

SUSTAINABILITY & EXPLOITATION

by: Cate G, Myra, Ellis, & Cate N



LAND, LABOR, AND ENVIRONMENTAL INJUSTICE

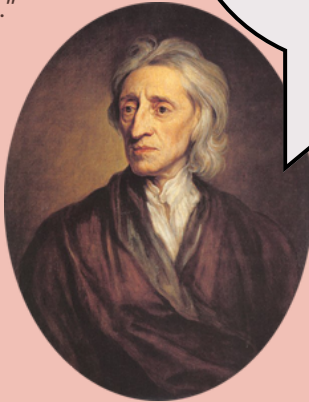
Today, many instances of unsustainable practices and environmental injustice take root in how our society conceives land as a means to economic growth. The current dominant system of industrial capitalism relies on both (1) stripping workers of their ability to subsist from common land, and (2) transforming natural resources to products of "value."

This system of **enclosure** originates from the individualist philosophy of the Enlightenment – exemplified by John Locke – and endures today: *capitalist growth hinges on extraction from and the degradation of natural systems.*

"Whatsoever then [man] removes out of the state that nature has provided and left it in, he has mixed his labor with, and joined to it something that is his own, and thereby makes it his property. God gave the world to men in common; but since he gave it them for their benefit and the greatest conveniences of life they were capable to draw from it, it cannot be supposed he meant it should always remain common and uncultivated."

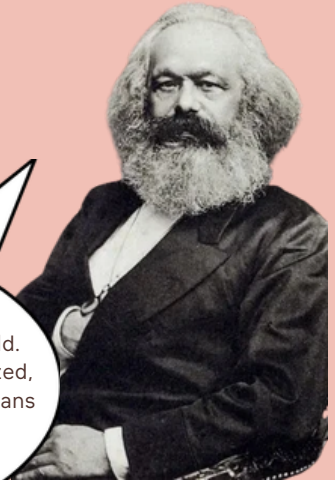
(Two Treatises of Government, 1689)

John Locke



"The worker can create nothing without nature, without the sensuous external world. It is the material on which his labor is realized, in which it is active, from which, and by means of which it produces."

(Estranged Labour, 1844)



Karl Marx



Marx theorizes that capitalism relies on the perpetual expansion of capital accumulation. This relies on the production of surplus-value by labor – which, as Marx indicates here, relies on the extraction of natural resources. This observation shows that Lockeian philosophy endures in industrial capitalism.

NATURAL LIMITATIONS ON ENCLOSURE & CAPITAL ACCUMULATION

The Jevons Paradox:

The 2nd-Law efficiency of various processes can be improved, but the corresponding increase in process demand often results in greater resource consumption. While economies rely on expanding capital, the production of surplus-value will necessarily and irreversibly transform more natural resources.

The 2nd Law of Thermodynamics:

The total entropy (i.e. disorder) of an isolated system (e.g. the universe) will increase over time. Human industrial activities are energy-intensive, and therefore require the transformation of material or energy stocks from a utilizable low-entropy state to a disordered high-entropy state.

Natural resource formation relies on low-entropy solar energy and the generation of heat and pressure in the Earth by natural fission. These are relatively slow processes; the Earth does not have the capacity to produce resources at the rate they are being consumed today. For example, oil can take millions of years to form under compression, but is burned in seconds for fossil energy.

Economies' reliance on expanding capital accumulation is inherently unsustainable, because the Earth's resources are *finite* and largely non-renewable. Even "efficient" or circular production models fail to address these limitations: they run up against the *natural irreversibility* of material and energy-transforming processes, and risk an even greater consumption of resources through *demand response*.

IMPERIALISM'S ROLE

Through imperial expansion, Europeans (and the British in particular) exported the model of enclosure to the Global South. As natives were displaced to make way for colonial settlements and/or exploitative projects, local communities and ecosystems suffered.

*It is notable that desertification is itself a colonial term used to justify further colonial violence.

Late 19th century, French-colonized Africa: the French ban traditional subsistence agriculture practices in North and West Africa and enclose land for sprawling plantations. Local communities are forced to deforest the area, reducing soil moisture and starting a process of desertification.*

Late 19th century, India: British colonizers cut down native oak and deodar forests for timber and then replace them with pine plantations for resin. The introduction of flammable pine needles to the environment still causes wildfires across the Himalayas today.

