

## Lithium and the Contradictions in the Energy Transition that Devastate the Global South In Favour of the Global North

*Contexts and contradictions of the lithium ion from Argentina, Chile and Bolivia to the Global North*

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### Introduction

**T**he energy transition led by the European Union (EU) is condensed in the European Green Pact (EGP)<sup>1</sup> from the continental strategy of becoming the global market leader in green growth. This is happening at the same time as US imperialism is competing with the rise of Chinese supremacy. From the geopolitical sphere, the extraction of lithium has intensified in the countries of Argentina, Chile and Bolivia, ignoring the finite capacity of the mineral and the water used in its extraction from the natural reservoirs of the basin of the so-called "Lithium Triangle" (LT) in South America.



Photo by [Alexander Schimmeck](#) on [Unsplash](#): Lithium salt harvest in the Uyuni Desert in Bolivia

The literature on artificial needs consumption is lavish in praising lithium's chemical qualities: lightweight and a low fusion point.<sup>2</sup> It has multiple uses and by-products,<sup>3</sup> and in

<sup>1</sup> ↪ Alfons Pérez. *Pactos Verdes en tiempos de pandemia*. Icaria Editorial El futuro se discute ahora. ISBN: 978-84120139-6-2. 2020. *The EGP is a programmatic framework of reforms with a broad sectoral scope, a massive mobilisation of economic resources, and concerns the world's largest single market. Its founding document of 11 December 2019 opens with a diagnosis that many other green pacts could share. It proposes to reduce GHG emissions in the face of the risk of biodiversity extinction, forest destruction and rising sea levels. It includes initiatives, strategies and policies".* pp. 24-25.

<sup>2</sup> ↪ SE. Secretaría de Economía. "Perfil del mercado de litio". México. Diciembre de 2018. P. 4.

<sup>3</sup> ↪ Such as in the glass and ceramics industry, the production of batteries for mobile phones, iPods and personal computers. The market for batteries for electric vehicles is constantly on the rise. Finally, there are lubricating greases, followed by aluminium alloys, air conditioning, continuous casting, rubber and thermoplastics, pharmaceuticals, industrial processes and chemical processing, and other products: Juliana Ströbele-Gregor. "El proyecto estatal del litio en Bolivia. Expectativas, desafíos y dilemas". Marzo-Abril 2013.

*The European energy transition with zero emissions by 2050 is another strategy for economic growth on a global scale in the face of the scarcity of cheap oil... bodies in the North are conspicuous by their absence of denunciations, studies or references to the irreversible ecological-environmental alterations and the very existence of Indigenous Peoples.*

less than five years, world demand will exceed the reserves in natural deposits. Lithium is being hoarded - mainly - by the electric car industry within the framework of the global energy economy or green capitalism. Lithium also represents the most efficient reservoir in the renewable generation of wind, solar, hydro and tidal electricity in the energy mix, under the International Energy Agency (IEA) guidelines, the World Bank (WB) and multilateral

development agencies.

In the LT are the salt flats of Atacama la Grande in Chile, the Salares Grandes and Laguna de Guayatayoc in Argentina and the Salares

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de Uyuni in Bolivia. Under the system of voracious capitalism, the energy transition is concealed, while neo-colonialism has been expanding in the salt flats occupied by Indigenous Peoples since pre-Hispanic times. Thus, the European energy transition with zero emissions by 2050 is another strategy for economic growth on a global scale in the face of the scarcity of cheap oil. However, governmental bodies in the North are conspicuous by their absence of denunciations, studies or references to the irreversible ecological-environmental alterations and the very existence of Indigenous Peoples. The externalisation of nature in the global market and indigenous communities' existence perpetuates the grave violations of human rights, a long legacy from the nefarious European conquest in South American countries.

Here I present the latest revision under the corrected mid-term target of a 55% reduction in pollutant gases by 2030 from the EU and other announcements in the same line of thought from China, Japan and Russia due to the shortening of the transition period from fossil fuel energy to renewables.<sup>4</sup> Furthermore, a review of the projections of Working Group I, Sixth Assessment Report, the second draft of IPCC Panel III, finds a change of language closer to climate collapse: in less than four years, Greenhouse Gas (GHG) emissions will reach an unabated ceiling in the water system as a whole. While *this is the result of improved observational datasets to assess historical warming, as well as progress in scientific understanding of the response of the climate system to human-induced GHG*

### Contents

- ➔ Introduction... (1)
- ➔ In the Salar de Atacama la Grande Basin in Chile... (5)
- ➔ Salinas Grandes and Laguna de Guayatayoc. Province of Jujuy in Argentina... (6)
- ➔ Corporate Dispossession of Water, Indigenous Resistance and Climate Emergency... (7)
- ➔ Lithium Triangle Countries: Nuances of Free, Prior and Informed Consultation ... (10)
- ➔ Uyuni Salt Flat, Bolivia. Lithium is a National Priority... (11)
- ➔ Lithium Triangle: Scientific and Technological Development... (13)
- ➔ Science and Technology... (13)
- ➔ Two Opposing Realities on the Road to Lithium Robbery... (15)
- ➔ The Global North's Energy Transition and its Contradictions... (16)
- ➔ The Oil Slump... (18)
- ➔ The Incompatibility of the Lithium Energy Transition and Green Capitalism with the Sustainability of People and the Planet... (21)
- ➔ Some Preliminary Proposals for Mitigating Climate Collapse... (24)
- ➔ By Way of Conclusion... (25)
- ➔ Related links: ... (26)
- ➔ About the author and Jus Semper... (27)

<sup>4</sup> ➔ Diego Herranz. [“Los bancos empiezan a retirar su apoyo financiero incondicional a las grandes petroleras”](#) 11 . 1 Mayo De 2021.

emissions,<sup>5</sup> we also lack sufficient scientific information on the magnitude of irreversible disruptions and detriments to the hydrological cycle and unidentified species in arid salt marsh ecosystems.

In the energy transition process, led by the EU, climate objectives do not appear in the priorities of the world's main polluters; on the contrary, they convey the false idea that they are complying with the Paris Agreement. Moreover, according to UNEP statistics,<sup>6</sup> corporations are increasing the volumes of lithium extraction with the addition of oil palm crops in the biofuel sector with high carbon emissions. Nor can we forget that the IPCC builds mathematical modelling scenarios and indicator projections for non-binding decision-makers. This unprecedented privilege exonerates large polluting industries from repairing the metabolic rifts in the region's ecosystems and agricultural activities without holding back on expanding maximum profits. Simultaneously, in the face of the climate emergency, other critical voices of scientists are emerging, exposing the fraud of direct air capture, nature-based solutions and carbon offsets approved at the UN. So, climate change has never mattered. *Let us not kid ourselves; the real reason we talk about energy transition is oil scarcity*, says Antonio Turiel.<sup>7</sup>

I have argued in previous writings that IPCC emissions have been lower than actual emissions. The IPCC-2021 agrees with me and justifies them from a scientific point of view: the limits at the frontiers of knowledge are being eroded as climate research progresses. Add the Cartesian linear method and the externalisation of nature since the beginning of the

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industrial era. This is important, as the technical reports of corporations, governments and international organisations manipulate poor estimates of climate emissions to their economic advantage. For example, plans for "net zero" emissions by 2050, with the approval of the IPCC, have become climate policy in the

transition to renewable energy. Hence the Big Polluters (BP, Shell, Total, Microsoft, Apple, HBSC, JBS, Nestlé, Cargill, among others) are greenwashing their climate decisions.<sup>8</sup>

Under the banner of net-zero emission plans for 2050, the North insists on other risky geo-engineering plans, reduction of fossil fuel subsidies, carbon capture and storage, carbon offsets and markets, green hydrogen and others. All of the above are recipes with new names for old ideas of plundering nature and plundering the global South, without the North escaping the mind-boggling heat waves, hurricanes, fires and unexpected floods with historical records dating back 60 to 100 years. The above events are not unique on Earth. They have different rhythms and frequencies. The sea devours coastal areas, glaciers melt, and Arctic sea ice melts in the summer. Each extreme natural event brings socio-economic, global migration, equity, and human rights determinants without an adequate response from governments.

Also of concern is the tendency of decision-makers to overlook the underlying causes of emissions related to two opposing and complementary natural phenomena: torrential rains and droughts that drive gigantic fires with the loss of primeval forests in the transboundary Amazon basin. It is the largest in the world and of vital importance in regulating regional and global climate through the recapture of GHG emissions. Globally, the Amazon has become the epicentre of

<sup>5</sup> ↪ Grupo Intergubernamental de Expertos sobre el Cambio Climático. Informe de Prensa. [“El cambio climático es generalizado, rápido y se está intensificando”](#). Agosto 9 de 2021.

<sup>6</sup> ↪ PNUMA. *Informe sobre la disparidad en las emisiones de 2019. Resumen. Programa de las Naciones Unidas para el Medio Ambiente*. Nairobi. Obtained from <http://www.unenvironment.org/emissionsgap>. 2019 and Nubia Barrera Silva. [Ethnic-Peasant Resistance in South America and Meso America to the 4.0 Agriculture of Catastrophe Capitalism](#) The Jus Semper Global Alliance. August 2020.

<sup>7</sup> ↪ Álvaro Minguito y Leire Regadas. [El mito de los coches eléctricos en la transición verde](#). Desde Abajo. 8 de agosto de 2021.

<sup>8</sup> ↪ Jesse Bragg, Rachel Rose Jackson, Souparna Lahiri. “La Gran Estafa: Cómo los Grandes Contaminadores imponen su agenda “cero neto” para retrasar, engañar y negar la acción climática”. Junio 2021. p. 8

transnational plundering of mineral raw materials - lithium at this writing-intensive agriculture of African palm plantations,<sup>9</sup> cereals and gigantic concentrations of cattle herds, (for example, in Brazil, according to GRAIN, there are more cattle than people)<sup>10</sup> for consumption in emerging and Northern countries. In contrast, the Coordination of Indigenous Organisations of the Amazon Basin (CICA) proposes *to avoid the point of no return in the Amazon by protecting 80% by 2025. This coalition calls for a global pact to protect the world's largest tropical forest.*<sup>11</sup>

At this time, the Paraná River flowing through Argentina, Brazil and Paraguay, the second most important river in the South and the Amazon Transboundary Basin, brings a historic drought that prevents the navigation of oil tankers and

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grain cargo in the river port of Santa Fé. The news focuses on three aspects: the economic losses for the oil-agro-industrial sector, the so-called *inconvenience* of more than 4,500 fishing families in the Province of Santa Fé to highlight the neglect they are subjected to and the government's disregard for fishing as a means of subsistence. And finally, the company Aguas Santafesinas recommends that citizens become aware and use water resources for strictly necessary activities.<sup>12</sup> Although this measure is self-imposed, it is clear

that the impact and responsibility for plundering water resources lie with the big polluters and not with the families affected. One of the principles of green capitalism is applied here.

