danas (3.7.2025). [Zašto je odluka o projektu Jadar doneta bez obrazloženja?](#)

outside EU territory, which was intended to facilitate its implementation and enable it to proceed under special international and regulatory oversight.³ However, the project has encountered strong and persistent resistance from the local community, civil society, as well as the scientific community. Community concerns relate to the potential environmental, social, and cultural costs of exploitation. Among the most important risks are pollution of groundwater and surface water, degradation of agricultural land, disruption of biodiversity, and threats to traditional ways of life. These consequences directly affect the economic foundation of local communities, which depend on agriculture and livestock farming, while simultaneously threatening the social cohesion and cultural identity of the region.⁴

This situation reflects a core dilemma of sustainable development, in which the interests of global and national actors driven by economic and strategic considerations come into tension with the rights of local communities to participate meaningfully in decision-making and to preserve the conditions of their living environment. The persistent gap between promised economic benefits and the tangible social and environmental costs not only calls the project's sustainability into question, but also highlights the extent to which communities must cultivate resilience in the face of development models that prioritize extraction over local well-being. Community resilience in the Jadar Valley manifests through several interconnected dimensions: organizing local initiatives and public protests, forming networks of cooperation with national and international civil society actors, engaging experts and scientists to document environmental and social risks, and utilizing legal and institutional mechanisms to challenge the project process. This approach illuminates the concept of *social resilience*, understood as the capacity of local collectives to identify and articulate threats, mobilize available resources, and actively shape social frameworks of action, thereby protecting their interests, environment, and identity integrity.⁵

³ Balkans Al Jazeera (4.6.2025). [Jadar u Srbiji među strateškim projektima Evropske unije](#); Kreni-Promeni (2025). [EK podržala propali projekat Jadar koji se neće desiti u Srbiji](#).

⁴ Reuters (5.6.2025). [Serbian Farmers Vow to Oppose Rio Tinto Lithium Project Even After EU Labels it Strategic](#); Vreme (6.6.2025). [Podgrevanje projekta Jadar: strategija EU i otpor u Srbiji](#).

⁵ Pavićević, O., Bulatović, A., Ilijić, Lj. (2019). *Otpornost: asimetrije makro-diskursa i mikro procesa*. Beograd: Institut za kriminološka istraživanja, 10.

The Jadar Project: Conflict Between Economic Interests and Environmental and Social Consequences

The Jadar project stands out as a strategic undertaking with significant economic potential for Serbia and beyond, particularly in the context of energy transition and the global lithium market. Rio Tinto estimates that jadarite extraction could meet a substantial portion of the European Union's lithium needs, while simultaneously creating new jobs and contributing to economic growth through taxes, investment, and indirect support for the local economy.⁶ This economic argument serves as the primary motivator for state and international actors to support the project.

Contrary to the economic potential, local communities and civil society point to multiple risks and costs that cannot be ignored. First, the environmental costs of jadarite extraction include contamination of groundwater and surface water, soil erosion, loss of biodiversity, and permanent changes to the Jadar Valley ecosystem. Such changes directly affect agriculture, livestock farming, and the quality of life of the population, thereby threatening the local economy.⁷ On the other hand, social and cultural costs encompass the disruption of local communities, possible population migration, decreased social cohesion, and loss of cultural and natural heritage.⁸

The tension between economic potential and socio-environmental costs raises questions about sustainable development and equitable decision-making. The phenomenon of social resilience enables us to examine the ways in which communities recognize threats, mobilize resources, and shape collective action strategies.⁹ In the case of the Jadar Valley, resilience is reflected through organized protests, legal initiatives, engagement of experts and scientific research, as well as through networking with national and international civil society actors.

The application of the concept of social resilience in this context demonstrates that local communities do not react passively to threats but actively shape the framework within which the project is imple-

⁶ Rio Tinto (2021). [Rio Tinto Commits Funding for Jadar Lithium Project](#).

⁷ Reuters (5.6.2025). [Serbian Farmers Vow to Oppose Rio Tinto Lithium Project Even After EU Labels it Strategic](#).

⁸ Bulatović, A., Pavićević, O. (2018), *op. cit.*, 541; Nova (15.8.2025). [Ko je potpisao saglasnost za projekat Rio Tinta?](#)

⁹ Bulatović, A., Pavićević, O. (2018), *op. cit.*, 532.

mented, insisting on sustainable solutions that balance economic development and environmental protection, including farmers, students, environmental activists, and groups of farmers from multiple villages. The diversity of actors shows how collective resilience transcends individual interests and places emphasis on a shared response to environmental and social threats. Resilience develops through the interaction of macro-discourses (state and corporate policies) and micro-processes (local actions and initiatives), which enables communities to articulate their interests in a complex political-economic environment.¹⁰ In this context, the opposition to the Jadar project can be understood as a proactive expression of social resilience, in which local, regional, and international actors coordinate their efforts to influence decisions that have long-term implications for both community well-being and the natural environment.

