



Climate Capitalism : Oxymoron or New Paradigm ?

Critical insights at the crossroads of economic theory,
corporate strategy, and environmental challenges



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Aldous Huxley once confided: “*I wanted to change the world. But I have found that the only thing one can be sure of changing is oneself*” (*Point Counter Point*). If Huxley sought to change the world, the climate crisis today confronts us with a formidable paradox: our physical world is already being altered by our actions, while it would be in our best interest for it not to change. At the same time, what appears at first glance as an intimate confession seems instead to mirror a broader dynamic at play in recent years: companies attempting to remedy on their own the shortcomings of a system that surpasses them—capitalism. And whereas Huxley pointed to the difficulty of transforming the world, the climate crisis now forces us to confront this dilemma at the systemic level: to what extent can capitalism change itself in order to claim to address the very crisis it has helped bring about?

It is in this sense that the expression “*climate capitalism*” has gained traction in recent years. The notion is seemingly paradoxical: the climate crisis afflicting the globe appears intrinsically tied to the capitalist system, as its inescapable byproduct. Here, capitalism is understood as an economic mode of organization characterized by capital accumulation and the pursuit of growth, underpinned by private property and competitive logic, but whose history has revealed a structural tendency toward resource exploitation and the externalization of costs. To associate an economic system based on unlimited growth and the intensive extraction of natural resources with goals that include—not only the oft-invoked and sought-after carbon neutrality, but more fundamentally—the reduction of greenhouse gas emissions and the respect of planetary boundaries seems, at first sight, contradictory.

Yet, far from being a sterile alliance, the expression tends to assert itself less as the symbol of a deep-seated belief in the possibility of compatibility, than as that of a necessary structural adaptation of capitalism. While it proposes a reform of the system, it does not amount to rejecting every other form capitalism might take—especially since it often responds to the structural and temporal impossibility of radically overturning it.

This notion, pragmatic and realist in its intent, is above all an invitation to debate, to question, question whether it is possible to refound the capitalist system, which has shown its flaws on many fronts. The idea of *climate capitalism* thus inaugurates an evolutionary reading: capitalism is not immovable, it is adaptable. If it cannot—or often will not—be abandoned, it can

nonetheless be profoundly transformed so as to respond to the constraints of a world of finite resources.

Above all, this notion echoes its broader context, of which it is one of the most striking reflections: the accelerating climate crisis, sometimes referred to in the plural. Annual temperature records, the intensification of extreme weather phenomena, the multiplication of costly natural disasters—all underscore the mounting urgency. Awareness, in turn, is accelerating; responses are being organized. Regulatory pressure is increasing: international agreements, the European Green Deal, sectoral environmental standards—even if their slowness is often criticized. Meanwhile, the rhetoric of *green capitalism* promoted by corporations, investors, and financial institutions is gaining ground in response to the undeniable reality of global warming and its entanglement with the current capitalist system. Similarly, labels and CSR (corporate social responsibility) commitments are proliferating, though often criticized for their lack of substance or as instances of greenwashing.

In sum, the progress achieved—real yet ambivalent—appears to correspond to a genuine global awareness of climate change and of the need to fight against it. Still, one question persists: is this enough? The very fact that the question must be asked reveals the rhetoric surrounding it. In truth, this question functions as a (re)call to change. This is precisely what this article seeks to reflect upon: can we truly transform a system whose very foundations—capital accumulation, profit maximization, international competition—seem at odds with climate stability? And if not, must we then consider the prospect of entirely moving beyond this economic system?

A Contradictory Legacy: Capitalism and Nature

To assess whether a form of *climate capitalism* is conceivable, it is necessary to revisit the historical relationship between capitalism and nature—an account marked by fossil energy, extraction, and the externalization of costs.

Historical Roots

The tension between capitalism and the environment is rooted in history. It dates back to the Industrial Revolution, which marked the shift from human and animal labor to fossil energy

as the primary driver of the economy. The Industrial Revolution substituted renewable sources (water, wind) with fossil fuels (first coal, later oil), enabling self-sustained growth (Malm). The massive productivity gains that justified its designation as a “revolution” triggered an unprecedented surge in production and consumption, while simultaneously creating a structural dependence on coal, and later oil and gas. By 1825, for instance, Britain—pioneer of the Industrial Revolution—was responsible for 80% of global CO₂ emissions, illustrating the close linkage between industrialization, fossil dependence, and pollution.