Returning to the most important conclusion of the IPCC-2021 Report, it reintroduces the same trade-offs of previous reports. It leaves the likelihood of stabilising at 1-5°C if there are drastic reductions in GHG emissions in the coming decades, an unattainable goal under agro-extractive capitalism. In practice, the gaps between nature's macro metabolic rifts and the North's green transition projections emerge in the multiplication of historic and irreversible environmental disasters. In opposition, *the Big Polluters drive the 'net zero' distraction and work to displace real solutions behind the scenes. Net zero' is the final act of their grand evasion of responsibility for the climate crisis.*<sup>13</sup> On the other hand, the transnationals are extending the deadlines with renewed prospects to 2030/2050, and that some unexpected miracle of digital technology may bend nature's reactions in favour of the growth of capital. I agree with most experts on the impact of climate change on the planet that the problem cannot be solved with advanced technology but with political decisions, investments and a change in the system for economic growth.

In the era of neo-colonialism in South America, lithium extraction faces three major conflicts: (i) The reduction of reserves prevents meeting the excessive demand for cobalt, lithium, nickel, neodymium or dysprosium to cover the consumption standards of the energy transition. (ii) The submission of the LT countries to the interests of transnational power, without considering the deepening ecological threats in high Andean and desert soils due to water stress during most of the year. (iii) The intensified conflicts between transnationals and indigenous peoples due to the plundering of their territories/land, natural resources and the disregard for their rights and regulations, both in the region and in the international legal framework signed and ratified by the three states. The deep metabolic rifts in the Amazon

<sup>9</sup> ↪ Nubia Barrera Silva. [Ethnic-Peasant Resistance in South America and Meso America to the 4.0 Agriculture of Catastrophe Capitalism](#) – The Jus Semper Global Alliance. August 2020.

<sup>10</sup> ↪ Nubia Barrera Silva. [Water as the Pandora's Box of Ecological Debacle from South and Central America](#). – The Jus Semper Global Alliance, June 2021.

<sup>11</sup> ↪ Instituto del Bien Común. [UICN aprueba propuesta de los pueblos indígenas amazónicos a proteger el 80% de la Amazonía al 2025](#). 14 de septiembre de 2021.

<sup>12</sup> ↪ El drama de los pescadores afectados por el descenso del río Paraná: ["O le damos de comer a nuestras familias o pagamos los impuestos"](#). 30 de agosto de 2021.

<sup>13</sup> ↪ Jesse Bragg, Rachel Rose Jackson, Souparna Lahiri. p. 26.



transboundary basin are added to this, with unexpected reactions from nature, which runs through the entire mining-ecological conflict between the communities and extractive capitalism.

We know that transnational corporations *have a proven track record of deception, delays and denials, and a financial interest in continuing to pollute at any cost for the people or the planet.*<sup>14</sup> To this end, the World Bank creates the strategy of green capitalism within the framework of wealth concentration and the opening of markets for emission rights and other so-called green and clean offsets with environmental and sustainable rhetoric. Similarly, underneath the energy transition lie ambiguous expressions: sustainable capitalism, sustainable agriculture, sustainable use of energy and resources... as capital reproduces itself, consumption intensifies, emissions increase and the global North's energy transition is proposed.... the green economy hoax, an essential component of the policy of the European Green Pact (EGP) policy, emerges.<sup>15</sup>

Thus, as capital reproduces itself, consumption intensifies, emissions increase and the global North's energy transition is proposed. Hence, the green economy hoax, an essential component of the policy of the European Green Pact (EGP) policy, emerges. Ulrich Brand<sup>16</sup> reviews the two traps of green capitalism: In the first, it shifts the responsibility to humans as the main carbon emitters. In the second, euphemisms under the label of the energy mix prevail, with fossil energy in the first place, its false promises and arguments on emissions reduction. Just 100 corporations<sup>17</sup> are responsible for 70 per cent of historical emissions. This includes the fossil fuel industry - a leading member - agribusiness, logging, aviation, technology and the financial bodies that support them.

## In the Salar de Atacama la Grande Basin in Chile

Through Law 16319 of 1969, the lithium industry is designated as the exploiter of a mineral of nuclear interest, along with zirconium, niobium, titanium, cadmium, cobalt, helium and uranium. In this sense, the Chilean Nuclear Energy Commission directly exercises legal competence in its regulation. In 1979, Decree-Law No. 2886 declared lithium to be of national interest. Another feature of particular interest concerns the governmental tendency to issue environmental regulations, inspections, the management or complaint instruments for the benefit of the corporations Soquimich or SQM (Sociedad Química y Minera de Chile), Abermale of the USA and their allies who are in breach of the law to avoid compliance with contingency plans and the payment of penalties. In addition, alterations to the 2006 environmental permit reserved for the extraction of brine above authorised volumes for a period of two years (August 2013 to August 2015) and a deficient contingency plan for the Peine and Camar water system with losses in the water systems of the Salar de Atacama basin.<sup>18</sup>

In the updated agreement, Albemarle undertook to (i) cede to the member communities of the Council of Atacameño Peoples 3.0% of the profits or sales declared to the Chilean Treasury, plus 0.5% for Research and Development (ii) allow the participation of the communities in environmental monitoring, without prior consent, which therefore violated the

<sup>14</sup> ↪ Ibid. p. 26.

<sup>15</sup> ↪ James O'Connor. ¿Es posible el capitalismo sostenible?. Abril/junio de 2000.

<sup>16</sup> ↪ Silvina Frieria. "[Ulrich Brand: Dentro del capitalismo no se resuelve la crisis medioambiental](#)". Desde Abajo. . Agosto 1 de 2021.

<sup>17</sup> ↪ Jesse Bragg, Rachel Rose Jackson, Souparna Lahiri. pp 10-11.

<sup>18</sup> ↪ Amanda Romero, José Aylwin y Marcel Didier. "Globalización de las empresas de energía renovable". Triángulo del Litio. ISBN: 978-956-9315-12-1. Diciembre de 2019. They account for more than 60% of global lithium exports. Next in line is Sichuan Tianqi Lithium (Tianqi) - an Albemarle associate - of Chinese origin, a partner of the Canadian Lithium Americas Co. (LAC), with 24% of the non-metallic mining company. pp. 22-24.

rights of the Lickanantay people.<sup>19</sup> (iii) Sell up to 25% of what is produced in the country at preferential prices to specialised producers who manufacture value-added products in Chile. Under these criteria, the companies Sichuan Fulin Industrial Group (China), Molymet (Chile) and Samsung (South Korea) manufacture cathode material in Chile. This institutional commitment has increased the revenue received by the state by 40 per cent.<sup>20</sup>

In short, the regional and international regulatory framework is systematically violated. In signing the extension of the new lithium extraction contract in the Salar de Atacama between the Chilean state development corporation and SQM, the ecological fractures in the hydrological cycle and the repercussions on the national economy were neither assessed nor compensated for. For example, in the town of Quillagua, the Chilean state-owned company Codelco and SQM have depleted and polluted the water of the inhabitants of the Antofagasta region.

## Salinas Grandes and Laguna de Guayatayoc. Province of Jujuy in Argentina

Lithium belongs to the first category of the Mining Code as stipulated by Law 1919.<sup>21</sup> The basins also hold potassium, boron, magnesium, sulphates, carbonates and sodium chlorides, among other salts of economic interest.<sup>22</sup> Corporations gain access to exploration and exploitation rights by paying a royalty to the province with the deposit and a fee to the land owners, usually the native communities. Consequently, lithium is extracted without any profitability for the state (Garaventa). Since 2016, the national law exempts transnationals from paying withholding taxes. They only pay the national state a 3% royalty and *fiscal stability for 30 years, substantial tax benefits - among them, deducting the only taxes they pay 'income tax' and 'value added tax' - and exemptions from import duties, in addition to the fact that any taxes are calculated based on a declaration on exports made by the firm itself* (Slipak 2015).<sup>23</sup>

In the provinces of Jujuy and Catamarca, two projects are currently underway: Sales de Jujuy SA and FMC Minera del Altiplano, a subsidiary of the US-based FMC del Salar de Olaroz and Catamarca (Hombre Muerto). They account for 15% of the world's lithium and make the country the second-largest exporter of lithium from brines. So far, the province of Jujuy is the only one to declare lithium a strategic natural resource. By this ruling, *the national state is allowed only minimal interference, without any policy or participation in any lithium derivative value chain*.<sup>24</sup> Concerning the joint venture Sales de Jujuy SA<sup>25</sup> and JEMSE in 2018 gave way to phase 2 of the commercial production of lithium carbonate. Exploitation amounts to 45,000 tonnes per year.<sup>26</sup> Moreover, the alliance between JEMSE and the Seri Group of Italy, Orocobre is

*Indigenous peoples were stripped of their inalienable rights to their ancestral lands and territories.... have filed countless lawsuits and legal proceedings because companies have not complied with the obligation and responsibility of free, prior and informed consultation under national and international law.*

<sup>19</sup> ↪ Amanda Romero, José Aylwin y Marcel Didier. Ibid. p. 24

<sup>20</sup> ↪ Informe Especial. [Litio: un tesoro escondido en la Puna Argentina](#). Universidad Nacional de La Plata. 11 de julio de 2019.

<sup>21</sup> ↪ According to estimates by various specialists, it is estimated that by 2022, local extraction capacity could reach almost 200,000 tonnes per year, which is equivalent to a five-fold increase in current production.

<sup>22</sup> ↪ Informe Especial. [Litio: un tesoro escondido en la Puna Argentina](#). Ibid.

<sup>23</sup> ↪ Fornillo, Bruno. 2018. "La energía del litio en Argentina y Bolivia: comunidad, extractivismo y posdesarrollo". Colombia Internacional (93): 179-201. DOI: <https://revistas.uniandes.edu.co/doi/10.7440/colombiaint93.2018.07> p. 189.

<sup>24</sup> ↪ Informe Especial. [Litio: un tesoro escondido en la Puna Argentina](#). Op. Cit. P. 189.

<sup>25</sup> ↪ Formada por la minera Orocobre Ltd. (registrada en Australia y en Canadá) y la inversora bursátil japonesa Toyota Tsusho Corporation.

<sup>26</sup> ↪ Informe Especial. [Litio: un tesoro escondido en la Puna Argentina](#). Op. Cit. According to calculations by experts from the National University of La Plata (UNLP), Argentina can reach up to 130,000 tonnes per year if progress is made in the projects under development: Salar del Rincón (Energy), in Salta; Cauchari (Minera Exar), in Jujuy; Olaroz (Orocobre), in Jujuy. In addition, there are some seven projects in the pre-feasibility stage: Pozuelos (Salta); Salar de Ratones (Salta), Mariana 1, 2 and 3 (Salta), Centenario (Salta) and Gallego Project (Salta), Antofalla (Catamarca), Sal de Vida (Catamarca) and Tres Quebradas (Catamarca).

executing a lithium battery processing and construction project in Japan and has owned the company Borax Argentina for five decades.<sup>27</sup>

## Corporate Dispossession of Water, Indigenous Resistance and Climate Emergency

The Political Constitution of Pinochet's civil-military dictatorship (1980) sealed a turning point in mining exploitation under the special concession regime. Firstly, indigenous peoples were stripped of their inalienable rights to their ancestral lands and territories. This political scenario created the conditions required by the dictatorship to cede to the Abermale Company, a US company, the indigenous territories of the Lickanantay peoples<sup>28</sup> organised in 18 communities of the Indigenous Development Area. It also dispossessed the peoples living in the northern zone: Aymaras, Quechuas, Collas and Diaguitas to implement extraction projects in the Salar de Atacama basin, Soncor, Aguas de Quelana, Peine and La Punta-La Brava. The bleeding of indigenous lands intensifies droughts, environmental conflicts and temperature changes due to the convergence of different political decisions opposing their ways, needs and interests in *el buen vivir* (the good life) with their visions of development.