Forms of Social Resilience

Social resilience manifests through various forms of collective action and organization that enable communities to effectively confront crises, pressures, or resource exploitation. These forms of resilience encompass organized mobilization, political action, practices of mutual support, as well as the use of scientific and media resources to strengthen the community's argumentation and legitimacy.

One of the key forms of resilience is organized *citizen mobilization*, which, in the case of the Jadar Valley, is reflected through protests, performances, and public campaigns. The Eko Straža protest (eng. Eco Watch) on August 10, 2024, represents an example of how local communities can rapidly respond to the threats that the Jadar project poses to the environment and social life. This event was not isolated, but part of continuous mobilization that involves a diverse array of social actors, including farmers, students, environmental activists, and local residents. Such organized mobilization allows the community to clearly articulate its demands, raise awareness of pressing issues, and exert pressure on the political and economic actors engaged in the project.

Another form of resilience is *mutual support among community members*, which manifests particularly in critical moments when activists and citizens are subjected to threats or repression. The organization of a protest on September 1, 2024, in support of Eko Straža activists who

¹⁰ Pavićević, O., Bulatović, A., Ilijić, Lj. (2019), op. cit., 62

had previously been detained and subjected to repression, demonstrates the community's ability to respond collectively, maintain cohesion and morale among members, and publicly express disagreement with inadequate actions by state institutions. This demonstration of practical solidarity not only reinforces the community's internal cohesion but also communicates a clear message to external actors that attempts at intimidation will not prevail.

A third form of resilience is *political and legal action*, which involves using formal mechanisms to protect community rights. Activities such as the submission of over 100,000 signatures to the European Commission, initiated by the Eko Straža organization, illustrate how communities use institutional channels to articulate their interests and protect environmental resources.¹¹ This form of resilience demonstrates that communities do not rely solely on protest, but rather integrate direct action with deliberate engagement in legal and political processes.

A fourth form of resilience is *the use of scientific and media resources*. Criticisms of the Jadar project's impact assessment presented by institutions such as the Faculty of Biology at the University of Belgrade provide expert and empirical legitimacy to community demands.¹² The use of media and scientific evidence not only informs the broader public, but also contributes to creating the argumentation through which the community defends its interests, thereby increasing its political and moral influence on decision-making.

These forms of resilience are interconnected and mutually reinforcing. Organized mobilization increases the visibility and impact of practical solidarity, while legal and scientific action strengthens the legitimacy of protests and the force of the community's argumentation. In the case of the Jadar project, the combination of self-organization, solidarity networks, and strategic public action enables the local population to act effectively even in situations where institutions do not function adequately, as was clearly evident in the inadequate responses of competent authorities to threats and pressure directed at Eko Straža activists.

¹¹ N1 Info (28.3.2025). [Eko straža predala preko 100.000 potpisa EU da se Jadar izuzme iz strateških projekata.](#)

¹² Novi magazin (6.9.2024). [Odustajanje od rudnika optimalna mera: Šta su zaključci Biološkog fakulteta za projekat Jadar.](#)

Institutional Repression and Threats Against Activists

Community resilience is most clearly manifested in moments when its members face direct repression from institutions that, according to laws and social norms, should be protecting their interests. In the context of the Jadar project, local activists have been subjected to various forms of institutional pressure, including detention, searches, interrogations, and public threats, all within frameworks not justified by the legal system. Such actions not only endanger the safety of activists and their families, but also directly undermine the community's trust in the ability of institutions to protect citizens' rights.

Digital media and specialized portals have become an additional arena for delegitimizing local resistance. A specific example of such pressure is the incident when the Higher Public Prosecutor's Office in Belgrade, headed by Nenad Stefanović, the Chief Public Prosecutor, and Branko Stamenković, head of the special Department for High-Tech Crime within the Higher Public Prosecutor's Office, initiated detentions and interrogations of activists for the criminal offense of violent endangerment of the constitutional order. These procedures, although formally legally regulated, manifested in practice as a means of intimidation and inhibition of civic participation.¹³ The culmination of these activities was the publication of death threats against twenty activists, issued from a fake Facebook profile, which provoked serious fear and destabilized the social space of local communities. The inadequate response of competent authorities, including the absence of police protection and failure to identify the actual perpetrators of the threats, further reinforced the perception of institutional irresponsibility and risk for activists. In addition to formal forms of pressure, digital instruments of stigmatization have appeared in the public space; an example is the website Kopaćemo.com, which published a list labeled as a "register of ecological terrorists," targeting and discrediting activists and their supporters through media.¹⁴ Such practices contribute to creating an atmosphere of fear and further erode trust in institutional protection mechanisms.