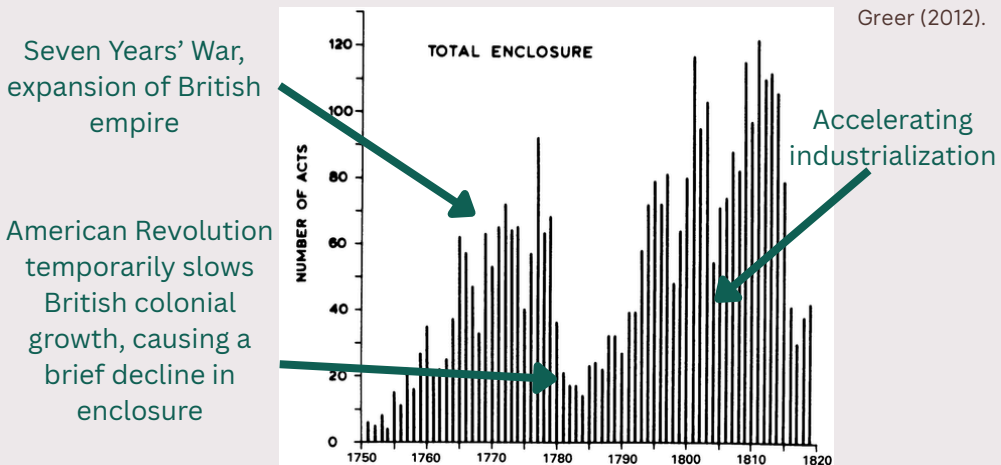
1948, Palestine: After expelling 800,000 Palestinians from their native lands in the Nakba, Israeli settlers plant invasive and moisture-draining eucalyptus trees over destroyed Palestinian villages. The resulting process of desertification is used by settlers as evidence that Palestinian agriculture was unsustainable, furthering the Orientalist narrative that Palestine was "a land without a people." *

1840, New Zealand: British settlers dispossess Māori people of forested lands in an effort to extract timber, reducing the island's forest cover by 60% and leading to the extinction of dozens of bird species.

ENCLOSURE IN THE WEST, COLONIZATION IN THE SOUTH

Peak periods of imperialism & colonization coincided with peak periods of enclosure in England.

- *Tudor period*: The first establishment of trading posts in India, first British colonies on the American continent
- The peak in the below graph, starting in 1763, coincided with end of the Seven Years' War, as European countries like Spain and France ceded colonies to the British. At this time, enclosure was a mechanism of *proletarian concentration* in British urban centers.



We understand that land is our means of production as Indigenous people; this is why decolonization and land return are not metaphors... US imperialism – the greatest threat to the future of the planet – will never end if land remains in the hands of settler capitalists.

The Red Nation (2021)

The Red Deal: Indigenous Action to Save our Earth

GREEN INJUSTICE

In a nominally post-colonial world, accumulation by enclosure continues by more subtle mechanisms. Green initiatives like carbon trading and electrification are proposed responses to the climate crisis, but often *cement environmental injustices by (1) reinforcing capitalist growth models, or (2) creating local "sacrifice zones" with high pollution burdens.*

Characteristics of Neoliberal Capitalism

FINANCIALIZATION

GLOBALIZATION

PRODUCTION OF
INEQUALITY

Modern Environmental "Solutions"

MARKET-BASED
CLIMATE
INSTRUMENTS (E.G.
CARBON TRADING)

EV INDUSTRY
DEPENDENT ON GLOBAL
TRADE

RETROFITTING &
ELECTRIFICATION

Social and Political Consequences

A GLOBAL SYSTEM
PREDICATED ON
EXTRACTIVISM &
COLONIAL RELATIONS
IS REINFORCED

ENVIRONMENTAL &
SOCIETAL IMPACTS OF
MINERAL EXTRACTION
ARE LOCALIZED IN
DEVELOPING COUNTRIES
LIKE CONGO AND CHILE

HIGHER COSTS OF
LIVING BRING
DISPLACEMENT &
PRICING OUT

MISREPRESENTATION IN MEDIA

The New York Times, November 2023

In a U.S. First, a Commercial Plant Starts Pulling Carbon From the Air

The technique is expensive but it could help fight climate change. Backers hope fast growth can bring down costs.

1. This article frames Direct Air Capture's difficulties as an economic problem, not a fundamental thermodynamic problem
 - a. An enormous thermodynamic driving force is needed to adsorb carbon dioxide at dilute ambient concentrations (~420ppm)
 - b. This corresponds to extremely high heats of regeneration – a 2nd-Law entropic analysis shows that this technology is **not a viable solution**
2. "In a U.S. first" – the opening of a DAC plant is marked as an achievement, not a risk. No consideration of the storage problem – where will the carbon dioxide go? Will it be stored durably?