Since the beginning of 2018, Indigenous communities have filed countless lawsuits and legal proceedings against the SQM-CORFO companies because they have not complied with the obligation and responsibility of *free, prior and informed consultation* under national and international law. Likewise, lawsuits are piling up without any administrative

*The primacy of the rights of capital over the democratic and human rights of the people is manifested in the promulgation of the Water Code inherited from the Pinochet dictatorship. The State cedes water resources in perpetuity to the national and foreign private sector.*

process for the irregular *financing of political campaigns, tax fraud and environmental impacts*. In response to the reported crimes, government authorities have rewarded the companies with *new contracts, where SQM secured the exploitation of the resource until 2030 and even increased quotas to exploit, process and sell up to 350,000 metric tonnes (Mt) of lithium metal equivalent (LME)*.<sup>29</sup> In the Andes mountain range, the

transnationals have invaded the territory and surrounding areas, preventing free transit along easement trails to move animals to better lands during the summer season. And, to top it all off, they have appropriated community waters in valleys and basins destined for crops in meadows and farms in the tributaries of the mountain range.<sup>30</sup>

Hence, in South America, the architecture of the neoliberal model is being installed in Chile. Paul Walder attributes to Milton Friedman's disciples at the Chicago School (...) *the unique opportunity to apply, in a country battered and terrorised by weapons, the extreme theories of their master*,<sup>31</sup> associated by Naomi Klein with the shock doctrine. In the region, it soon spread to essential services, from the water supply, electricity or urban transport, education, health, pensions and even cemeteries, unleashing the enormous contradictions of this model.<sup>32</sup>

<sup>27</sup> ↪ Amanda Romero, José Aylwin y Marcel Didier. Op. Cit. P. 28

<sup>28</sup> ↪ Since ancestral times, the territory has belonged to the indigenous people of the Lickanantay (Lican Antai) or Atacameños, endowed with great wisdom in the use and management of water, whether in times of extreme scarcity or abundance. However, despite their intergenerational ties to the land, for more than two centuries, the state has overridden history, usurping indigenous lands and the indigenous commons for the benefit of public companies and private elites.

<sup>29</sup> ↪ Amanda Romero, José Aylwin y Marcel Didier. Ibid. Even more so if one takes into account the gradual reduction in rainfall, simultaneous episodes of increased periods of drought and the advance of the aridisation of the indigenous territories of northern Chile, aggravated by the climate emergency. In 2019, the driest period in the last sixty years, the rainfall deficit reached 70%, leading to a decree of agricultural emergency in the face of widespread water shortages in the municipalities of the country's capital. In addition, from 2008 to the present, there have been 111 declarations of water scarcity zones in basins, municipalities and provinces between the regions of Atacama and Aysén. (Larraín, 2019). Ibid. pp 20-23-27.

<sup>30</sup> ↪ Observatorio de Conflictos Mineros de América Latina OCMAL. Litio y Derechos Humanos. Santiago de Chile. Febrero de 2020.

<sup>31</sup> ↪ Paul Walder. *Neoliberalismo Extremo*. Punto Final N° 789. Desde el 6 hasta el 26 de septiembre de 2013.

<sup>32</sup> ↪ Ibid.

*The primacy of the rights of capital over the democratic and human rights of the people<sup>33</sup> is manifested in the*

*In times of global climate emergency, a real ecocide is taking place in the local high Andean wetlands in the bio-geographical region.*

promulgation of the Water Code inherited from the Pinochet dictatorship. The State cedes water resources in perpetuity to the national and foreign private sector: 90% of the consumptive water use rights (which do not return a flow to

the river) are in the hands of mining and agro-export companies, while practically 100% of the non-consumptive water use rights (which return a flow to the river) are in the hands of transnationals such as ENDESA.<sup>34</sup>

In other words, the state has conceded national sovereignty over the use and management of water to transnational capital and the national elite. Water is a fundamental right because it is an essential resource for all life forms for present and future generations. It is a common good of humanity. Now, in times of climate emergency, the ecosystems essential to the water cycle must be guaranteed by the states of the three countries. Although there are political-geographical borders in the macro-systemic region of the LT, in nature, there are laws of complex interconnection between closed circuits of the natural order that, when ignored, alter the temperature of the local climate with other natural, economic and social triggers. Under these circumstances, the agro-ecological approach of state-supported ethnic production mitigates risks to native food security, conserves water sources, controls erosion and reforests the soil through collective actions and indigenous self-determination practices.

In line with the above, due to the extreme drought of 2019, the executive branch decreed an agricultural emergency due to a lack of water in different regions and municipalities of the country's capital. At the same time, the rainfall deficit reached 70 per cent, being estimated as the driest winter season in the last 60 years. In addition, from 2008 to the present, there have been 111 declarations of water scarcity zones in basins, communes and provinces between the regions of Atacama and Aysén (Larraín, 2019). Thus, in 2016, the General Water Directorate:

*It warned that 70% of water in Chile is used for mining [especially lithium and copper] and 17% for the agricultural sector, leaving only 13% for human consumption. For its part, the National Institute of Human Rights (INDH) (2018), in its Map of Socio-environmental Conflicts, identified 116 conflicts, of which 28% correspond to the mining sector, and 33% are in indigenous territories, among which the communities of Peine, Toconao, San Pedro de Atacama and Socaire are involved.<sup>35</sup>*

The plundering of freshwater by transnationals is accelerating the water crisis, without policies, land-use plans or planning for water distribution based on the capacities of mining and agricultural use of the subsoil and soil. For the moment, the water breakdown in the case of Chile is the most alarming in the LT region. The local authorities have declared Valparaíso a disaster area due to high water demand without any response from the institutions of the neoliberal government. Currently, in Chile, the New Constituent is being written as a result of the social outburst (since 2019)<sup>36</sup> in search of the restoration of freedoms, human rights and social demands and the hydrological cycle as public goods are part of the agenda of the social movements. However, the problem is so severe that there is no time to wait, at the risk of a resurgence of socio-ecological and environmental conflicts, with new social revolts in the face of resistance and obstacles from local and national governments co-opted by regional and foreign business interests.

<sup>33</sup> ↪ Alejandro Teitelbaum. La Armadura del Capitalismo. 1ª. Edición. Barcelona. Icaria Editorial, s.a 2010. p. 186.

<sup>34</sup> ↪ Rodrigo Mundaca. La privatización de las aguas en Chile viola los derechos humanos. 17 de febrero de 2012.

<sup>35</sup> ↪ Amanda Romero, José Aylwin y Marcel Didier. Op. Cit. p. 26.

<sup>36</sup> ↪ At the time of writing.



Finally, the journey of extractive capitalism in the renewable energy transition transgresses local food security/sovereignty and natural heritage, leaving behind a trace of conflicts between socio-economic actors, governmental, community and indigenous associations and organisations in the country amidst the indifference of extractive corporations. In times of global climate emergency, a real ecocide is taking place in the local high Andean wetlands in the bio-geographical region. In San Pedro de Atacama, agricultural activities are at risk: *To produce one tonne of lithium, 2 million litres of water evaporate from the wells, i.e. 2,000 tonnes of water that cannot be recirculated.* Every day, 226 million litres of water are extracted.<sup>37</sup> At the same time, lagoons and other water recharge sites are being drained, with the aggravating factor of salinisation of freshwater.

A particular case is the arid high Andean areas of the Lithium Triangle, where the decline in sustainability of the ecosystems that provide water, biodiversity and plants threatens the crops and livestock of the surrounding populations. We emphasise that lithium mining threatens the microfauna dependent on the extracted salts. *These are very ancient*

*In the North's energy transition, the deception in manufacturing zero fossil fuel or hybrid vehicles, sold as green solutions is analysed, when in reality, their manufacture and energy sources contain fossil fuels.... 2030/2050 rapid decrease in emissions depends on the planned and reduced use of lithium as a finite mineral associated in its extraction with the colossal consumption of water in response to the unlimited and artificial needs of the North.... The use and management of water for the benefit of all the planet's inhabitants are only possible under a limited regime of human needs/satisfactions, alien to the capitalism of dispossession and the concentration of wealth in a few hands.*

*micro-organisms, 3.8 billion years old, in the Salar de Atacama and constitute an immense source of scientific, genetic and patrimonial wealth.* Similarly, in Argentina, geologist Fernando Díaz has argued that two million litres of water evaporate for every tonne of lithium extracted. Also, brine extraction to obtain lithium reduces the base level of groundwater in the basins, generating a decrease in freshwater outside the edges of the salt flats, causing the disappearance of lagoons and meadows.<sup>38</sup> In the Puna Jueña, a region of extreme drought, lithium mining and large-scale metalliferous mining of gold, silver, borax and, to a lesser extent, copper, iron, lead and salt, share the enormous use of water. The direct link between

mining exploitation and environmental damage to both populations and tourism is an undisputed fact.<sup>39</sup>

Let us emphasise two specific features of the exploitation of lithium extracted from brines and the ecological footprint in the manufacture of vehicles: (i) The secrecy of transnationals in the application of technologies and chemical substances, if we take into account, its condition of first alkaline metal, lightweight, reactive with a low melting point that makes lithium a different mineral. Furthermore, there is little ecological and institutional research. However, more studies of environmental impacts on climate, drought progression and deterioration of indigenous livelihoods under lithium extraction have been reported. (ii) In the North's energy transition, Alvaro de Regil analyses the deception in manufacturing *zero fossil fuel or hybrid vehicles*, sold as green solutions, when in reality, their manufacture and energy sources contain fossil fuels. This process includes lithium-ion batteries, large generators of carbon footprints under their manufacture, which are also non-renewable energy sources in Teslas and other electric vehicles.<sup>40</sup> Although the European Commission study (2019) concludes that emissions in the production process have fallen to an average of 77

<sup>37</sup> ↪ Observatorio de Conflictos Mineros de América Latina OCMAL. Litio y Derechos Humanos. p. 21.

<sup>38</sup> ↪ Observatorio de Conflictos Mineros de América Latina. OCMAL. Impacto socio ambiental en la extracción de litio en las cuencas de los Salares del Altoandino del Cono Sur. Santiago de Chile. Agosto de 2018. P. 45

<sup>39</sup> ↪ Ibid. P. 49

<sup>40</sup> ↪ Álvaro de Regil Castilla. [Transitioning to Geocratia](#). The Jus Semper Global Alliance. May 2020.

kg CO<sub>2</sub> per kWh, reducing the carbon footprint by 2 to 3 times in two years,<sup>41</sup> it also reveals that the manufacture of batteries for electric cars generates carbon dioxide emissions.