Despite all challenges, the community has demonstrated various forms of resilience. The protest on September 1, 2024, organized in support of released activists, represents an example of how social solidarity can neutralize the effect of intimidation and preserve the

¹³ Balkan Green Energy News (1.9.2024). [Zaoštravaju se podele u Srbiji oko planova za rudarenje litijuma.](#)

¹⁴ Slobodna Evropa (2.9.2024). [Udruženje „Kopaćemo” napravilo spisak „eko terorista” u Srbiji.](#)

group's internal strength. This event shows that community resilience functions not only through formal protection mechanisms, but also through the collective ability to recognize threats, organize responses, and articulate public disagreement with institutional abuses. In addition to protests, the community has demonstrated resilience through various forms of organization and solidarity. Members disseminated verified information about the project and its consequences through social networks, public forums, and local media, reducing space for disinformation. They filed complaints and lawsuits against unlawful procedures, provided legal, psychological, and material support to endangered members, and developed networks of mutual coordination that enabled efficient information exchange and rapid response. Through media appearances, letters, and public forums, they articulated disagreement with abuses, strengthening the community's interconnectedness and resilience.

When connected to theoretical frameworks of resilience, this empirical case illustrates how institutional repression acts as a critical test of a community's capacities. Effective resilience relies on the community's ability to integrate social solidarity, organized mobilization, political engagement, and the strategic use of scientific and media resources. In the Jadar Valley, activists and local residents have successfully sustained the visibility of their demands, safeguarded collective security, and generated evidence supporting international and legal backing, exemplifying a multidimensional response to institutional repression. This case also illuminates the broader problem of institutional inefficiency and abuse of power, showing how threats and intimidation of activists can be an instrument in the hands of certain competent bodies that formally operate within the legal system. In this context, community resilience proves to be a key mechanism for preserving social rights, participation, and control over environmental and political processes, which is particularly significant in situations where institutions fail to fulfill their protective function.

Conclusion

The Jadar project is a complex social phenomenon with economic, environmental, and social implications. Community resilience in the Jadar Valley manifests not only through public protests, but also through solidarity, mobilization, and confrontation with repression. The activism of various actors demonstrates that local communities have the capacity to articulate their interests and protect their rights and environment, despite pressures and institutional abuses. The struggle

against the Jadar project represents an example of the resilience and collective strength of civic communities in contemporary society.

The application of this concept in the context of the Jadar Valley clearly demonstrates how community resilience functions in practice. Local resistance to the Jadar project, which envisages the extraction of lithium and borates in western Serbia, manifests through various forms of social action. Mass environmental protests that began in 2021 demonstrate the community's ability to organize a broad coalition of local residents, farmers, students, and environmental activists. These actions are not merely symbolic; they confirm the community's capacity to articulate its demands and influence public discourse. Resilience is further reflected through solidarity and protection of activists, particularly visible during the protest on September 1, 2024, organized in support of activists who were targeted by formal repression. Such actions indicate the community's ability to respond to direct repression and threats from competent institutions, confirming the multifaceted character of resilience.

Within this framework, community resilience is not merely a reaction to specific environmental and social challenges, but also an expression of a broader social process in which citizens actively participate in shaping living conditions. In this sense, resilience can be understood as a set of organizational, social, and political capacities of the community, which enable citizens to actively protect their interests and local resources. Such practices of self-organization and participation become crucial for preserving cohesion and citizens' rights under conditions of crisis or institutional weakness.

TWO THESES ON THE JADAR PROJECT

In this text, I will briefly elaborate on two theses or claims about the Jadar project.

The first one is grounded on scholarly arguments and reads as follows: the dialogue on the Jadar Project – which the Serbian authorities allegedly wish to re-activate yet again – is effectively already concluded with the finding of the Serbian scientific community that this project, in its current form, should not be implemented because it is against the public interest.