Andreas Malm’s analysis of *fossil capitalism* demonstrates that modern capitalism is historically inseparable from the exploitation of carbon-based energy. As a result, the current global energy structure remains deeply shaped by this model. The system rests on a fundamental temporal paradox: while financial markets demand returns within 5–10 years, fossil infrastructures (power plants, pipelines) lock in decades of emissions—what Malm refers to as *committed emissions*. This contradiction carries substantial risks. A study inspired by research at the Massachusetts Institute of Technology estimates that a transition consistent with ambitious climate goals could wipe out between \$21 and \$31 trillion in the value of unexploited fossil reserves by 2050. In addition, Carbon Tracker has estimated that over \$600 billion of listed oil and gas assets are at high risk of becoming stranded.

Classical economists such as Ricardo and Malthus theorized the scarcity of resources, but capitalism circumvented these limits through fossil exploitation—so much so that, in Malm’s words, borrowing from C.S. Lewis, capitalism “*turns out to be a power exercised by some men over other men with Nature as its instrument*”.

The historical roots of capitalism also shaped its defining features: productivism and the ideology of progress. Growth was elevated as a central political and social objective; the conquest of nature was equated with modernity and power; physical limits were either underestimated or ignored until the 20th century. Indeed, the ideology of progress relied heavily on the assumption of nature’s subjugation. The Enlightenment propagated the belief in an infinite and controllable nature, laying the cultural foundation for productivism (Klein). Scholars thus speak of the “fossilization” of mentalities following the Industrial Revolution: coal was widely

perceived as synonymous with progress, obscuring the cumulative effects of its use (sea-level rise, acidification, and more).

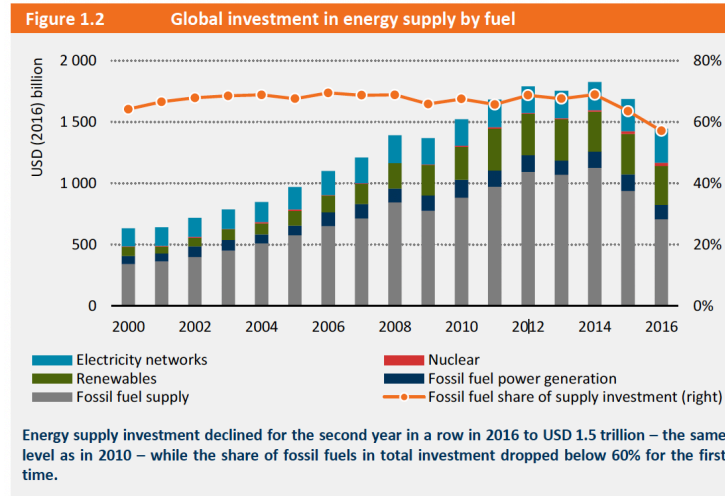
In short, while the origins of capitalism are deeply rooted in fossil resource exploitation, its present-day structure has prolonged these logics, reinforcing its contradictions with planetary boundaries.

Structure and Internal Limits

The very structure of modern capitalism reveals an a priori difficult compatibility with nature.

- Financial Short-Termism

Financial markets prioritize quarterly results, a logic that is fundamentally incompatible with the long-term investments required for sustainability transitions, such as renewable energy deployment. Strategic decisions are often subordinated to short-term shareholder expectations. Between 2000 and 2016, more than 60% of global investments in new energy supply went to fossil fuels, and it was only in 2016 that this share finally fell below the 60% threshold.



IEA, World Energy Investment, 2017 (p. 21)

- Global Competition

Competitive pressures to reduce costs reinforce the argument that “decoupling” is largely a myth. Apparent reductions in national emissions frequently mask the outsourcing of carbon-intensive activities to the Global South (Parrique, *Decoupling Debunked*). Polluting

industries are relocated to countries with weaker environmental standards. China—often referred to as the “world’s smokestack”—accounted for 55% of the growth in global greenhouse gas emissions between 2000 and 2006, largely to produce goods consumed in Western economies (Malm).