Likewise, lithium extraction has a dark side in the Southern Cone countries, related to the plundering of water and other environmental and human rights conflicts. UNDER THE IMMINENT COLLAPSE OF THE CLIMATE, the IPCC's 2030/2050 rapid decrease in emissions depends on the planned and reduced use of lithium as a finite mineral associated in its extraction with the colossal consumption of water in response to the unlimited and artificial needs of the North. Major decision-makers will not resolve the trade-off between lithium in the energy transition policy of the global North and the hydrological water cycle, a determining factor in the balance of ecosystems, the preservation of all forms of life, and thus the delicate balance of the regional climate impacting the Earth. The use and management of water for the benefit of all the planet's inhabitants are only possible under a limited regime of human needs/satisfactions, alien to the capitalism of dispossession and the concentration of wealth in a few hands. Finally, given the impossibility of capitalist degrowth, human populations, faced with future waves of increasingly unsustainable temperatures and their collateral effects, will only have the option of migrating towards ecosocialism based on values of solidarity, mutual support and respect for nature, the best exponents of which are the current Indian Peoples of South America.

## Lithium Triangle Countries: Nuances of Free, Prior and Informed Consultation

In all three countries, both in urban populations and in areas of lithium industry exploitation, the central conflict has to do with water-intensive lithium extraction methods, as I have reiterated. At stake in prior consultation is the agricultural

*The metabolic rifts of nature violate biological needs whose satisfaction is an absolute prerequisite for human existence.*

and artisanal development of the millenary peoples, the defenders of the natural heritage, who have the authority that requires informed negotiation in the salt flats in the evaluation process [and that] transcends mere formality with a state, administrative and

bureaucratic logic. Furthermore, these processes should respect the decisions of communities that do not wish to put their ways of life at risk and reject extraction in their territories.<sup>42</sup>

Territory/land represents the backbone of food security/sovereignty; water stress translates into increased droughts, the detriment of nutrients in agricultural soils and the development of indigenous agricultural activities, with severe impacts on the quality of food and health, especially for children.<sup>43</sup> In this struggle, the metabolic rifts of nature violate biological needs whose satisfaction is an absolute prerequisite for human existence (Fracchia cited by Foster and Clark).<sup>44</sup>

Relative to the dynamics of community approaches, there are nuances between rejection and acceptance of prior consultation. In the case of Bolivia, the intermediate positions vary, depending on whether their rights to change methods or technologies of intensive lithium extraction are respected and include prior acceptance of their proposals in the economic negotiation. In Potosí, community organisations and citizens have used legal arguments to oppose the project in this region. The lawsuit pointed out that the company should be located in the city, the legal domicile of the mining companies where *the most extensive mining operations are taking place*. As a result of the protests, the

<sup>41</sup> ↪ Erik Emilsson, Lisbeth Dahllöf. "[Lithium-Ion Vehicle Battery Production](#)". No. C 444. November 2019.

<sup>42</sup> ↪ Juan Manuel Repetto. [Litio: ¿Cuál es el impacto social y ambiental de las explotaciones? SLT Sobre la Tierra](#). Área de Divulgación Científica y Tecnológica en Agronomía y Ambiente. 14 de febrero de 2018.

<sup>43</sup> ↪ En la región del salar de Uyuni predomina la agricultura de quinua, papa y la ganadería de camélidos y ovejas. La explotación de sal se combina parcialmente con minería a micro escala de boro y potasio. La población urbana de Uyuni desarrolla el comercio, la artesanía y el turismo.

<sup>44</sup> ↪ John Bellamy Foster and Brett Clark. "[The Robbery of Nature](#)" The Jus Semper Global Alliance. August 2021. p. 16

government repealed the decree and maintained the existing management structure. In other disputes, communities demand that mining be suspended until the companies demonstrate that brine extraction and associated processes do not harm the salar ecosystem and freshwater for community consumption.<sup>45</sup>

In Chile, Argentina and part of Bolivia, the oligopoly operated by transnational corporations has reduced the application

*Transnational corporations are similar to the system of communicating vessels, through which neoliberal policies circulate freely on a planetary scale and, by usurping the technical-administrative functions of the governments of the periphery, disintegrate their national economies with severe social and environmental damage.*

of the international human rights legal framework to a mere paper exercise.<sup>46</sup> Thus, the installation of lithium industry megaprojects on strategic sites in indigenous territories is immersed in economic contradictions and unequal struggles, where the defence of nature plays the most decisive role. In the struggles against indigenous resistance, the transnational power of the South resorts to all kinds of legal trickery, disinformation, deception, the

discrediting of prominent leaders, dirty propaganda, and division between communities, even the use of government weapons or the intervention of private armies, to subdue or eliminate the resistance of influential people and activists.

In Bolivia and Chile, water is increasingly supplied by water tankers provided by governments. People remember the disastrous record of the drought of the 1980s in pushing many people from the Uyuni region into forced exile as migrant workers in Argentina. On the other hand, in South America, the ignorance of indigenous peoples prevails, even though they possess diagnoses, knowledge and strategies, as well as a diversity of agro-ecological practices and skills, in mitigating the impacts of metabolic breakdowns, not only in the agricultural and handicraft sectors but also in lifestyles and land use.

Finally, transnational corporations are similar to the system of communicating vessels, through which neoliberal policies circulate freely on a planetary scale and, by usurping the technical-administrative functions of the governments of the periphery, disintegrate their national economies with severe social and environmental damage. To this end, they impose a web of conventions, economic, financial and international treaties and legal constructs that supplant the basic instruments of regional and international law, including national constitutions and existing labour and social laws.<sup>47</sup>

## Uyuni Salt Flat, Bolivia. Lithium is a National Priority

The Plurinational State of Bolivia (2008), under the presidency of Evo Morales, enacted Decree 29496, *declaring the industrialisation of the Salar de Uyuni a national priority for the productive, economic and social development of the Department of Potosí*. The Bolivian Constitution grants the State Administration the collective interest and authority over

<sup>45</sup> ↪ Martin Obaya, “Estudio de caso sobre la gobernanza del litio en el Estado Plurinacional de Bolivia. 2019. Documentos de Proyectos(LC/TS.2019/49), Santiago, Comisión Económica para América Latina y el Caribe (CEPAL), 2019.

<sup>46</sup> ↪ Amanda Romero, José Aylwin y Marcel Didier. Op. Cit. The international legal framework applicable to indigenous peoples in Argentina, Bolivia and Chile is mainly based on Convention 169 of the International Labour Organisation (ILO), incorporated into domestic legislation, signed and ratified by all three states. Other standards have been added, including the International Covenant on Civil and Political Rights (ICCPR), the International Covenant on Economic, Social and Cultural Rights (ICESCR) and the International Convention on the Elimination of All Forms of Racial Discrimination. They are joined by the 2007 United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the 2016 American Declaration on the Rights of Indigenous Peoples. Amanda Romero et al. p. 37

<sup>47</sup> ↪ Alejandro Teitelbaum. La Armadura del Capitalismo. 1ª. Edición. Barcelona. Icaria Editorial, s.a 2010. p. 186.

all fiscal reserves, control and direction, from exploration to industrialisation, transport, commercialisation of strategic natural resources, and the manufacture of batteries.<sup>48</sup>

### Phases of the research and development process and plant installation

#### Phase 1: Research and pilot plants. Research and development processes. Duration: 2009-2010.

##### Activities and products obtained:

\*Objective of the experimental research: To decrease the magnesium/lithium ratio of the brine of the Uyuni salt flat, a chemical composition of the salt flats. The difference between this salt flat and others lies in the chemical and atmospheric conditions. Among them, Calla Ortega (cited by Martín Obaya. 2019) highlights (i) a lower average lithium concentration; (ii) a higher Mg/Li ratio, from 18/1 to 24/1 (the Atacama salt flat, for example, has a ratio of 6.4/1); (iii) lower evaporation rates due to the wet season in the region.

Two techniques were applied: (i) At the beginning of the process, the experimental technique was used on the chloride line, which generated about 4000 tonnes per day of liming sludge, equivalent to almost 1.5 million tonnes of waste per year. The magnesium is disposed of as waste instead of being commercialised. (ii) The current sulphate line uses liming at the end of the evaporation and concentration process of the compounds distributed in ponds, which generate three tonnes of waste for each use and magnesium is obtained for commercialisation extracted before the liming process. The State uses the chloride line for its use.

\* On a pilot scale, flow charts were defined for the processes of obtaining lithium carbonate and potassium chloride.

\*Start of the drilling plan between 20 and 50 metres.

-2011-2013: Finalisation of the engineering design for the equipment and facilities of the pilot plants. The first plant corresponds to the production of potassium chloride with a capacity of 3000 t per year. The potassium chloride produced by the pilot plant was sold on the domestic market.

-From 2012-2013. Assembly of the lithium carbonate plant in the locality of Llupi with a production capacity of 1t per day. In 2017, hexahydrate (bischofite) (7.7%), 495t of sodium chloride (0.50%).

The State owns and finances the industrial plant. China CAMC Engineering Co. is responsible for the execution of the project. On the other hand, the design of the lithium carbonate industrial plant was left under the responsibility of the German company K-Utec AG Salt Technologies while the pilot plant was in use.

Phase 2: Efforts concentrated on developing the conditions to start industrial production of lithium carbonate (15,000 t per year) and potassium chloride (350,000 t per year).

*Progress in the construction of access infrastructure, transport, telecommunications, water, evaporation ponds and other. In October 2018, the potassium chloride plant, designed by the German company Ercosplan and built by China's CAMC Engineering, was inaugurated.*

Phase 3: 2014. Progress was made in installing the various components of the Research, Development and Pilot Centre (CIDYP). In August 2017, the cathode materials pilot plant was inaugurated. The French company Greentech was responsible for the design and construction. The project completed pilot production at all stages of the value chain: production of lithium carbonate, cathode material and battery. In April 2017, at the pilot level, the National Strategic Public Company Yacimientos de Litio Boliviano (YLB) was created to replace the National Management of Evaporitic Resources (NMER), taking over all its functions. Also, searching for deposits, selecting and negotiating with foreign companies in the lithium-ion battery production phase was intensified.

Source: Adapted from Martín Obaya, Estudio de caso sobre la gobernanza del litio en el Estado Plurinacional de Bolivia. 2019. pp. 38 a 47

Lithium is one of the nine strategic projects of the state. Lithium accounts for 17 per cent of mining.<sup>49</sup> The management of lithium is part of a long-term strategy, in line with nationalisation policies, defined by Álvaro García Linera (2006) as *Andean-Amazonian capitalism*. Unlike Chile and Argentina, the recovery of lithium carbonate, which was below 50 per cent (Martín Obaya, 2019), was to be improved through the use of residual brine, the training of specialised scientists-technicians, the construction of infrastructure, and the management of information in the assembly of value chains from

<sup>48</sup> ↪ Martín Obaya. Op. Cit. Se asigna un presupuesto de hasta USD\$ 5,7 millones a la COMIBOL para el funcionamiento de una estructura institucional creada para tal fin. Se encargó la ejecución del proyecto a la Dirección Nacional de Recursos Evaporíticos (DNRE), creada por COMIBOL. Mediante la Resolución N° 3.801 se aprueba el proyecto para el "Desarrollo Integral de las Salmueras del Salar de Uyuni". Op. Cit. p. 34.