The second thesis is historical and ethical, and states that in the area encompassing the future mine, the Germans in late 1941 executed several thousand peasants from the very same villages that are now to be relocated for lithium mining; thereby, it is simply intolerable to build a mine on the site of an execution ground and displace the descendants of the victims.

The dialogue on the Jadar project is concluded with the scholarly community concluding that the project should not be implemented

Essentially, I believe the dialogue is actually over, with the Serbian scientific community clearly indicating that the Jadar project should not be implemented here and now because it will bring more harm than good to Serbia. In support of this conclusion, I would first mention the scientific conference “The Jadar Project: What is Known?”, held at the Serbian Academy of Sciences and Arts (SASA) on May 6 and 7, 2021¹ and subsequently published as an edited volume.²

¹ Fully available online at: Srpska akademija nauka i umetnosti (2021). [Snimak naučnog skupa „Projekat Jadar – šta je poznato?”](#)

² Stevanović, V., Šolaja, B. & Radmilović, V. (prir.) (2021). *Projekat Jadar – šta je poznato?*, Beograd: Srpska akademija nauka i umetnosti.

This conference contains a multitude of high-quality and relevant data and provides, in my opinion, the best basis on which I, as a citizen and a layperson in matters of mining and lithium production technology, could form an informed choice, which is: at this moment and under these circumstances, the Jadar project bears significant risks and is likely to bring Serbia more harm than good, and therefore should not be implemented.

“Truth and Facts” about the Jadar project

As rarely happens in Serbia, representatives of various views gathered under one roof at SASA and had their say: Vesna Prodanović from the company Rio Tinto and Marija Alimpić³ from the association “Protect Jadar and Rađevina”, Zorana Mihajlović, then Deputy Prime Minister and Minister of Mining and Energy of the Republic of Serbia, and experts from a number of Serbian institutions who spoke about the Jadar project from technological, environmental, medical, and other perspectives. Zorana Mihajlović had the floor first, emphasizing the enormous economic potential and significance of this project: “No one has the right to give up on a project that could be very important for the future of Serbia based on claims that are not grounded in facts, which we hear every day... because there are many untruths, misconceptions, and half-informations present in the public, which are used to oppose the project.” “And the truth and fact”, the then-Minister continues, “is that this jadarite deposit is one of the largest in Europe... with an estimated value of 56 billion dollars... Impact on the gross social product is directly 3% just from the mining process. In the process of producing lithium batteries – because the goal is not just mining and exploitation of lithium – over 8%, possible production of electric vehicles, between 11 and 15%.”⁴ The highest state officials, therefore, essentially agree that we must seize this historic opportunity: “We will either seize the historic chance to make Serbia a leader in the production of products from what is currently one of the most sought-after metals of the 21st century, or our future generations will be mere observers of modern global development.”⁵

³ Alimpić, M. (2021). [Presentation](#) at a scientific meeting „Projekat Jadar – Šta je poznato?”, Serbian Academy of Sciences and Arts.

⁴ Mihajlović, Z. (2021). Presentation at a scientific meeting „Projekat Jadar – Šta je poznato”. In: Stevanović, V., Šolaja, B. i Radmilović, V. (prir.), *Projekat Jadar: šta je poznato?*. Beograd: Srpska akademija nauka i umetnosti, 27.

⁵ Ibid., 28.

The problem is that being a leader in the production of a certain ore does not necessarily bring benefits if it is carried out in a dysfunctional country that does not protect its interests and maximizes profits from this process. For instance, the Democratic Republic of the Congo possesses almost all the world's reserves of coltan or tantalum, a rare material used in making smartphones, computers, and electric vehicles. Yet, despite this natural resource, its exploitation has brought no benefits to the country – conflicts over territory control are frequent, there are wars, and analyses show that in the mines, coltan is extracted manually even by seven-year-old children for a wage of one dollar. In other words, Congo has an even rarer and more expensive metal than Jadar, but a weak, corrupt state, loose and inefficient legislation and regulations, and poor control. In effect, it suffers enormous damage and has almost no benefit for the state and its younger generations, who actually work in the mines. I believe Serbia is in a somewhat better position and that seven-year-old village children from Draginac will not end up in the mine instead of school, nor would the people of Rađevina and Jadar – despite their proverbial disagreements – go to war over jadarite. But Serbia is still far from a well-ordered country with strong institutions and leadership that ensures the protection of its vital financial, environmental, and national interests. Therefore, although it is reasonable to assume that the production of lithium batteries, and especially electric vehicles, could bring significant revenues to Serbia, the fact is that we do not have those factories, nor, as far as is known, any significant initiatives to start them. How do we calculate the billions we will earn when we have none of this yet?⁶