- Power Asymmetries

Large multinational corporations often succeed in circumventing or even shaping local regulations. Climate policies that impose significant constraints are routinely subject to intense lobbying. The phrase “*merchants of doubt*” (Oreskes & Conway) has become emblematic of the fossil fuel industry’s strategy to delay climate action. Exxon, for example, was aware as early as 1982 of the risks posed by climate change, yet continued to finance climate skepticism for decades.

- The Invisibility of Nature in Accounting

Natural resources have historically been treated as free and inexhaustible. Environmental damages remain classified as mere “negative externalities” and are excluded from financial statements, as exemplified by the failure to integrate the real cost of carbon into corporate accounting systems.

These structural characteristics are far from theoretical. They have produced a century of inaction and technological lock-in, thereby exacerbating the environmental consequences of capitalist development.

The Effects of a Century of “Business as Usual”

The past century has witnessed the emergence of a broad scientific consensus on the reality of global warming. Nevertheless, business largely continued along its habitual trajectory, with considerable consequences for the environment. The IPCC’s Sixth Assessment Report (AR6, 2021) presents alarming data: global temperatures have risen by +1.07°C since 1850–1900, primarily as a result of human activity. Malm (2016) also underscored the rapid depletion of the remaining carbon budget compatible with limiting warming to 1.5°C, at a time when annual emissions were still increasing by 3% since 2000. Each of the last four decades has been warmer than the previous one—the hottest sequence of the past 2,000 years. Today, between 3.3 and 3.6 billion people live in highly vulnerable areas.

The physical and social impacts of climate change are multiplying and increasingly visible. Glacial melt has accelerated (+57% since the 1990s); sea levels are rising (with projections of up to +0.7m by 2100 even under strong mitigation scenarios, according to the IPCC); extreme weather events—heatwaves, droughts, and floods—are becoming more frequent and severe; biodiversity loss is accelerating, with scientific consensus that 30–50% of ecosystems must be preserved to maintain resilience. The anthropogenic origin of these impacts is indisputable, yet their distribution is highly unequal: climate change is marked by profound “climate inequalities.” The richest 10% of the global population account for 50% of greenhouse gas emissions, while the poorest 50% emit only 7% (Malm).

If change remains possible, the past has already constrained the range of future options. A first characteristic of systemic resistance to “business as usual” lies in technological lock-in: fossil infrastructures built today (coal plants, pipelines) predetermine future emissions. This lock-in has concrete implications: 80% of the world’s energy infrastructure remains fossil-based. Banks play a central role: in 2023, global banking finance for fossil and low-carbon energy combined amounted to \$1.6 trillion—but down from \$1.8 trillion the previous year (BloombergNEF).

The pace of fossil infrastructure development highlights the magnitude of this inertia. In just three years (2010–2012), the world installed more than two and a half times the coal-fired capacity of the entire 1990s. Plants commissioned in 2012 alone are expected to generate 19 billion tons of CO₂ over their lifetime—already surpassing the 14 billion emitted by the global fleet that same year. This “carbon debt” is accumulating inexorably, increasing by around 4% annually, widening the gap between current and allowable emissions (Malm).

A second feature of systemic resistance is perverse financing: fossil fuel subsidies remain massive, estimated at \$775 billion per year (Klein), compared with just \$331 billion annually allocated to climate finance in 2013 (Climate Policy Initiative).



Figure 2: The Breakthrough Compass (Source: Volans and *Harvard Business Review*)

Naomi Klein’s This Changes Everything illustrates this contrast, presenting a spectrum that ranges from the inertia of business as usual to the transformative potential of a “breakthrough.” It captures the paradox between the urgency of climate action and the structural inertia of locked-in economic and technological systems.

If the “business as usual” mentality has demonstrated resilience, it has also revealed its destructive consequences for the environment—precisely as the IPCC reminds us that “every fraction of a degree matters” (AR6).

Three Responses to the Paradox

Confronted with the apparent contradiction between capitalism and climate stability, three broad responses emerge—ranging from radical incompatibility to opportunistic adaptation, with a reformist path situated in between.

Criterion	Incompatibility	Reform	Opportunism
<u>Pace</u>	Rupture	Transition	Adaptation

<u>Actors</u>	Social Movements	States/Companies	Markets
<u>Risk</u>	Political rejection	Bureaucratic inertia / lobbying resistance	Greenwashing

The Thesis of Radical Incompatibility

The recognition of the empirical antagonism between capitalism and nature has led some theorists to reject the possibility of their coexistence. This radical position rests on several unambiguous findings.