<sup>49</sup> ↪ Part of the Uyuni salt flat has two plants: in Colchani and Rio Grande, both in the department of Potosí.



the natural reservoir of lithium carbonate to the manufacture of the battery, controlled by Japan, China, South Korea and the United States.<sup>50</sup>

## Lithium Triangle: Scientific and Technological Development

For NMER's success with the selected consortium, the following minimum conditions were met: (i) Be willing to enter

*The progressive governments of Bolivia and Argentina have made headway in research into the exploitation and industrialisation of lithium mining due to the neo-colonial limitations imposed on peripheral countries in the supply of cutting-edge technology*

into a partnership contract with YLB, subject to agreement on the state's 51 per cent majority shareholding. (ii) Provide experience, proven and state-of-the-art technology in installing and operating the required and additional plants. (iii) Guarantee the market for the products manufactured by the association in Bolivian territory, especially lithium-ion batteries; and (iv) Be willing to process the waste. The researchers defined this phase

of the project as *one of learning and capacity building* based on internal R&D activities, without the participation of experts and academics, as is the case in Argentina.<sup>51</sup>

Finally, in Argentina, lithium is exported as raw material. In Chile and Bolivia, it is a strategic resource from the different points of view of the legislative framework, progress in the development of activities, products obtained and forms of profit-sharing. However, the progressive governments of Bolivia and Argentina have made headway in research into the exploitation and industrialisation of lithium mining due to the neo-colonial limitations imposed on peripheral countries in the supply of cutting-edge technology, low investment by national states, and the concessions granted to transnationals in Argentina and Chile, while in Bolivia there is the experience of national control of the Salar de Uyuni salt flats.

## Science and Technology

In the energy transition framework in the global North, several advanced technology prototypes have been created in Argentina and Bolivia. The National University of La Plata (UNLP) in Argentina has been researching the enormous potential of lithium for a decade.<sup>52</sup> Moreover, lithium is one of the strategic axes of scientific policy aimed at export once it has become a domestically developed technology. Between 2012 and 2013, two prototypes were created: a *motorbike and an electric tricycle*, considered the first vehicle in South America to be powered entirely by lithium batteries. In addition, the engineer Garaventa and his team manufactured the 100% ecological *University Ecobus*. These two units travel the streets of the Platense forest, an unprecedented advance in the countries of the Southern Cone. This was followed by the *Ecoauto*, the first electric car.<sup>53</sup> Moreover, in Bolivia, in 2019, the company Quantum built a more economical and practical means of transport.<sup>54</sup> A coup d'état against President Evo Morales interrupted the process of

<sup>50</sup> ↪ Juliana Ströbele-Gregor. Op. Cit. *The largest Bolivian lithium deposits are found in the Uyuni salt flat, located at an altitude of 3,670 m in the department of Potosí, and its salt crust covers an area of 10,000 km<sup>2</sup> (180 km long and 80 km wide).*

<sup>51</sup> ↪ Martín Obaya. Op. Cit. p. 40

<sup>52</sup> ↪ Informe Especial del litio. Op. Cit. It set up the Lithium Working Group composed of more than 9 scientific institutes carrying out interdisciplinary projects to validate lithium as a clean energy source and alternative to fossil fuels in Argentina.

<sup>53</sup> ↪ Ibid. The electric tricycle made its first long-distance journey, between the cities of La Plata and Mar del Plata, by road.

<sup>54</sup> ↪ Felipe Vallejo Uribe. *Un automóvil eléctrico construido en Bolivia*. Octubre 1 de 2019. It is a two-person urban car priced at around \$5,000. Model E2 weighs 420 kilograms including batteries, and is registered as a quadricycle in several Iberian American countries. It is powered by a 2 kilowatt motor, or 2.8 hp. The maximum speed is limited to 45 kilometres per hour, the range is around 40 kilometres. According to the manufacturer, the maximum slope it can cope with is 20 degrees. It has five 80 Ah lead batteries which take six hours to charge.

sovereignty in the industrialisation of lithium amidst geopolitical events with interest in the country's lithium, including Elon Musk, owner of Tesla.

Returning to Argentina, the success in prototype manufacturing has promoted *the training of professionals in lithium carbonate production, specifically in the salt flats of northwest Argentina, due to the existence of significant prospective potential resources* (Etcheverry). According to Visintin's calculations, lithium carbonate will remain at current price levels for 20 to 30 years.<sup>55</sup> From the academic initiative, *the country could become a battery producer. A 60-kilowatt battery that a car needs costs between 20 and 30 thousand dollars (...), it is an opportunity to generate jobs through the development of high technology with a national stamp.*<sup>56</sup> It should be said, *the price difference between the raw material and the battery is significant: a tonne of lithium carbonate costs around 10,000 dollars while a car battery, which uses approximately 10 kilograms, costs between 10,000 and 20,000 dollars (lithium, therefore, represents only 0.6% of its cost) in 2017.*<sup>57</sup>

In Fornillo, CONICET reports the training of 239 workers, including researchers, technicians and scholarship holders, most of whom do not apply the knowledge acquired, as the private sector does not link them to their companies and prefers to import batteries. As a result, Argentina has so far not been able to go beyond the scientific contribution.

*Bolivia is the only country that has declared lithium under the cover of national sovereignty; behind the decision to produce cutting-edge technology, the indigenous peoples retain control over their territories/land, water in all its forms and states from the orbit of cultural values.*

Moreover, *the country possesses key raw materials and has in-depth knowledge of complex chemistry but does not have the industrial capacity to make the physical part of the battery (although it does assemble them, but with imported components).*<sup>58</sup> In practice, the lithium industrialisation transnationals have absolute control over all production processes and the substantial *innovation royalties*<sup>59</sup> originating

from the technological frontier. In this regard, the *United Nations Conference on Trade and Development worked for a long time to elaborate a code of conduct on technology transfer. However, an international consensus on its content was never reached, as the interests at stake in the rich countries and the large transnational corporations made such an agreement impossible. Other initiatives on foreign investment and intra-firm relations also failed.*<sup>60</sup>

Consequently, South America's subordination to transnational capitalism blocks the implementation of industrialisation projects already licensed almost for free and of global strategic interest. Bolivia is the only country that has declared lithium under the cover of national sovereignty, now taken up again under the presidency of Luis Arce. Time will tell if independence from the countries of the North and China will allow them to transcend the pattern of primary export development and move towards value addition. Furthermore, behind the decision to produce cutting-edge technology, the indigenous peoples retain control over their territories/land, water in all its forms and states from the orbit of cultural values, sacred symbology, considered as architects of agricultural, food and commercial activities within the regulatory framework of national and international human rights.

<sup>55</sup> ↪ Informe Especial. Litio. Op. Cit. This forecast is far from the SOMO and Rystad Energy forecasts as will be seen below.

<sup>56</sup> ↪ The vehicle is quiet, has a seating capacity for 13 passengers and travels at a speed of no more than 20 kilometres per hour. A plug socket allows the batteries to be recharged. It has no polluting effects. It is a VW Gol vehicle adapted from recycled materials. It plugs into a standard socket and consumes half the energy of an air conditioner to recharge in an estimated 5 hours. The range is between 90 and 70 km at an average speed of 70 km/hour.

<sup>57</sup> ↪ Bruno Fornillo. "La energía del litio en Argentina y Bolivia: comunidad, extractivismo y posdesarrollo". Colombia Internacional (93): 179-201. 2018. p. 182.

<sup>58</sup> ↪ Ibid. p. 190

<sup>59</sup> ↪ Geopolítica del Litio : Industria, Ciencia y Energía en Argentina. en "Del salar a la batería; coordinación general de Fornillo, Bruno. - 1a ed. . - Ciudad Autónoma de Buenos Aires : El Colectivo ; CLACSO, 2015. p. 82

<sup>60</sup> ↪ Alejandro Teitelbaum. Op. Cit. p. 125

## Two Opposing Realities on the Road to Lithium Robbery

The record of transnational violence in South America is quite extensive. Let us look at two examples from Argentina and Bolivia. In 1972, Chilean president Salvador Allende stated before the United Nations: *We face a real head-on*

*In the imperial dispute for control of the plundering of natural resources, US hegemony in South America has created a jigsaw of political instruments, whether financial, economic, military or through the IMF and the OAS.*

*conflict between the big corporations and the states. They are interfering in political, economic and military decisions. The following year, the Chilean president was overthrown and assassinated. International Telephone and Telegraph was affected by the nationalisation of the telephone company in which it held 70% of the shares. It was accused of promoting, participating in and financing the coup d'état, similarly, with the nationalisation of the*

*copper mines owned by US companies. In the military action, the CIA was directly involved. In Argentina, during the military dictatorship of 1969-1973, the anti-union repression, although widespread, was concentrated in the province of Cordoba, with the strong participation of transnationals such as Fiat.*<sup>61</sup>

In the imperial dispute for control of the plundering of natural resources, US hegemony in South America has created a jigsaw of political instruments, whether financial, economic, military or lending institutions such as the IMF and multilateral organisations such as the OAS. In this robbery, lithium represents a critical factor in developing countries' energy transition and technological standards.<sup>62</sup> This is what Luis González calls *an eco-fascist or authoritarian transition*.<sup>63</sup> It was in this context that the OAS-orchestrated coup d'état against Evo Morales in Bolivia took place. Then came the undisputed victory of Luis Arce in the Bolivian elections, in the first round with 51.14 per cent. President Arce declared: (...) *the government of Evo Morales was about to sign an agreement with a German company when the uprising occurred. Bolivia would be the majority partner in this pact whereby a plant would be installed, and lithium batteries would be exported from the country.*<sup>64</sup> *The circumstances under which the president was cornered into resignation (...) his departure for Mexican exile, the silence of the great democracies of the West and the rhetorical passivity of its neighbours will go down in history as one of the great wounds of our America.*<sup>65</sup>

The transition from the imperial power of the US to the hegemony of the People's Republic of China is advancing steadily in world geopolitics. In this phase, the efficient management to control the expansion of Covid-19 and its variants within its borders stands out. Unlike the economic and military expansionism of the US, China *is consistent [with] the status of a country that expanded with socialist foundations, mercantile additions, and a capitalist model linked to globalisation*. The one-party conception has driven economic opening reforms, allowing the entry of a market economy and the creation of private enterprises within the country in borders identified by the internal socialist system, officially called Socialism with Chinese characteristics without external confrontations.<sup>66</sup>

<sup>61</sup> ↪ Alejandro Teitelbaum. *La armadura del capitalismo*. Barcelona. Icaria editorial s.a. p. 82

<sup>62</sup> ↪ Agustina Sánchez, "Detrás del Golpe: la industrialización del litio en Bolivia".

<sup>63</sup> ↪ Minguito, Álvaro y Leire Regadas. "El mito de los coches eléctricos". *Desde Abajo*. 8 de agosto de 2021.

<sup>64</sup> ↪ Diego Casomarzo. "Control del litio estuvo detrás de golpe de Estado en Bolivia: Luis Arce". marzo 24 de 2021.

<sup>65</sup> ↪ Eduardo Febbro. "Golpe a golpe". 14 de noviembre de 2019. Desde Abajo

<sup>66</sup> ↪ Claudio Katz. "Estados Unidos y China: Una puja entre potencias disímiles". 19 de abril de 2021.

