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BANKRUPT RELICS TO ECO-SOCIAL INNOVATION
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INDUSTRIAL SITE TRANSFORMATIONS: FROM BANKRUPT RELICS TO ECO-SOCIAL INNOVATION CENTERS¹

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Abstract

Challenging the conventional neoliberal economic paradigm that categorizes distressed, legacy, or unprofitable manufacturing operations as terminal zombie firms destined for liquidation, this paper investigates how bankrupt industrial sites can be successfully transformed into vibrant hubs of eco-social innovation. Grounded in the theoretical framework of economic exaptation – the functional repurposing of existing assets for sustainable ends – we examine four diverse European case studies: Fralib (France) through worker-led local autonomy; GKN Florence (Italy) via the socially integrated factory model; Ørsted (Denmark) through a macro-scale fossil-to-green corporate transition; and Umicore (Belgium) via circular resource and electric vehicle material pioneering. By synthesizing these empirical trajectories with contemporary degrowth scholarship, this study demonstrates that industrial zombification is not merely a market pathology requiring extermination, but a critical site of political-economic recovery. The findings suggest a vital roadmap for future industrial policy, advocating for proactive public and democratic interventions that rescue stranded legacy infrastructure, dismantle extractive global supply chains, and institutionalize post-growth socio-ecological resilience.

Keywords: zombie firms, growth, degrowth, eco-social innovation

Introduction

In economic literature, zombie firms are typically defined as mature, financially unviable companies that survive only through continuous external lifelines, such as government subsidies, state bailouts, or cheap credit facilitated by weak banking systems. As documented in foundational studies by Caballero, Hoshi, and Kashyap (2008) and later expanded by Adalet McGowan, Andrews, and Millot (2017), these unproductive entities pose a systemic danger to the broader economy by locking up scarce capital, depressing market prices, and crowding out the growth, investment, and job creation of healthy, highly productive competitors. By generating "congestion effects" within industrial sectors, the persistence of zombie firms drags down aggregate productivity growth and delays necessary structural reallocation, creating structural bottlenecks that hinder macroeconomic resilience.

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Importantly, the primary objective behind the intention of eliminating zombies is to rejuvenate and reignite quantitative economic growth. However, as degrowth research suggests, climate change calls for moderating excessive production and consumption in case of developed countries to pave the way for a wellbeing economy (Kovács – Domonkos, 2025) that takes into account the planetary boundaries as well.

This collection of cases is to demonstrate that zombie firms may have an inherent capacity to be repurposed not predominantly toward technological innovations but toward eco-social innovations that are of paramount importance in pursuing a well-being conducive degrowth-transition.

Degrowth and zombification

Amid escalating ecological crises, contemporary economic scholarship increasingly emphasizes that perpetual quantitative growth is biophysically incompatible with planetary boundaries, driving an urgent call for a *degrowth-transition*. This paradigm shift requires moving away from throughput-driven accumulation toward a socially just, qualitative transformation of industrial systems that prioritizes human well-being and ecological regeneration over endless capital expansion. Eco-social innovation is central to this trajectory, demanding that industrial capacity be actively decoupled from fossil-fuel dependence and material extraction to foster local autonomy, circular resource loops, and climate justice.

Rather than succumbing to traditional policy prescriptions that dictate the total liquidation or extermination of distressed enterprises, recent complexity economics and innovation literature suggest the powerful mechanism of *exaptation* (Kovács, 2024) – the functional repurposing of existing assets, technologies, or organizational structures for entirely new, unintended ends. Applied to zombie firms and bankrupt industrial sites, exaptation offers a radical alternative: instead of writing off legacy infrastructure as terminal economic waste, these physical and organizational spaces can be creatively repurposed toward eco-social innovation activities. By redirecting dormant capital and productive capacities toward green transitions – such as turning carbon-intensive or stagnant assets into hubs for renewable energy, localized cooperatives, and circular manufacturing – zombie structures can be functionally transfigured from systemic economic liabilities into catalysts for sustainable socio-ecological development.

Exaptationary cases – Potential for eco-social change in case of zombie firms

Traditional industrial policy often categorizes declining, legacy, or unprofitable manufacturing sites as zombie firms – entities doomed for liquidation, off-shoring, or complete erasure. Challenging this deterministic view, the following four European case studies demonstrate how structural crises can be inverted. Rather than treating distressed assets as terminal burdens, these sites were reclaimed through worker-led autogestion, ecological conversion, and strategic pivots, turning industrial obsolescence into hubs of eco-social innovation.

Fralib (Gémenos, France): From Global Space to Local Autonomy

- **The Zombie Trap:** Originally established in the Bouches-du-Rhône department as a production site for Unilever under the Lipton and Éléphant brands, the Gémenos factory became a prime casualty of corporate restructuring and ruthless financial optimization. In 2010, Unilever decided to centralize its European tea packaging operations in Poland, where labour costs, environmental regulations, and corporate tax overhead were significantly lower. The multinational conglomerate initiated a systematic campaign of site devalorization, freezing capital investments, under-maintaining equipment, and attempting to coerce the local workforce into accepting a drastic reduction in wages and working conditions. Under the cold calculus of global supply-chain logistics, Unilever viewed the French plant as an inefficient, redundant node that failed to maximize shareholder value. The corporate strategy treated the site as a disposable entity – a financial zombie designed to be bled dry, shuttered, and wiped off the corporate balance sheet, ignoring the devastating socio-economic fallout for the 182 specialized tea workers and the regional economy of Gémenos.
- **The Eco-Social Transformation:** Refusing corporate execution, the workforce launched a historic 1,336-day resistance struggle. They transformed the threatened site into **Scop-Ti**, a worker-owned cooperative.²
- **The Innovation Model:** The cooperative localized its entire economic footprint. Instead of sourcing globally, Scop-Ti partnered with local organic farmers in Provence to revive regional aromatic herb and linden production, proving that a localized,

² See: <https://franceactive.eu/scop-ti-restoring-the-local-herb-and-aromatic-plant-industry/>

democratic worker cooperative can replace extractive multinational models with circular, place-based food sovereignty.