Timothée Parrique, in *Decoupling Debunked*, demonstrates that there is no evidence of absolute decoupling between GDP and environmental pressures. Observed cases of decoupling are either relative (impact per unit of GDP decreases while overall volumes increase), temporary (linked to economic crises), or geographically localized (resulting from the outsourcing of production to other countries). He identifies seven structural barriers to such dissociation: rebound effects (e.g., fuel-efficient cars leading to more kilometers driven), rising energy costs of resource extraction, problem displacement (such as ecosystem destruction for lithium extraction in battery production), limits to recycling, the material dependence of the service economy, relocation of impacts, and technological insufficiency. As Parrique concludes: “*Absolute decoupling is an act of faith disconnected from empirical realities.*”

Naomi Klein, in *This Changes Everything*, radicalizes this critique by arguing that “*our economic model is at war with life on Earth.*” For her, deregulated capitalism is intrinsically incompatible with the drastic emission reductions required, since necessary measures—bans, high taxes, re-nationalizations—are framed as political heresies within the neoliberal paradigm. She notably highlights how World Trade Organization (WTO) rules restrict subsidies for renewable energy, thereby protecting fossil industry interests.

Facing this impasse, theorists such as Jason Hickel (*Less is More*) advocate for planned degrowth in wealthy countries, aiming to reduce material production while enhancing well-being through policies such as reduced working hours, universal basic income, or luxury goods

taxation. Post-growth approaches similarly call for replacing GDP with alternative indicators centered on well-being and ecological health.

This systemic critique is often accompanied by proposals for the expansion of commons-based governance, as theorized by Nobel laureate Elinor Ostrom. Collective and decentralized management of natural resources (forests, water) offers an alternative to extractivist privatization, as illustrated by numerous communities worldwide.

Such critiques are grounded in concrete alternatives:

- In Germany, renewable electricity is largely produced by energy cooperatives.
- In Barcelona, the creation of “superilles” (superblocks) seeks to reduce car traffic.
- Since 2015, Costa Rica has demonstrated that a 98% renewable electricity mix is possible—though it still highlights persistent dependence on oil-based transport.

From these perspectives, some conclude that capitalism is irreconcilable with climate stability. Others, however, view systemic reform as the pathway to compatibility.

The Reformist Thesis

Positioned between rupture and the status quo, the reformist thesis envisions a transformation of capitalism to make it compatible with planetary boundaries. Rebecca Henderson, in *Reimagining Capitalism in a World on Fire*, calls for redefining the purpose of corporations around stakeholder value rather than shareholder profit. This transformation requires a fundamental rewriting of financial rules: adoption of robust ESG metrics, internalization of externalities, and integration of natural capital into accounting systems.

Initiatives such as Climate Action 100+—a coalition of around 700 investors managing nearly \$70 trillion in assets and engaging major corporations to decarbonize their activities—signal the rise of transformative finance. Yet Henderson warns that without a strict regulatory framework, such efforts risk collapsing into greenwashing.

Mariana Mazzucato complements this vision with the concept of the *entrepreneurial state*. She highlights the crucial role of strategic public investments, exemplified by the German

development bank KfW's support for the country's energy transition. States, she argues, must take risks to catalyze green innovation, as they did for renewable energy technologies in the 1980s.

Such reforms require ambitious policies: carbon taxation (\$50 per ton would generate \$450 billion annually), elimination of fossil fuel subsidies (\$775 billion annually), binding standards, and sectoral bans. These tools are necessary to redirect the economy toward sustainability.

Yet resistance remains significant. According to the International Energy Agency (IEA), the oil and gas industry invested around \$20 billion in clean technologies in 2022—just 2.5% of total capital expenditure. The low proportion illustrates the gap between corporate rhetoric on transition and actual investment. The IEA also notes that in 2011, the average North American emitted 11 times more energy-related CO₂ than the average African. Globally, the richest 10% of the population account for about 50% of total energy emissions, underscoring how social inequalities act as a major obstacle to structural transformation.

The Opportunistic Adaptive Thesis

Finally, the opportunistic thesis views capitalism not as a system to be reformed but as a machine capable of adapting—out of self-interest—to new environmental constraints. This perspective explains the rise of “green markets”: renewable energy (although it accounted for only 3% of global electricity excluding hydro in 2022, according to the IEA), electric mobility, and the circular economy.