The facts and arguments presented so far by the authorities in Serbia, therefore, do not seem particularly well-founded or convincing. However, at the mentioned conference at SASA, numerous scientists and university figures presented different truths and facts, of which I will cite only a few. At the opening of the conference, academician Vladimir Stevanović, President of the Academic Committee for the Environment, warned that „regardless of the declarative announcement that everything will be ecologically safe, purified, and such water released into watercourses and the air will remain clean, a whole series of questions remain that cast doubt on all this, primarily because the project was insufficiently transparent from the beginning... the devastation of surface and natural resources still cannot be fully assessed because data from different sources are contradictory.”⁷

⁶ Pavlović, A. Peščanik (8.5.2021). [Dolina Jad\(r\)a](#).

⁷ Stevanović, V. (2021). „Uvodna reč”. In: Stevanović, V., Šolaja, B. & Radmilović, V. (prir.), Projekat Jadar: šta je poznato?, Beograd: Srpska akademija nauka i umetnosti, 20.

A number of other presenters, for instance Petar Bulat, believe that we simply do not know enough about the entire project, and that „without detailed information about the technology the investor plans to apply, it is not possible to assess all the consequences for the health of the local population.”⁸

In short, the expert opinion presented by the Serbian Academy of Sciences and Arts, the Academy of Engineering Sciences, the Faculty of Biology, and a number of eminent scientists and experts, is that the Jadar project should be halted due to risks to human health and the environment, and the modest economic benefits. This is clearly seen from the key documents and studies on the Jadar project available to the public, such as the mentioned SASA Scientific Conference Jadar Project: What is Known?⁹ and the eponymous SASA publication from 2021,¹⁰ the Spatial Plan for the Realization of the Jadar Project commissioned by Rio Tinto,¹¹ the Statement of the Faculty of Biology in Belgrade from September 6, 2024,¹² the international paper Đorđević et al. from July 2024,¹³ etc. After this consideration, I thereby identify the following as key arguments and conclusions:

1. „the implementation of the project [Jadar would] lead to massive devastation of the area, permanent change of the landscape character, degradation of biodiversity, soil, forests, surface and groundwater, displacement of the population, cessation of sustainable and profitable agricultural activities and the establishment of a scenario of permanent risk to health. Top-tier, world-renowned experts conclude that the Jadar project should be halted.” (SASA/AINS letter)¹⁴

Due to expected irreversible changes in certain ecosystems, as well as the risk of significant endangerment of the living world of the Jadar,

⁸ Bulat, P. (2021). „Mogući uticaji rudnika, ekstrakcije i deponije projekta Jadar na zdravlje lokalnog stanovništva”. In: *Projekat Jadar – šta je poznato?* (2021), Stevanović, V., Šolaja, B. & Radmilović, V. (prir.), Beograd: Srpska akademija nauka i umetnosti, 215.

⁹ Glas Javnosti (6.5.2021). [Uživo: SANU– Rasprava o projektu Jadar Rio Tinto.](#)

¹⁰ Stevanović, V., Šolaja, B. & Radmilović, V. (prir.) (2021). *Projekat Jadar – šta je poznato?* Beograd: Srpska akademija nauka i umetnosti.

¹¹ Republika Srbija: Ministarstvo građevinarstva, saobraćaja i infrastrukture (2019). *Prostorni plan područja posebne namene za realizaciju projekta eksploatacije i prerade minerala jadarita „Jadar”,* Beograd: Institut za arhitekturu i urbanizam Srbije.

¹² Bulajić, J. Nova.rs (6.9.2024). [Biološki fakultet o projektu „Jadar” i „Rio Tinto”: Zašto smo još 2020. predložili da se odustane od rudnika litijuma](#)

¹³ Đorđević, D. et al. (2024). [“The Influence of Exploration Activities of a Potential Lithium Mine to the Environment in Western Serbia.”](#) Scientific Report 14.