Electric cars go mainstream as adoption surges across rich and developing nations

A wave of affordable Chinese-made EVs is accelerating the shift away from petrol cars, challenging long-held assumptions about how transport decarbonisation unfolds

The Guardian, January 2026

1. Assumption that EVs will further transport decarbonization – *Jevons Paradox risk* – and no consideration given to alternatives (e.g. expanded public transit)
2. Also no consideration given to *local impacts of EV adoption* such as mining and waste

LA Becomes Largest CA City to Electrify New Buildings

Los Angeles passed a policy directing new buildings to be constructed to use all-electric energy, a critical action to achieving LA's community-driven building decarbonization goals.

Natural Resources Defense Council, December 2022

1. No mention of what this means for LADWP, and how rate increases can be passed to residents under current LA policies. This can *price out* historically disadvantaged residents, reproducing historical practices of *redlining* through *de facto segregation*
2. Fails to discuss the LADWP power mix – how much of this electric energy is from fossil fuels? What is the embodied carbon of utility upgrades?

DOMESTIC CASE STUDY

How Does Enclosure Relate to the Exide Battery Plant in LA?

ENCLOSURE IS NOT A HISTORICAL EVENT. IT IS AN ONGOING PROCESS. NOT ONLY DID ENCLOSURE OCCUR IN THE GLOBAL SOUTH BUT TO DISADVANTAGED COMMUNITIES IN THE UNITED STATES.



IN LOS ANGELES, ONE OF THE MOST PROMINENT EXAMPLES OF ENCLOSURE IS THE FORMER EXIDE BATTERY RECYCLING PLANT.

FOR NEARLY A CENTURY, THIS PLANT POLLUTED THE AIR SURROUNDING A PREDOMINANTLY LATINO COMMUNITY IN LA, LEADING TO SERIOUS HEALTH CONCERNS FROM CANCER TO STROKES, AND MORE

"THE IMPACT OF THIS ENVIRONMENTAL DEGRADATION HAS BEEN MOST SEVERE IN HISTORICALLY UNDERSERVED LATINO COMMUNITIES." — REPRESENTATIVE ROBERT GARCIA, 2024

EXIDE BATTERY PLANT TIMELINE

1922

VERNON BATTERY RECYCLING PLANT
OPENS

2000

EXIDE ACQUIRES FACILITY

2015

PLANT PERMANENTLY CLOSES

2020

CLEANUP TRUST ESTABLISHED AFTER
BANKRUPTCY

2026

UC IRVINE STUDY FINDS LEAD
CONTAMINATION REMAINS AFTER
CLEANUP EFFORTS

1981

PLANT RECEIVES INTERIM
HAZARDOUS-WASTE PERMIT

2013

250,000 RESIDENTS IDENTIFIED AS
POTENTIALLY EXPOSED

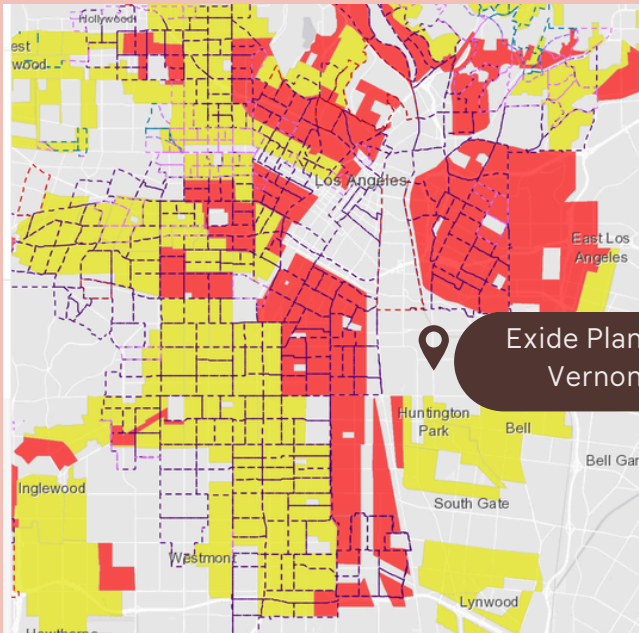
2016

CALIFORNIA FUNDS LARGE-SCALE
CLEANUP (\$176.6M)