Sustainable finance reflects this dynamic, notably through the development of green bonds (financing low-carbon projects) and ESG funds. However, their actual impact remains limited, as illustrated by cases where oil companies such as Total issue green bonds while simultaneously expanding fossil projects—an emblematic case of greenwashing.

Despite the rapid growth of renewables (solar power has grown by around 50% annually), they struggle to displace fossil fuels' entrenched dominance. Oil majors like Exxon and Shell invest in renewables but at the same time intensify fossil exploration. Their guiding

logic remains unchanged, as captured by former Exxon CEO Rex Tillerson: “*My philosophy is to make money. If I can drill and make money, then that’s what I want to do.*”

Thus, while opportunism may yield technological and financial advances, it primarily risks legitimizing inertia in the absence of deep structural reforms. Capitalism “in survival mode” demonstrates its ability to superficially integrate ecological concerns—without fundamentally challenging its productivist foundations.

Towards a New Logic? Conditions and Levers

The crucial question remains whether capitalism can truly reinvent itself. The emergence of a new logic would require a redefinition of its rules, a transformation of the very notion of economic value, and a critical assessment of both the promises and limitations of innovation.

Rewriting the Rules of the Game

Confronted with climate risks and the urgency of the crisis, the rules governing capitalism are under pressure to adapt. Changing the rules requires, first and foremost, international regulation—relevant because of the global nature of the challenge, but also indispensable. Yet, existing mechanisms reveal their shortcomings: the Green Climate Fund has mobilized only \$10 billion annually out of the \$100 billion pledged, exposing the inefficacy of voluntary commitments. International agreements (COP) also suffer from a lack of legal enforceability: the Paris Agreement rests on nationally determined contributions but with no binding force. An effective system of global climate governance would therefore demand mandatory commitments, backed by sanctions.

Adaptation also requires transformative economic tools. A universal carbon price is the most illustrative case: at \$50 per ton, it could generate \$450 billion annually in resources (Naomi Klein). Yet between 75% and 80% of global emissions currently face no carbon pricing at all (World Bank, 2022). The EU Emissions Trading System has indeed contributed to cutting emissions in the power sector (with reductions of about 40% between 2005 and 2020, according to the European Commission), but it has proven less effective in heavy industry—where reductions mostly stem from efficiency gains rather than structural change. Likewise, progress in

financial regulation remains slow: the 2014 EU directive requiring large firms to disclose their emissions has had only partial effects.

Alongside such incentive mechanisms, coercive measures are indispensable. Fossil fuel subsidies, amounting to \$775 billion annually—ten times the global climate budget—constitute a massive obstacle to transition. Their progressive elimination is thus a critical lever.

To put this in perspective, fossil subsidies could finance three times the deployment of renewable energy (International Institute for Sustainable Development).

Targeted bans also illustrate a pathway forward: France prohibited hydraulic fracturing for shale gas in 2011; Copenhagen aims for carbon neutrality by 2025 and has banned new oil-based heating systems since 2016 wherever district heating is available, while strongly promoting clean mobility. As Naomi Klein stresses: “*Without prohibitions and strong regulations, green innovations will remain marginal.*”

Underutilized levers are also emerging:

- The European Union now integrates climate clauses in its trade treaties.
- More than 2,700 climate lawsuits have been documented globally, with close to 3,000 cases filed by 2024 (Earth.org).
- Belize structured a “blue debt” swap by repurchasing \$553 million in sovereign debt at a discount and converting it into marine protection investments (International Monetary Fund).

Yet revising institutional and legal rules is insufficient. The very notion of economic value itself requires transformation.

Transforming Economic Value

A new economic logic entails redefining the indicators of wealth. GDP ignores the destruction of natural capital—species extinction or soil degradation does not reduce it. Alternatives exist: the Human Development Index, ecological footprint measures, or well-being indicators such as Bhutan’s Gross National Happiness.

This redefinition relies on financial innovations:

- The European Central Bank plans to introduce in 2026 a “climate factor” that would lower the value of carbon-intensive assets used as collateral.
- Public banks such as Germany’s KfW demonstrate the effectiveness of targeted investments.