In South America, China, indivisible from its policy of economic hegemony, has entered the US *backyard*,<sup>67</sup> inserting itself into the peripheral economies with mining and energy projects. In times of crisis, it has supplied vaccines in the form of humanitarian and diplomatic collaboration. In recent years, China has played a leading role in the supply chain of raw materials (commodities) and the manufacturing industry. In 2019, Reuters reported China's control over about half of lithium production and accounted for 60 per cent of battery manufacturing. So, according to Claudio Katz, South America needs to combine resistance to US domination with trade renegotiation with China.<sup>68</sup>

Recent lithium discoveries in Sonora, Mexico, amount to 243.8 million tonnes. The president's government and the

*The concept of climate justice is incorporated into the factors of responsibility for emissions in the North. However, it excludes peripheral countries with lower emissions of their own, which nevertheless bear the brunt of the effects of GHG emissions due to the over-exploitation of raw materials with irreversible metabolic rifts in nature's life cycles.*

Senate are moving ahead with a constitutional amendment to declare lithium national property. At the end of July 2021, Mexico and Bolivia signed a letter of intent on cooperation to design joint projects for the exploitation, production and processing of lithium.<sup>69</sup> In addition to the regulatory framework, the geostrategic vision of these two countries transcends the policy of exporting lithium as a raw material (commodity). On the other hand, in terms of technological hegemony, *Washington seeks to guarantee its access to Mexico's raw materials ('commodities')*

*within the framework of the T-MEC.* This trade agreement demands a high regional content in the production of batteries for electric cars.<sup>70</sup> As can be seen, the process of lithium exploitation is at a preliminary stage.

## The Global North's Energy Transition and its Contradictions

The concept of climate justice is incorporated into *the factors of responsibility for emissions* in the North. However, it excludes peripheral countries with lower emissions of their own, which nevertheless bear the brunt of the effects of GHG emissions due to the over-exploitation of raw materials with irreversible metabolic rifts in nature's life cycles.

The repeated non-fulfilment of climate commitments since the signing of the Kyoto Protocol (1997) is compounded by

*Sustainable decarbonisation has been in decline since 2019 under the energy mix policies; fossil energy is outpacing renewables in the face of economic growth in emerging countries.*

another demagogic maxim: energy for all, from the populations living in energy poverty in the Global North and South to the 850 million people without electricity, a figure that is on the rise due to the increase in global poverty by 2030. The Sustainable Development Scenario of the

International Energy Agency (IEA) assumes the full implementation of the Sustainable Recovery Plan between 2021 and 2023 based on energy policies towards a resilient energy system adapted to climate objectives on a global scale.<sup>71</sup> It

<sup>67</sup> ↪ Xinhua Español. China-Iberian America trade volume exceeded US\$300 billion in 2018. 21 September 2021. In just a decade, bilateral trade volume between China and South America reached a record \$307.4 billion in 2018, up 18.9 per cent year-on-year, according to data released by China's General Administration of Customs (GAC). It has also diversified exports to the continent within the policy framework of raising the quality and prices of exported products. By the end of 2018, a total of 16 Iberian American and Caribbean countries, including Uruguay, Costa Rica, Chile and Ecuador, had signed memoranda of understanding with China to build the Belt and Road jointly. ECLAC established, for 2020, that the reprimarisation of exports to Asia would fall less than average, recording -4% in China due to the effects of Covid-19 on international trade and logistics.

<sup>68</sup> ↪ Claudio Katz. Op. Cit..

<sup>69</sup> ↪ Héctor Alfonso Morales. "México, con la mina de litio más grande del mundo; chinos buscan explotarla". Forbes México. 12 de diciembre de 2019.

<sup>70</sup> ↪ Noyola, Ariel. "El litio, un elemento clave para hacer de México una potencia: la batalla por el control del 'oro blanco'". 2 de septiembre de 2021.

<sup>71</sup> ↪ La AIE lanza una hoja de ruta del sector energético en el Informe 'Recuperación sostenible'. Smart Grids Info Junio de 2020.



also opens the gap between weak government policies concerning IEA projections and the emissions cap agreed in the Paris Agreement.

Sustainable decarbonisation has been in decline since 2019 under the energy mix policies.<sup>72</sup> This means that fossil energy is outpacing renewables in the face of economic growth in emerging countries, demographic growth in Asia, the Global South and the artificial needs of the North. At Erald Kolasi, there are fundamental limits to the amount of solar energy absorbed by solar panels and converted into valuable electrical energy. Most commercial photovoltaic systems convert less than 30% of the solar energy they absorb into electricity. The rest of the energy is lost as heat and infrared radiation.<sup>73</sup>

First of all, replacing oil in the energy mix, as the most optimistic people assume, creates new problems linked to land ownership and other environmental problems. Let us look at three cases: To begin with, in Spain and other countries, energy companies and investment funds have taken to encroaching on villagers' land without their knowledge or authorisation. Elsewhere, they completely obstruct agricultural activity and livestock grazing. All this has put farmers, ranchers, environmentalists and villagers on the warpath. *Once again, the farmer sees how someone comes onto his land, squeezes it and takes the proceeds far away from the area, without contributing to the improvement of the village and its environment. El Economista has published: The uncontrolled growth of photovoltaic plants is causing alarm in the countryside, which is mobilising to stop attempts by local councils to 'expel' farmers and livestock breeders from the land and pastures they have been using for decades, or the creation of enormous wind farms in areas of high potential for wine tourism.*<sup>74</sup> The dispossession of land that has been standard practice in the Global South for two centuries is thus being transferred to the North.

Secondly, the turbine blades of wind turbines are not easily destroyed or recycled in landfills at the end of their 50-year lifespan. They are made of materials resistant to hurricane winds and other extreme weather events. Recycling them requires state-of-the-art technology such as that developed by *Global Fiberglass Solutions* but may not be available to all countries. Thirdly, hydropower generated in large hydro infrastructures can extract the most potential with the least toxic emissions. In this way, some EU countries are embarking on constructing large dams in the basins of peripheral countries, whether in Asia, Africa or South and Central America.

*The environmental costs of hydropower projects far outweigh the economic benefits and accelerate the frequency of extreme weather events.*

On the other side of the coin, however, hydropower infrastructures alter the functions of fluvial and marine ecosystems

*It is imperative to protect and use them in a socially and environmentally equitable manner. This is only possible through ecosocialist governance that favours collective consultation between communities, their traditional rulers.*

and destroy the livelihoods and subsistence economies of millions of people living along the banks of rivers and secondary watercourses. In times of climate emergency, to what extent is it acceptable for rich countries to steal water from the South to sustain their normal consumption levels? The environmental costs of hydropower projects far outweigh the

<sup>72</sup> ➔ integrado por biocombustibles y residuos, siguen la solar fotovoltaica, la solar termoeléctrica, la eólica y la hidráulica con igual magnitud, en el otro extremo la nuclear, con el valor más alto de todas las energías.

<sup>73</sup> ➔ Erald Kolasi. *Energy, Economic Growth, and Ecological Crisis* The Jus Semper Global Alliance. May 2021. P. 8

<sup>74</sup> ➔ Luis Portillo Pasqual del Riquelme, Pilar Jiménez-Landi Usunáriz. "La devastadora invasión de los grandes 'parques' solares fotovoltaicos (PSFV) y las protestas de agricultores, ganaderos, ecologistas, sindicatos, científicos y vecinos (La batalla de Mérida y de otros muchos pueblos de España)". Pensamiento crítico. Mayo de 2021. p. 3.

economic benefits and accelerate the frequency of extreme weather events. It is worth noting that human well-being, including that of the North, depends critically on watersheds that are distributed and interconnected across the length and breadth of the Earth. Hence, it is imperative to protect and use them in a socially and environmentally equitable manner. This is only possible through ecosocialist governance that favours collective consultation between communities, their traditional rulers. This approach to sustainable use is at odds with the savage neo-colonialism of capital applied in the South, using little or no environmental standards imposed by international organisations analogous to mercantile supply chains under the banner of the plundering and destruction of the Earth's macro-metabolism.

Accordingly, at a time when water is submerging large cities, fire is devouring rainforests and tropical dry forests with mind-boggling temperatures, the self-consumption of energy from natural sources in each territory/community is being imposed. The populations of peripheral countries have developed practices, strategies and techniques for generating electricity with emission-free technologies. This position coincides with that of Antonio Guzmán's and is increasingly supported by more and more experts.<sup>75</sup> In the fair energy transition, clean, waste-free, continuous and self-consumed

*Green capitalism will extract every last drop of oil and in practice, evade the responsibilities and lethal consequences of fossil energy. In contrast, renewable technologies (...) cannot solve the global ecological crisis under the economic regime of capitalism due to the perennial quest for profit.*

energy should be promoted in each country, as needed in each population, without connection to the grid. Turiel proposes harnessing renewable energy, where it is captured to avoid losses in its transport, which can be used as it arrives, instead of converting it into electricity or hydrogen with high losses.<sup>76</sup> This approach departs from the IEA, which is akin to green capitalism. On the other hand,

placing social justice considerations at the centre of the climate debate has an instrumental purpose that can be applied to climate and energy transition policies, as it can help build and maintain social cohesion during a period of radical social, economic and cultural change.<sup>77</sup>

## The Oil Slump

BP Plc<sup>78</sup> blames the Covid-19 crisis for reducing oil and gas demand by 40 per cent over the next decade. Similarly, Exxon Mobil<sup>79</sup> and Anglo-Dutch Shell peaked in 2018 and will continue their decline over the next three decades.<sup>80</sup> For Antonio Turiel, oil companies since 2014 have reduced exploration and development spending by 60 per cent. (Repsol has reduced it by 90 per cent) and in the coming years, there will be a drastic reduction in cheap oil.<sup>81</sup>

From the IEA's projections, *whichever way the energy system goes, the world will remain heavily dependent on oil supplies from the Middle East for years to come.*<sup>82</sup> In short, green capitalism will extract every last drop of oil and, in

<sup>75</sup> ↪ Antonio Barrero. [El último informe de la Agencia Internacional de la Energía denuncia las contradicciones del sistema energético global](#). 14 noviembre de 2019. See also: Nicholas Bainton, Deanna Kemp, Eleonore Lèbre, John R. Owen, Greg Marsto, [The Energy-Extractives Nexus and the Just Transition](#) — The Jus Semper Global Alliance, December 2021, p. 13.

<sup>76</sup> ↪ Antonio Turiel. [El debate renovable: naturaleza viva versus naturaleza muerta](#). Julio 24 de 2021

<sup>77</sup> ↪ Nicholas Bainton, Deanna Kemp, Eleonore Lèbre, John R. Owen, Greg Marsto, [The Energy-Extractives Nexus and the Just Transition](#) — The Jus Semper Global Alliance, December 2021, p. 13.

<sup>78</sup> ↪ Rakteem Katakey, [“BP dice que la era del crecimiento de la demanda de petróleo ha terminado”](#). Petrobanca. 14 de septiembre de 2020.

<sup>79</sup> ↪ David Ficling, [“Incluso Exxon Mobil está capitulando para alcanzar el pico de la demanda de petróleo”](#). Diciembre 1 de 2020.

<sup>80</sup> ↪ Treehugger. [“Shell dice que su producción de petróleo ha alcanzado su punto máximo.”](#). 17 de Febrero de 2021.