¹⁴ Vukosavić, S., i dr. *Prvi prvi na skali* (6.9.2024). [Poziv visokoškolskim ustanovama i naučno istraživačkim institutima Republike Srbije kojim iniciraju sazivanje naučnih veća za razmatranje pitanje eksploatacije litijuma.](#)

Drina, and downstream watercourses, the “optimal and fundamental measure for preventing negative consequences on the state of biodiversity in this area is abandoning the planned exploitation and processing of the jadarite mineral.” (statement from the Faculty of Biology in Belgrade),¹⁵ and:

“The lithium deposit in western Serbia should not be exploited due to environmental risks, because it is the only deposit in the world where lithium exploitation is planned in an inhabited and fertile agricultural area, and most importantly, it will certainly destroy one of only three water-bearing areas in Serbia.”¹⁶

All this undoubtedly creates reasonable doubt in the purposefulness of the project, and that is sufficient to conclude that this project should not be implemented. Therefore, the latest call by the authorities for dialogue is belated and hypocritical, insincere and demagogic; its goal is only to deceive citizens and muddy the waters regarding a question for which, as we see from the scientific argumentation, a clear, negative answer already exists.

The Second Claim States: The proposed site for the prospective mine is an execution ground where thousands of local peasants were executed in 1941, and therefore must not be desecrated and its people displaced.

By this, I mean the following – the area encompassing the future mine is the area where, at the end of 1941, the Germans executed several thousand peasants from precisely these villages that are now to be relocated for lithium mining. Namely, as shown by Vukmirović in the book *From Freedom to the Execution Ground*,¹⁷ although the Army of the Kingdom of Yugoslavia capitulated on April 17, 1941, and King Peter II Karađorđević and the government withdrew into exile, the people of the Jadar region organized resistance. As early as April 21, 1941, in the village of Donji Dobrić, the remaining soldiers of the Kingdom of Yugoslavia resisted the Germans, killing one and wounding two soldiers. Under the command of Lieutenant Colonel Veselin Misita, insurgent forces liberated Loznica on August 31, 1941 – making it the first larger liberated town in occupied Europe. In the days between Sep-

¹⁵ Bulajić, J. Nova.rs (6.9.2024). *op. cit.*; see also: Katranovski M. i dr. (prir.) (2025). [Projekat Jadar: mogući štetni uticaji na živi svet i zdravlje čoveka](#), Beograd: Biološki fakultet.

¹⁶ Đorđević, D. et al. (2024). *op. cit.*

¹⁷ Vukmirović, Đ. (2021). *Od slobode do stratišta: ustanak i nemački zločini u Jadru 1941. godine*. Loznica: Udruženje građana „Memorijal Draginac”/Biblioteka Vukovog zavičaja Loznica.

tember 3 and 6, fierce battles were fought for Banja Koviljača, which ended with a victory for the insurgents. At the same time, the Valjevo Partisan Detachment liberated the Stolice mine, and on September 4, Krupanj was liberated by the joint forces of partisans and chetniks. During the early autumn of 1941, the entire area of Podrinje and Jadar was free from the occupiers.

The Germans soon realized that their forces in the field were too weak. On September 16, Adolf Hitler personally ordered the uprising to be crushed, and appointed General Franz Böhme as commander of all German troops in Serbia. Böhme received reinforcements – the notorious 342nd Infantry Division, transferred from France. In his order of September 25, 1941, Böhme told his officers: “Your task is to avenge the dead from 1914. For the whole of Serbia, a terrifying example must be created that will affect the entire population.”¹⁸ The first units of the 342nd Division, under the command of General Walter Hinghofer, arrived in Šabac on September 24. Two days later, about 5,000 citizens were arrested and, at a running pace, taken to an improvised camp in Jarak – anyone who stopped was killed. This was the overture to the bloody crimes that followed. The offensive on the free territory of Jadar and Cer began on September 28, and by October 10, the entire region was encircled. Vukmirović’s study provides a full list with name of all victims of Nazi terror; from October 13 to 19, 1941, in the villages of the Jadar valley – Draginac, Korenita, Veliko Selo, Cikote, Varoš Lešnica, Tekeriš, Badanj, and others – 2,499 people were killed. The most perished in Draginac, where 1,379 people were executed on October 14. This made Draginac a symbol of the suffering of the people of Jadar. Two battalions of the 342nd German Division entered the village on October 11. Two days later, many villagers gathered to obtain permits for free movement but were detained as hostages after insurgents attacked German troops and destroyed a bridge on the Jadar river. The reprisal for German losses was the mass execution of hostages in Draginac and surrounding villages – Jarebice, Joševa, Simino Brdo, Filipovići, Cikote, Korenita, and Veliko Selo.

If we now look at the spatial plan of the *Jadar* project, we see that the area intended for the mine encompasses the same area and most of the places where the executions were carried out (see illustration below):¹⁹

¹⁸ Purić, T. *Politika* (30.10. 2021). [Od šabačkog „marša smrti” do stratišta u Dragincu.](#)

¹⁹ In addition, if we consider that the total area of the Loznica municipality is 608 km², we come to the conclusion that almost half of the municipality will be affected by the mine.