2024

PUSH FOR SUPERFUND DESIGNATION

REDLINING

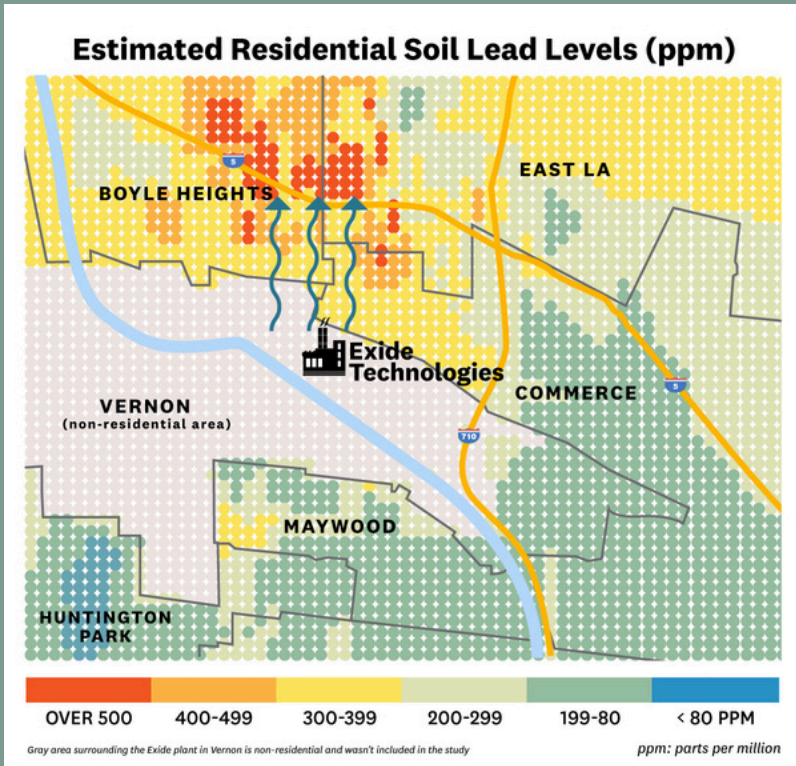


Most of the Plant's surrounding neighborhoods had previously been redlined

Exide Plant in Vernon

In the 1930s, the Home Owners Loan Corporation under Franklin Del Roosevelt designated homes a grade to assess "desirability" of a community. Neighborhoods with predominantly people of color were often designated red, making it difficult for them to access mortgages, loans, and investment.

IMPACT ON NEIGHBORHOODS



Boyle Heights is just one example of the redlined neighborhoods negatively impacted by the plant, and lead exposure is just one of the ways that the plant's pollution has had a devastating effect on surrounding communities.

"Alatorre said she had no idea about the lead contamination in the area until a friend invited her to a community meeting at Resurrection Church" (Ribakoff, 2019)

WHAT THE PEOPLE KNEW

Dear DTSC,

My family has lived in this community for decades, yet were only informed of the harmful chemicals in our community from our neighbors.

I have watched my family members unknowingly experience the harmful effects of the Exide plant for decades. My grandfather developed diabetes, my sister developed multiple tumors, and my son developed anemia. If our community was exposed to lead for decades, why did we have to learn about it from our neighbors instead of the agencies responsible for protecting us?

I request that my soil be tested as soon as possible to protect the health of my family for future generations to come.

THE AFTERMATH

"Then they came out to sample my soil, then a year went by, and then they sent me a packet, which took me a while to decipher. It said that I had lead in my soil. Then it took them another year to actually come out and clean my soil in 2018, the week after Thanksgiving" (Ribakoff, 2019).

"They didn't put down tarps they were supposed to put down, they didn't put a sign on the fence warning people that it's contaminated. They also just covered the contaminated dirt with new dirt. Some of the contract workers didn't have face masks on. Were they not informed that they were cleaning up toxic soil?" (Ribakoff, 2019).



INTERNAL FINDINGS: What the Government Knew

Thousands of worker blood lead level tests were recorded between 1987 and 2014

Despite repeated violations and growing evidence of contamination, the facility continued operating for years under an interim hazardous-waste permit.

Dr. James Dahlgren treated a patient who worked at the plant in 1972 and stated "We made the point that the neighborhood was probably being poisoned, but we couldn't get any money to do any studies of it" (Ribakoff, 2019).



However, there were large funding gaps, with limited funds to clean all contaminated properties and address the long-term soil and groundwater impacts. NRDC in 2015 stated they believed the legal deal stops ongoing pollution, but does not guarantee a timely cleanup for impacted communities.