Corporate accounting is also at stake. The World Bank estimates that natural resources represent 47% of global wealth, yet they are absent from corporate balance sheets. Generalizing expanded accounting frameworks (natural capital, social capital, triple bottom line) could correct this blindness. Some pioneering firms are already experimenting: in 2020, Danone tied 20% of executive variable pay to ESG objectives, including climate targets.

The central issue is the internalization of externalities. In other words, markets currently fail to reflect ecological scarcity—making the broadening of economic calculation to include real impacts an urgent necessity.

Innovation and Its Limits

Green technologies hold undeniable potential. They are indispensable, yet far from sufficient:

- Green hydrogen production remains 1.5 to 6 times more expensive than “grey” hydrogen (IEA, 2023).
- Carbon capture and storage accounts for only 0.1% of global emissions captured (IPCC, 2022).
- Regenerative agriculture offers promising sequestration potential, but only under profound, long-term transformations in farming practices. Standard practices (cover crops, managed grazing) capture an average of 0.7 to 5 tCO₂/ha/year, while more advanced systems such as agroforestry or BEAM techniques may reach 11 to 38 tCO₂/ha/year.

However, IPCC reports emphasize that even with massive technological deployment, reducing energy demand remains indispensable to meet the 1.5°C target. To rely solely on

technology risks sliding into technological solutionism. Geoengineering (e.g., aerosol injection) illustrates this danger: a risky distraction from genuine measures of sufficiency (Klein). According to the IPCC (AR6), 30–60% of reductions must come from demand-side changes (insulation, low-carbon mobility), yet the current system largely continues to bet on technology alone. The IEA confirms that one-third of required reductions by 2050 will depend on lower demand.

In reality, only complementarities between approaches can work. The German case is revealing: despite spectacular growth in renewables (+50% wind capacity since 2010), emissions have stagnated due to continued coal reliance. This confirms that innovation alone, without sufficiency and regulatory constraints, cannot deliver. As the IPCC (AR6) writes: “*Technologies cannot compensate for the absence of consumption reduction.*”

Finally, public investment remains central. As Mariana Mazzucato underlines: “The state must invest massively to make alternatives accessible to all.”

Conclusion : Between Pragmatic Utopia and Lucid Realism

“Climate capitalism” seeks to reconcile two seemingly irreconcilable logics: an economic system premised on infinite growth and resource exploitation, and a planet defined by immovable physical boundaries. This notion captures the central tension of our era: can a system whose very structures have fueled the ecological crisis be reformed from within?

Historical and structural analyses underscore capitalism’s long-standing reliance—since the Industrial Revolution—on the intensive exploitation of fossil fuels and the systematic externalization of environmental costs. The dynamics of financial short-termism, globalized competition, and the invisibilization of ecological limits have led to an unprecedented climate impasse. Yet, three pathways emerge in the face of urgency.

The radical incompatibility thesis contends that capitalism, in its current form, cannot resolve a crisis it has itself engendered. It calls for transcending the model through degrowth, commons-based systems, or post-capitalist economies. The reformist thesis, by contrast, places its faith in internal transformation, via regulation, green finance, and a strategic state.

Meanwhile, the opportunistic thesis bets on market-led adaptation, banking on technological breakthroughs—though often at the risk of greenwashing.

Despite their divergences, these approaches converge on one point: inaction is no longer an option. Solutions already exist—carbon pricing, the removal of fossil fuel subsidies, expanded accounting frameworks, and energy sufficiency. Yet their implementation remains obstructed by political, economic, and cultural lock-ins.

Thus, the core issue is not whether capitalism can become “climatic,” but under what conditions such a transformation might be realized. It presupposes:

- A binding system of global regulation, beyond today’s voluntary agreements;
- A redefinition of wealth indicators, integrating natural and social capital;
- A rebalancing of power, curbing the influence of fossil lobbies and financial markets;
- A new economic narrative, in which prosperity no longer equates to ecological destruction.

Ultimately, “climate capitalism” is neither a naïve utopia nor a hollow imposture: it is a contested terrain, pitting those who seek to green the system against those who aspire to transcend it. What is certain, however, is that the status quo amounts to collective suicide. The question is no longer whether change is necessary, but how, and at what pace. As Frederic Jameson remarked, “*It is easier to imagine the end of the world than the end of capitalism.*” Yet one may well precipitate the other. Or, in the words of Andreas Malm: “*The alternative to radical change is radical catastrophe.*” The choice remains ours.

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