1. ПОЛАЗНЕ ОСНОВЕ

1.1. ОБУХВАТ И ОПИС ГРАНИЦА ПОДРУЧЈА ПРОСТОРНОГ ПЛАНА

Подручје Просторног плана обухвата површину од 293,91 km², на територији јединица локалне самоуправе:

- града Лознице - целе катастарске општине (К.О.): Руњани, Липница, Брадић, Брњац, Велико Село, Јаребице, Драгинац, Симино Брдо, Цикоте, Шурице, Ступница, Слатина, Коренита, Горње Недељице, Доње Недељице, Грнчара и Шор;
- општине Крупањ – целе катастарске општине (К.О.): Костајник, Дворска, Брезовице, Красава и Церова.

Табела 1: Обухват и површина подручја Просторног плана

Јединица локалне самоуправе	Површина обухваћеног дела територије ЈЛС (km ²)	%
Град Лозница	194,81	66,28
Општина Крупањ	99,10	33,72
Укупно	293,91	100

Therefore, the area of the so-called Spatial Plan for the Area of Special Purpose is the very same area where the horrific crimes of German punitive expeditions against the local population were committed. This area truly is a special purpose area, soaked with the blood and corpses of peasants whose descendants still live on it today.

To conclude: the Serbian scientific community has convincingly demonstrated a series of risks to the environment and human health posed by the implementation of the Jadar project in its current form; these conclusions are not in cahoots by the current Serbian regime, which, by calling for a new dialogue, is actually trying to muddy the waters and change the majority opinion of Serbian citizens who are overwhelmingly and continuously against the realization of this project.²⁰ Furthermore, the terrain designated for the mine is an area of great suffering for the local population in the Second World War, and for this reason, it is impermissible due to historical and ethical reasons to desecrate it and displace the descendants of thousands of victims from an area soaked with the blood of their ancestors.

²⁰ Vukadinović, Đ. *Nova srpska politička misao* (28.4.2025). [Litijum i srpsko javno mnjenje](#).

BIOGRAPHIES

Aleksandra Bulatović is a researcher engaged with theories of human rights, ethics, and non-conventional security, with the question of justice serving as the thread connecting her research. She has particular interest in the concept of human security, which emphasizes the right to optimal quality of life and encompasses a broad spectrum of ethical issues at the level of public policy, social relations, and values. Years of participation in ecological and civic initiatives have directed her work toward the protection of space, common goods, and democratic values, establishing this area as one of her key research fields and deepening her understanding of the problems surrounding the Jadar project and its impacts on communities and the environment. She advocates for a just, solidary, and democratic society in which the voices of local communities and the public interest are at the center of decisions concerning the community.

aleksandra.bulatovic@ifdt.bg.ac.rs

Nina Djukanović is a researcher examining the relationship between extractivism, environmental justice, and contested understandings of sustainability and green transition. In her current research, she focuses on the ethnographic investigation of resistance to lithium mining in Serbia as part of her PhD at the University of Oxford. She is also a research fellow at the Association for International Affairs (AMO), where she focuses on the geopolitics of the critical raw materials. She is involved in several international and regional activist networks including an informal collective the Group on Green Extractivism in the Balkans (GGEB).

nina.djukanovic@ouce.ox.ac.uk

Zoran Erić is an art historian, curator and research fellow at the Institute for Philosophy and Social Theory, University of Belgrade. He holds a PhD from the Faculty of Media, Bauhaus University in Weimar. His fields of research include meeting points of urban sociology, human geography, art theory and political ecology.

zoran.eric@ifdt.bg.ac.rs

Cristián Flores Fernández is a Chilean Lawyer with 18 years of professional experience in environmental, energy and human rights law, both in the public and private sectors. Between 2021 and 2025, he was a doctoral researcher at the Geography Department & Integrative Research Institute on Transformations of Human-Environment Systems (IRI THESys) at Humboldt-Universität zu Berlin. His research has been focused on the political economy and spatial dimensions of socio-environmental and energy transitions, adopting a critical and institutional perspective.

cg.flores.fernandez@gmail.com

Verónica Zuccarelli Freire is a Research Associate at the Max Planck Institute of Geoanthropology (Jena, Germany) and an Assistant Researcher at the IRES-CONICET/ UNCA (Catamarca, Argentina). Her research focuses on agricultural practices and their historical and contemporary significance in the Andean and circum-Andean regions of NW Argentina. She has been developing the project “Ancient Agro-systems as Cultural Heritage: Past and Present Solutions to Climate Change in Arid and Semi-Arid Environments”, supported by the Alexander von Humboldt Foundation. This project aims to broaden and highlight the role of past and present agrarian landscapes as cultural heritage and their ecosystem services. This approach aims to recognize and promote more sustainable ways of life in the face of climate change and escalating extractivism in the region.