SITE STATUS
REPORT

Neighborhood:
Boyle Heights

Soil Status:
Tested ☒
Approved ☒

OR IS IT?

**EXIDE PLANT SUPERFUND
STATUS PENDING**

Researchers later discovered that nearly 70% of homes labeled “clean” after soil remediation exceeded California’s residential lead threshold. And 89% of homes outside the cleanup zone are still contaminated. Enclosure never ended. The site shut down, but contamination still exists.

WHAT’S
HAPPENING
NOW?



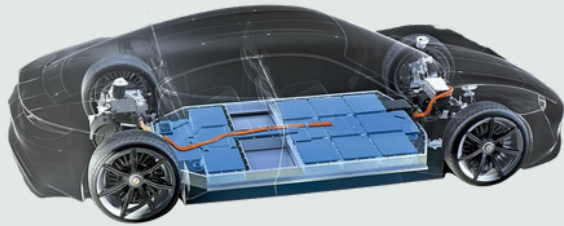
INTERNATIONAL CASE STUDY

How Does “Clean Energy” Relate to Lithium Extraction in Latin America?

LITHIUM IS OFTEN PRESENTED AS A SOLUTION TO THE CLIMATE CRISIS, BUT ITS EXTRACTION REVEALS HOW SUSTAINABILITY CAN STILL RELY ON EXPLOITATION.



Lithium evaporation ponds in the Salar de Atacama



EV Battery

IN CHILE, ARGENTINA, AND BOLIVIA, LITHIUM IS MINED FROM FRAGILE SALT FLAT ECOSYSTEMS TO SUPPLY BATTERIES FOR EVS, PHONES, AND RENEWABLE ENERGY STORAGE. GOVERNMENT AND CORPORATE MEDIA FRAME THIS AS PROGRESS, INNOVATION, AND NATIONAL DEVELOPMENT. BUT HUMAN RIGHTS AND INDIGENOUS SOURCES ASK A DIFFERENT QUESTION: CLEAN ENERGY FOR WHOM? THIS CASE STUDY FOLLOWS HOW LITHIUM IS REPRESENTED ACROSS DIFFERENT MEDIA SOURCES, FROM CORPORATE SUSTAINABILITY REPORTS TO ACTIVIST RESISTANCE.

“THE COLONIAL SHADOW OF GREEN ELECTROMOBILITY.”

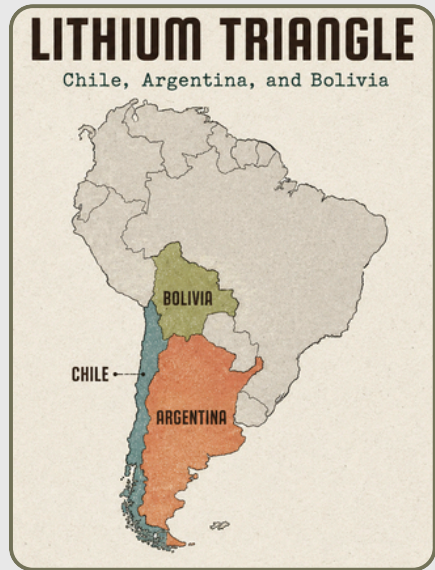
— JEREZ ET AL.

WHERE IS THE “GREEN” FUTURE COMING FROM?

The Lithium Triangle and the salt flats beneath the battery

The “Lithium Triangle” refers to lithium-rich salt flat regions across Chile, Argentina, and Bolivia. UNDP states that Latin America holds 60% of all identified lithium resources, mainly in these three countries. This is why the region is often framed as central to the global energy transition.

But the salt flats are not empty spaces. FIDH reports that Indigenous peoples including Aymara, Quechua, Lipeño, Atacameño or Lickanantay, and Colla communities live around the high Andean salt flats, where lithium development has major implications for water, territory, and the right to a healthy environment.



A brine pool at a lithium mine in the
Atacama salt flats

WHAT THE OFFICIAL STORY SAYS

Lithium as progress, management, and responsible extraction

Government and corporate sources often present lithium as necessary, manageable, and sustainable.

Chile's National Lithium Strategy says its goal is to "increase wealth for the country" by developing lithium as a key industry tied to economic development. The strategy also says mining activities should minimize social and environmental impacts and ensure the participation of local communities.