<sup>81</sup> ↪ Antonio Turiel. [“Predicciones para 2021”. 30 de Diciembre de 2020. The Oil Crash.](#)

<sup>82</sup> ↪ Antonio Barrero. [El último informe de la Agencia Internacional de la Energía denuncia las contradicciones del sistema energético global](#). 14 de noviembre de 2019.

practice, evade the responsibilities and lethal consequences of fossil energy, which is not part of the corporate script. In contrast, *renewable technologies (...) cannot solve the global ecological crisis under the economic regime of capitalism due to the perennial quest for profit.*<sup>83</sup> For Herbert Marcuse, *the science of nature was developed under the technological a priori that portrays nature as a potential vehicle, an instrument of control and organisation. And the seizure of nature as a (hypothetical) instrument precedes the development of any particular technical organisation.*<sup>84</sup>

Coal, which supplies 38% of the world's electricity, exceeds the rate of any fuel. Global market producers consume coal above international climate limits. There are two energy worlds with different policies on GHG emissions reduction. In the East, coal plants in China and India are booming, generating many jobs and, along with electricity, receiving government subsidies. In the West, coal plants are being shut down as the price of electricity from natural gas and renewables undermines them. Net coal capacity would have been declining since 2018 without China, estimates *Global Energy Monitor*.<sup>85</sup> However, we should remember that the EU generates more emissions than China with the destruction of tropical rainforests, biofuel (oil palm) and agri-food productions.<sup>86</sup>

*Coal's unprecedented growth in electricity generation maintains coal's central role in the world's largest economies.*

According to the IEA, the electricity sector accounted for just over 40% of the fall in coal use in 2020. In contrast, the rapid increase in coal generation in Asia accounts for three-quarters of the rebound in 2021, which is attributed to an exceptional cold snap in the continent's northeast. Thus, coal's unprecedented growth in electricity generation maintains coal's central role in the world's largest economies.<sup>87</sup>

SOMO's forecasts show that mass production of electric vehicle batteries from lithium, cobalt, manganese, nickel and graphite far exceeds projected extraction volumes extended into the next decade.<sup>88</sup> SOMO's estimate is similar to Rystad Energy's projections<sup>89</sup> that between 2027-2030, the increase in demand from shortfall extraction could triple lithium-ion prices by the end of the decade. It also estimates that the supply shortfall could reach a backlog of 3.3 million electric vehicles with a 75 kilowatt-hour (kWh) battery by 2027. The impact will reach about 9 million electric vehicles in 2028 and about 20 million electric cars in 2030.

<sup>83</sup> ↪ Erald Kolasi. [Energy, Economic Growth, and Ecological Crisis](#) The Jus Semper Global Alliance. May 2021. P. 8

<sup>84</sup> ↪ Herbert Marcuse, *El Hombre Unidimensional*. México.: Editorial Joaquín Mortiz. 1954. P. 180.

<sup>85</sup> ↪ Michael J. Coren. ["La industria del carbón finalmente está cerrando más plantas de las que está construyendo"](#). Quartz 6 de agosto de 2020.

<sup>86</sup> ↪ Nubia Barrera Silva. [Capitalism of Dispossession in the Palm Oil Plantations in the Countries of the Global South - Contexts, Struggles and Peasant Resistance](#). The Jus Semper Global Alliance. August 2020.

<sup>87</sup> ↪ Revisión energética mundial 2021. [Carbón](#).

<sup>88</sup> ↪ Alejandro González & Esther de Haan SOMO. The battery paradox. Diciembre de 2020. ISBN: 978-94-6207-156-8. Centre for Research on Multinational Corporations. Pp. 34-35

<sup>89</sup> ↪ Rystad Energy. ["Millones de vehículos eléctricos pueden enfrentar retrasos en la producción a partir de 2027 a medida que la capacidad de extracción de litio se retrasa."](#) 14 de abril de 2021.

## Lithium projections from salt flats to the Global North demand (in tonnes)

Mineral	2018 Production	Policies stated by the IEA Scenario. Battery demand for electric vehicles in 2030	Global Battery Alliance. Demand for batteries in transport, energy storage and consumer electronics in 2030	Reference minerals. Demand for lithium-ion batteries for all applications in 2029.
Lithium	95,000	185,000	275,972	484,313
Cobalt	148,000	180,000	274,000	466,000
Manganese	18,900	177,000	22,600	379,000
Nikel	2,400,000 (all nikel)	925,000 (class 1 nikel)	1,061,000 (class 1 nikel)	1,849,000
Graphite	1,120,000	-	-	3,591,000

Source: Taken from Alejandro González & Esther de Haan Somo. Compiled by various authors. p. 34

Moreover, Rystad Energy foresees difficulties in the production lines of other battery-demanding vehicles, such as buses,

*Demand for lithium-ion batteries in 2030 will mean a 10-fold increase in demand for copper and a 14-fold increase in demand for aluminium compared to 2019... These predictions exclude the amount of water and energy required for this tremendous amount of mining or the waste and emissions to be generated.*

trucks and hybrid cars, the shipping and aviation industries and others. Grid storage will also be affected by a lithium shortage. An alternative to the shortage of the mineral is related to the incorporation of recycled batteries in the market. But they are also not without problems: they are polluting and energy-intensive; they are cheap to manufacture and discarded after their useful life. So, as the pace of predictions change with different extraction indicators, demand chronologies and

global temperature changes, energy sector champions plan and expect new technologies from the US or Europe, with possible new emission reduction projections between 2030 and 2050. Consequently, the price of minerals will have a significant impact on the production costs of lithium-ion cells. Indeed, the data predicted by various energy agencies come as a major blow to corporations' unbridled ambitions in building electric vehicles.

Let us now look at other mineral calculations that are rarely considered in the projections of the energy mix and e-

*Mass mobility is over and will not be restored. The mass incorporation of the electric car in the context of the climate crisis is unsustainable. It clashes with the planet's biophysical limits, limiting availability to a few and deepening class differences; economic degrowth will be an unplanned event, succumbing to the power of transgressions of the laws of nature.*

mobility. Aluminium and copper are needed in the production of lithium-ion batteries. According to Bloomberg NEF estimates (cited by SOMO), demand for lithium-ion batteries in 2030 will mean a 10-fold increase in demand for copper and a 14-fold increase in demand for aluminium compared to 2019. In addition, large quantities of minerals will be required for charging infrastructure networks.<sup>90</sup> While an internal combustion

engine vehicle contains on average 23 kg of copper, a plug-in hybrid electric vehicle contains 60 kg, a battery-electric

<sup>90</sup> ↪ In the West, there is little research data on these minerals (cobalt, manganese, nickel and graphite). The emphasis in data dissemination prioritises lithium, copper and aluminium.



vehicle contains 83 kg, and an electric bus contains up to 369 kg. A fast battery charger can contain up to 8 kg of copper. The Copper Alliance estimates that the electric vehicle market will increase copper demand from 185,000 tonnes in 2017 to almost 1.74 million tonnes in 2027. These predictions exclude the amount of water and energy required for this tremendous amount of mining or the waste and emissions to be generated.<sup>91</sup>

Therefore, Minguito and Regadas - quoting Turiel and González - reveal that mass mobility is over and will not be

*The three IPCC-2021 recommendations are unfeasible under capitalism.*

restored. The mass incorporation of the electric car in the context of the climate crisis is unsustainable. It clashes with the planet's biophysical limits, limiting availability to a few and deepening class differences.<sup>92</sup>

Even more, economic degrowth will be an unplanned event, succumbing to the power of transgressions of the laws of nature. A question begs to be asked: If the decline of electro-mobility cannot be reversed, why don't we start it immediately?

## The Incompatibility of the Lithium Energy Transition and Green Capitalism with the Sustainability of People and the Planet

The IPCC-2021 Panel III (draft) report, in the face of the unsustainability of the capitalist system, urges - with particular emphasis - global decision-makers for technological change in reducing GHG concentrations, modifying production/consumption patterns and diversifying solutions in the recovery of ecosystem services. The three IPCC-2021 recommendations are unfeasible under financial capitalism,<sup>93</sup> whether green or otherwise, in the salt flats of the *Lithium Triangle* region.

It is a fact that time no longer follows the calendar in regulating the natural cycles of species in terrestrial or marine ecosystems in the establishment and harvesting stages of plants. In an opaque scenario, the relative, specific and

*Lithium is exported to the North with inestimable profits, while poverty, socio-cultural decomposition, inequalities, and nature's destruction remain in the South.... Green capitalism reproduces the profits of the wealthiest one per cent of the world's population, more than twice that of the poorest 50 per cent of the world's population.*

interactive interrelationships of the hydrological cycle with biodiversity, plant and animal species' behaviour, alterations of metabolism between ecosystems, and technological interventions of agro-mining exploitation are still not revealed. There is also no research on the intensive use of dangerous inputs used in the different stages of lithium exploitation, hidden by corruption and the externalisation of nature. At the end of the extractive

process, lithium is exported to the North with inestimable profits, while poverty, socio-cultural decomposition, inequalities, and nature's destruction remain in the South. Another insurmountable problem: the use of large quantities of water, and according to estimates, up to 15 tonnes of CO<sub>2</sub> can be released for every tonne of lithium produced in desert soils.

Green capitalism reproduces the profits of the wealthiest one per cent of the world's population, more than twice that of the poorest 50 per cent of the world's population, *precisely where mining companies and electric vehicle manufacturers*

<sup>91</sup> ↪ Alejandro González & Esther de Haan SOMO. The battery paradox. Diciembre de 2020. ISBN: 978-94-6207-156-8. Centre for Research on Multinational Corporations. pp. 34-35.

<sup>92</sup> ↪ Minguito, Álvaro y Leire Regadas. "El mito de los coches eléctricos". Desde Abajo. 8 de agosto de 2021.

<sup>93</sup> ↪ In the case of geoengineering to cool the planet or reduce carbon dioxide emissions from the atmosphere, it involves great risks to nature. Recent energy transition technologies have demonstrated limitations and many environmental and social problems, leaving an uncertain road ahead, while the climate emergency is advancing.

obtain part of the inputs for their modern battery-based industry.<sup>94</sup> The EGP<sup>95</sup> finds its best definition in the green and digital agenda strategy without any learning from the suffering of millions of vulnerable and impoverished people under the effects of Covid-19 and its variants. Alfons Pérez asks: *do we want to recover at the expense of what and of whom? Eurocentrism overlooks the impacts on vulnerable populations in the Congo, Indonesia, Bolivia, Chile, Argentina and others. It even deliberately ignores the limits of cobalt, lithium, nickel, neodymium or dysprosium reserves.*<sup>96</sup>

The green-tinted energy transition seems to go beyond the global warming rhetoric of less than 1,5°C compared to the industrial era. The green strategy indicates that oil will remain the first choice in the energy mix. Alfons Pérez discloses Earthworks' forecasts<sup>97</sup> for the existence of critical and essential raw materials for the energy transition, under a scenario below 1,5°C, favourable to the decarbonisation of the global energy system in 2050. *The projection for lithium ranges from 1.565% in the lowest scenario to 8.845% in the highest scenario, compared to the current extraction. Cobalt would be between 679% and 1.788%, neodymium between 369% and 592%, nickel between 119% and 313% and dysprosium between 406% and 640%. For cobalt, nickel and lithium (...) projections towards 2050 exceed reserves, making this possibility biophysically unfeasible.*

The latest IPCC-2021 report provides data that could well correspond to projections beyond those foreseen for 2030. That is, in the correlation between the IPCC emissions report, mentioned at the beginning of this paper, with the results of the research of the scientist Niklas Boers on the collapse of the climate. In this regard, he warns us about the impact of main Atlantic Ocean current because the Gulf Stream is at risk of collapse, with possibly catastrophic consequences for the global climate. Here we have another explanation for changes due to the Gulf Stream, such as unforeseen changes in rainfall patterns and material detriment to millions of people's crops and food in the peripheral Americas, India and West Africa; rising sea levels in North America and increased storms and much lower temperatures in Europe. In short, we are on the verge of a major transformation of the global climate.<sup>98</sup> This weakening of the Atlantic Ocean current adds to the countdown against humanity's survival.