zuccarelli@gea.mpg.de

Ingo Gentes (PhD) is an independent scholar and assistant teacher, graduated in Political and Social Sciences at Freie Universität (FU) Berlin, Germany. He has extensive experience in applied research, publishing, training and consultancy related to integrated water resources management, governance, indigenous rights and conflict regulation from several Latin American and Caribbean countries. His experience working with regional institutions, government authorities, the private sector, and community leaders and organizations encompasses management, research and coordination tasks. This background bolsters his constructive approach to evaluations, with an emphasis on understanding the challenges, priorities, incentives and accomplishments of the stakeholders concerned.

ingo.gentes@gmx.net

mirko nikolić is a postdoctoral researcher at the School of Culture and Education, Södertörn University. He/they work between arts and environmental humanities with research interest in intersections of environmental and climate justice, approached through gender, class and multispecies perspectives. mirko has published on extractivism, materialist philosophy, critical theory. In 2025, he/they published a collection of writing in verse documenting a constellation of anti- and post-extractivist struggles stretching the Balkans, North Europe and beyond.

mirko.nikolic@sh.se info@mirkonikolic.com

Olga Nikolić is a research fellow at the Institute for Philosophy and Social Theory. She earned her PhD in philosophy at the Faculty of Philosophy, University of Belgrade. In her research, she applies the phenomenological method to topics in the philosophy of education as well as in social and political philosophy.

olga.nikolic@ifdt.bg.ac.rs

Aleksandar Pavlović (Loznica, 1976) is a Senior Research Fellow at the Institute for Philosophy and Social Theory in Belgrade, with a PhD in Southeast European Studies from the University of Nottingham. His main research interests include cultural history of the Balkans, Serbian-Albanian relations and traditional Balkan society. He published *Imaginarni Albanac* (IFDT: Belgrade, 2019) and *Epika i politika* (Beograd: XX vek, 2014), and co-edited [*Kosovo – Serbia: A Different Approach*](#) (Belgrade/Prishtina 2022), [*Rethinking Serbian-Albanian Relations: Figuring out the Enemy*](#) (New York: Routledge, 2019), [*Politics of Enmity*](#) (Belgrade: IFDT/Donat Graf, 2018) etc. He publishes occasional columns in [Peščanik](#), [ResPublica](#) and [Beton](#).

aleksandar.pavlovic@ifdt.bg.ac.rs

Pablo Policzer, PhD (MIT), is an Associate Professor of Political Science at the University of Calgary. His research focuses on Latin American politics, particularly the intersection of security and governance through a complex systems lens. He previously held the Canada Research Chair in Latin American Politics (2005–2015) and served as Director of the Latin American Research Centre (2015–2020). He is the author of *The Rise and Fall of Repression in Chile*, winner of the Canadian Political Science Association Prize in Comparative Politics.

policzer@ucalgary.ca

Mariana Riquito is a PhD Candidate at the University of Amsterdam and a Junior Researcher at CES-UC. Mariana currently researches and writes about the contested realm of the so-called “energy transition,” exploring debates on extractivism, ecofeminism, ontological pluralism, and socioecological alternatives.

mariana.riquito@gmail.com

Jorge Rowlands is an anthropologist and holds a PhD in Geography (EHESS). He works as an independent researcher, and his work focuses on socioecological issues in Latin America, with particular attention to Indigenous peoples, mining, water, and the environment. He currently coordinates research on the socioecological impacts of large-scale mining, the characterization of territorial uses by Indigenous communities, and studies on human–animal relations.

jorge.rowlands@gmail.com

Ivana Stepanović is a permanent research fellow at the Institute of Advanced Studies Kőszeg and the Academic Coordinator at the UNESCO Chair for Cultural Heritage Management and Sustainability in Hungary. She holds a PhD in Anthropology from the Faculty of Philosophy, University of Belgrade, Serbia. Her research activities focus on digital ethnography, philosophy of technology, online activism, and the environmental impact of technology. Her book, *Influencers, Online Alliances, and Reconciliation in Southeast Europe: #Balkans* published by Routledge, explores the role of social media in fostering reconciliation among post-war nations.

ivana.stepanovic@gmail.com

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