**"THE ENERGY
TRANSITION MUST
BE FAIR AND
SUSTAINABLE,
AND WE ARE
PROUD TO PLAY
OUR PART."
— SQM**



Official sustainability sounds like:

- national development
- responsible mining
- certification
- transparency
- monitoring
- community participation

Corporate media uses a similar language. SQM, a major chemical and mining company, presents its Salar de Atacama operation through certification and transparency, stating that its IRMA audit evaluated 26 areas including water management, human rights, greenhouse gas emissions, and labor. Albemarle, a lithium battery company, frames extraction as measurable and controlled, saying it has "150 monitoring wells in the Salar basin" monitored in real time, with an Indigenous community representative periodically accompanying monitoring.

WHAT THE OFFICIAL STORY LEAVES OUT

When clean energy becomes water loss, land conflict, and exclusion

Human rights, Indigenous, activist, and academic sources challenge the version of climate action that keeps extraction at the center.



Indigenous Peoples in Argentina fight against lithium exploitation
Credit: SUSI MARESCA



Close-up of the cracked, salt-encrusted Earth of the Atacama Desert in Chile
Credit: Aleksandrs Grigors / Dreamstime

“THE RAPID EXTRACTION OF LITHIUM FROM THE HIGH ANDEAN SALT FLATS HAS CAUSED SERIOUS HARM TO INDIGENOUS PEOPLES’ RIGHT TO A HEALTHY ENVIRONMENT AND ACCESS TO WATER.”

— IWGIA

FIDH argues that lithium development in the high Andean salt flats has major human rights implications, especially for Indigenous peoples and the right to a healthy environment. The report says lithium development has often moved forward “without much attention” to the impacts on communities or water resources.

IWGIA reports that rapid lithium extraction has caused serious harm to Indigenous peoples’ right to a healthy environment and water access, especially affecting traditional practices like camelid herding and the cultivation of quinoa and maize.

Academic researchers Jerez, Garcés, and Torres connect lithium demand to Global North climate policy, green electromobility, and water injustices affecting Atacameño Indigenous communities in the Salar de Atacama.

NO CLEAN FUTURE ON STOLEN WATER

Sustainability has to mean more than switching technologies

What gets left out when lithium is only called clean?

- The water used in extraction
- The salt flat ecosystems changed by mining
- The Indigenous communities living with the impacts
- The question of who gets meaningful decision-making power
- The fact that demand is often driven by wealthier countries far from the extraction site

Sustainability should mean real decision-making power before extraction begins. Being monitored or consulted is not enough if communities cannot meaningfully shape or refuse the project.

A cleaner future also means reducing demand. Public transit, battery recycling, smaller batteries, repair, and less overconsumption need to be part of the solution.

A sustainability report is not the same as sustainability. The real questions are: who benefits, who decides, who loses water, and who is expected to sacrifice?



Lithium shows how “sustainability” changes depending on the source.

In government and corporate media, sustainability often means economic development, certification, and monitoring. In journalism, it becomes a public debate about extraction and environmental costs. Grist describes the debate around Chile’s lithium strategy as one where critics want protection for ecosystems and communities, not just revenue from extraction.

In Indigenous, activist, human rights, and academic sources, sustainability means something deeper: water, land, consent, culture, and the right not to be sacrificed for someone else’s clean future. AIDA highlights the slogan “Water is worth more than lithium” as a phrase used by social organizations and Indigenous peoples resisting an unjust energy transition in Jujuy, Argentina.

SUSTAINABILITY BEYOND ENCLOSURE

The legacy of enclosure endures today, visible in the tightly linked processes of ecocide and racial violence from East LA to the Lithium Triangle. Today, projects with “sustainable” objectives are formulated under neoliberal strategies, reliant on the continued (1) production of racialized inequality; (2) exploitation of privatized, enclosed land; and (3) imperialist extraction of wealth from the Global South.



While the Exide battery plant in Vernon and lithium extractivism in South America constitute strong cautionary tales against technosolutions, they also offer important lessons in organizing for sustainability beyond enclosure. Community resistance, led by historically marginalized and occupied peoples, refuted dominant conceptions of sustainability and made plain the true cost of unnatural systems of capital accumulation.

Sustainable strategies must be decoupled from the thought of racial capitalism to truly address the (mutually reinforcing) problems of environmental damage and colonial relations' persistence. This push cannot be prescribed by States, corporations, or NGOs. Instead, a true sustainability beyond enclosure must arise from below: from the communities already leading resistance against capitalist exploitation.