The plunder of lithium and the associated pool of minerals has deepened the gaps between the global North and South, defined by David Harvey as *accumulation by dispossession* in the periphery, one of the primary sources of capital's profits. The geopolitics of lithium mobilises in two worlds, North and South; what happens in the North has

<sup>94</sup> ↪ Observatorio de conflictos mineros de América Latina OCMAL. Litio y Derechos Humanos. Santiago de Chile. Febrero de 2020.

<sup>95</sup> ↪ Alfons Pérez. "Pactos verdes en tiempos de pandemia". Icaria Editorial. El futuro se discute ahora. ISBN: 978-84-120139-6-2. 2020. EThe EVP brings together sector-wide programmes and reforms, mobilises huge amounts of money. It was founded on 11 December 2019. It originates from the gradual global warming and the catastrophic impact on the planet. The EVP is approved, it is the largest in the world, in terms of population affected, market size, sectoral scope and mobilisation of economic resources. P. 31

<sup>96</sup> ↪ Ibid. P. 142.

<sup>97</sup> ↪ Ibid. Pp. 61-62.

<sup>98</sup> ↪ La principal corriente oceánica del Atlántico se está debilitando.

repercussions in the South and vice versa, at different times and frequencies in the cataclysm of nature. Thus, despite the commitment made at the UN IPCC COP 25 to reduce emissions, developed countries in the West and the East are applying different timeframes, rhythms and policies derived from the energy mix to embark on the energy transition, as we discussed in the section on The Oil Slump. This continent is also forecasting a *prosperous, modern, competitive and climate-neutral economy by 2050*.<sup>99</sup>

This goal comes as a surprise, given the imminent collapse of the planet with a multitude of ecological and environmental events scattered across the Earth. In the North, poverty spreads from the middle to the lower classes in both the EU and the USA. For example, in Batres (Spain), the town's Mayor suspended the payment of the public electricity service in solidarity with the most vulnerable families, traders and small entrepreneurs in the country. The average daily price of electricity in Spain [25 August 2021] set its third all-time high in just three weeks, rising to 116.73 euros per megawatt-hour, an increase of 14,37 per cent over the previous day. The Mayor has blamed the political class, which has become another problem, through the revolving door installed on the boards of directors of multinationals or, alternatively, with a family member who goes on the payroll.<sup>100</sup>

In this order of ideas, the forecasts of different organisations do not adjust to the finite volumes of lithium and the minerals of this select group called *rare earths*.<sup>101</sup> These predictions also exclude demand from other sectors of

*In the periphery, we find the other world located in Chile, Argentina and Bolivia... Based on their conceptions of self-determination, traditions, and cultural symbolism, the daily needs of "buen vivir" take precedence.*

medicine, aviation, nuclear energy and others.<sup>102</sup> We could assert that, among a plethora of projections, of which, in this paper, we only consider those of the most reputable organisations, there is a common consensus: the estimates of the volumes deposited in the natural reserves to cover the demand of all the sectors required by the lithium industry do not match. So,

for the North, the car satisfies an artificial need, while, in the salt flats, the strategic resource is water wasted by millions of m3 to cover the demand for electro-mobility and the renewable energy transition, over and above all the projections of zero emissions by 2050.

Just as fossil energy will remain in the energy mix until new corporate decisions are made, in the West, lithium and minerals in this category will remain until natural reserves are exhausted. On the other hand, the electric car will remain on the pedestal, a symbol of success, comfort, independence and individualism synonymous with the quality of life and well-being. Capitalism has turned selfish individualism into the great alternative of electro-mobility. In Victoria Camps:<sup>103</sup> *Methodological individualism, applied to morality, translates into 'possessive individualism': the point of view of an individual who only wants what benefits him alone*. The opposite happens in the salt flats, where the inhabitants travel long distances by bus or truck.

In the periphery, we find the *other world* located in Chile, Argentina and Bolivia. On this side of the planet, the indigenous populations directly relate to nature, and water represents a public good par excellence in defence of the

<sup>99</sup> ↪ Plan Nacional Integrado de energía y clima 2021-2030. Enero 20 de 2020. P. 7

<sup>100</sup> ↪ "Un alcalde español 'se rebela' contra el aumento de tarifas y suspende el pago de las facturas de la luz". 13 de septiembre de 2021

<sup>101</sup> ↪ Alfons Pérez. Op. Cit. "XIII Las tierras raras no son realmente tierras, pero heredaron el nombre de la química porque a los óxidos se les llamaba tierras. Las llamadas tierras raras son un conjunto de 17 elementos químicos: escandio, itrio y los 15 elementos del grupo de los lantánidos (lantano, cerio, praseodimio, neodimio, prometeo, samario, europio, gadolinio, terbio, disprosio, holmio, erbio, tulio, iterbio y lutecio)". P. 59

<sup>102</sup> ↪ Véase pie de página N° 2.

<sup>103</sup> ↪ Camps, Victoria. *Paradojas del individualismo*. 1993-1999. Barcelona. España. P. 30

rights of life. Based on their conceptions of self-determination, traditions, and cultural symbolism, the daily needs of “*buen vivir*” take precedence. It goes without saying that the indigenous populations are open to the industrialisation of lithium within the normative framework of human rights and shared profits in populations surrounding the exploitation of lithium in Bolivia, as long as the care and conservation of nature are respected and valued. In the geopolitics of lithium, Mexico emerges as a new lithium-producing country. President López Obrador is currently promoting a law to amend Article 27 of the Political Constitution of the United Mexican States to guarantee national ownership of lithium. In both countries, under the signing of public agreements with private participation (if defined), the state will be assigned a dominant role in the administration and direct participation in the different stages of the production chain, beyond the issuing of concession titles and plundering as occurs in other South American countries.

In Álvaro de Regil's “Marketocracy”, the metabolic rift, a direct product of capitalism, threatens the planet as our home. *This has forced the marketocratic agents in Davos to invest all their efforts in using the COVID-19 pandemic as the accelerator of the 4RI [4th Industrial Revolution] towards a supposed new capitalist paradigm. This time, to be sure, they intend it to be implicitly a force for good, with the usual narrative of becoming socially and environmentally responsible and all that jargon that makes a mockery of true social, economic and environmental responsibility.*<sup>104</sup>

## Some Preliminary Proposals for Mitigating Climate Collapse

The advance of the climate emergency will cause irregular economic downturns not programmed by capital, which will not be without social upheavals in the countries most depressed by poverty, hunger, water shortages, loss of sources of income, unemployment, environmental disasters, massive migrations towards the North, and people returned as deplorable subjects to their countries of origin or inhumanely and cruelly abandoned at the borders. In this context, corporations' expulsion or voluntary withdrawal will be inevitable due to unmanageable disruptions of the known world.

In recent history since the middle of the 20th century, climate change has redesigned the relations between capital, nature and the economy, subject to ecological and environmental crises with severe threats to human existence on the

*The water emergency of transnational capitalism is solved by local political movements that transform the growth system with redistributive policies adapted to nature's finite resources.*

planet. Thus, the impact of the climate crisis is positioned as the first contradiction of catastrophe capitalism. None of the conflicts between corporate power and indigenous struggles in defence of territory/land, common goods and human rights can be resolved by the prevailing neo-feudalism. On the other hand, adapting lifestyles to the rhythms of nature is only viable in ecosocialist societies. From this

approach, the key is to strengthen small and medium-scale economies, emphasising the state's strengthening of local agri-food systems, the defence of natural heritage as public goods, providers of subsistence with massive models of mobility and simple living.

Therefore, the water emergency of transnational capitalism cannot be solved by individual actions of goodwill but rather

*Preserving a natural environment favourable to life on the planet is incompatible with the expansive and destructive logic of the capitalist system.*

by local political movements that transform the growth system with redistributive policies adapted to nature's finite resources. Paradoxical though it may seem, the advance of climate paroxysm, amid chaos, uncertainty and confusion,

<sup>104</sup> ↪ Álvaro de Regil Castilla. *Marketocracy and the Capture of People and Planet*. The Jus Semper Global Alliance. July 2021. p. 89



in the face of the definitive collapse of the planet, will drive the voluntary or forced exit of corporations towards the national recovery of existing natural resources.

It merits to say that I also agree with Michael Löwy, Antonio Barrero, Antonio Turiel, Luis González and Miguel Fuentes

*In this war, nature's fury is already emerging as a new force with totally unprecedented events. And here we have the difference with already known confrontations and disputes. However, [there is] a fact inherent to human nature that could make a difference: its enormous capacity to remake itself with unusual reinventions.*

on the redistribution of wealth, another key imperative of ecosocialism. Ecosocialism is a radical alternative to capitalism resulting from the convergence of ecological and socialist (Marxist) thinking. Its fundamental premise is that preserving a natural environment favourable to life on the planet is incompatible with the expansive and destructive logic

of the capitalist system.<sup>105</sup> Michael Löwy thinks of the ecosocialist revolution as a revolution of everyday life, as a revolution for abolishing the money and commodity culture imposed by capitalism.<sup>106</sup>

## By Way of Conclusion

By 2050, if the global rulers and leaders of corporations and their financiers have not taken concrete actions towards implementing policies of economic degrowth, there will be no physical or digital army to stop the fury of migration towards the predatory countries of the North, dedicated to the plunder of wealth in more than two centuries of history in the Global South. Any system change is violent, as capital is sustained by dispossession of biophysical and material goods, unlimited profits, war and other forms of violence. In this war, nature's fury is already emerging as a new force with totally unprecedented events. And here we have the difference with already-known confrontations and disputes. However, we must recognise a fact inherent to human nature that could make a difference: its enormous capacity to remake itself with unusual reinventions.



<sup>105</sup> ↪ Miguel Fuentes. [Michael Löwy advierte sobre la crisis ecológica: “Es un tren suicida que avanza, con una rapidez creciente, hacia el abismo.”](#) 28 de mayo de 2017.

<sup>106</sup> ↪ Miguel Fuentes. Ibid.

### Related links:

- The Jus Semper Global Alliance
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# Lithium and the Contradictions in the Energy Transition that Devastate the Global South In Favour of the Global North

*True Democracy and Capitalism*

❖ **About Jus Semper:** The Jus Semper Global Alliance aims to contribute to achieving a sustainable ethos of social justice in the world, where all communities live in truly democratic environments that provide full enjoyment of human rights and sustainable living standards in accordance with human dignity. To accomplish this, it contributes to the liberalisation of the democratic institutions of society that have been captured by the owners of the market. With that purpose, it is devoted to research and analysis to provoke the awareness and critical thinking to generate ideas for a transformative vision to materialise the truly democratic and sustainable paradigm of People and Planet and NOT of the market.

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