GKN Florence (Campi Bisenzio, Italy): The Socially Integrated Factory

- **The Zombie Trap:** Acquired by the British private equity and turnaround fund Melrose Industries in 2018, the historic automotive components plant in Campi Bisenzio was subjected to the classic mechanics of corporate extraction and sudden abandonment. Melrose specialized in acquiring traditional manufacturing units, optimizing short-term balance sheets, and divesting or liquidating when profit margins faltered. Without prior warning, consultation with trade unions, or engagement with regional authorities, management abruptly shut down the plant via a cold email notification in July 2021. This unexpected action immediately sentenced 422 direct workers and hundreds of indirect supply-chain contractors to sudden unemployment. The corporate rationale treated the factory as a stranded asset within an obsolete fossil-fuel-dependent auto sector, prioritizing immediate shareholder dividends over regional industrial capacity. The closure epitomized the ruthless logic of financialization, where legacy production sites are treated as virtual zombies – drained of their liquidity and structural worth before being discarded overnight.³
- **The Eco-Social Transformation:** The workers responded by occupying the factory floor, establishing Italy's longest-running permanent workers' assembly. Crucially, they broke down factory walls to merge labour activism with the broader climate justice movement.
- **The Innovation Model:** Collaborating with engineers and scientists from the University of Pisa, the collective drafted a grassroots re-industrialization plan. They converted the blueprint of the plant away from fossil-fuel-dependent auto parts toward the manufacturing of eco-transition goods, specifically cargo bikes and photovoltaic solar panels, institutionalizing the concept of the socially integrated factory.

³ See: <https://www.tuc.org.uk/workplace-guidance/case-studies/gkn-workers-florence-fight-take-over-ownership-their-factory-and>

Ørsted / DONG Energy (Denmark): From Fossil-Fuel Business to Eco-Social Innovation-Led Just Transition

- **The Zombie Trap:** In the mid-2000s, DONG Energy (Dansk Olie og Naturgas) was locked into a carbon-intensive incumbent model heavily reliant on oil extraction, gas distribution, and coal-fired power generation. As global climate imperatives intensified and European energy markets shifted, the state-backed utility found itself trapped in a structurally declining sector, vulnerable to volatile fossil commodity prices and stranded asset risks. Compounding its industrial vulnerability, the firm faced fierce local and political opposition to carbon-heavy expansion, such as the widely contested and ultimately aborted coal infrastructure projects. Operating under legacy business frameworks, DONG Energy was on a trajectory to become a textbook institutional zombie: an enterprise weighed down by obsolete, high-emission infrastructure that could neither compete agilely in modern energy markets nor survive impending regulatory penalties on carbon. The firm faced an existential crossroads where maintaining business-as-usual would lead to inevitable financial insolvency and severe environmental delegitimization.
- **The Eco-Social Transformation:** Under a bold strategic pivot – epitomized by the "85/15 strategy" and a subsequent corporate rebranding to Ørsted (named after Danish scientist H. C. Ørsted) – the firm systematically divested its oil and gas divisions.
- **The Innovation Model:** Capital was aggressively redirected toward scaling offshore wind infrastructure in the North Sea and global markets. By reducing its greenhouse gas intensity by over 85%, Ørsted demonstrated how a legacy fossil-fuel behemoth can engineer a macro-scale just transition, coupling institutional decarbonization with high-yield financial viability.⁴

Umicore (Belgium): From a Heavy Polluter Zombie to an Eco-Socially Aware EV-Pioneer

- **The Zombie Trap:** Direct descendant of Union Minière, a two-century-old colonial mining and metal-refining conglomerate tainted by historical exploitation, severe ecological degradation, and sunset extractive industries, Umicore was structurally trapped in the dirtiest segments of the heavy industrial economy. By the late 20th century, the enterprise was bogged down by toxic environmental liabilities, obsolete

⁴ See: <https://www.imd.org/ibyimd/case-study/case-study-quadrant-4/>

smelting operations, and declining global demand for primary metal extraction. Traditional mining and refining models were becoming economically unviable and socially indefensible under tightening European environmental standards. The company was viewed as a quintessential industrial zombie: a heavy polluter burdened by centuries of ecological debt, stuck in declining sunset markets, and lacking a viable future under conventional business frameworks. Continuing down this path would have guaranteed systematic liquidation, massive environmental remediation lawsuits, and permanent brand bankruptcy.

- **The Eco-Social Transformation:** Between the late 1990s and 2001, management systematically liquidated remaining mining concessions and discarded primitive metal extraction models to reinvent the enterprise from the ground up.
- **The Innovation Model:** Umicore restructured into a circular materials technology leader. It pioneered advanced recycling technologies for complex metals and became a global frontrunner in the production of cathode materials essential for electric vehicle (EV) lithium-ion batteries, effectively converting a toxic, resource-exhausting relic into an indispensable pillar of the green mobility transition.

Conclusion

Synthesizing these empirical pathways with the realities of ecological economics reveals that the phenomenon of zombification is not merely an arithmetic failure of capital allocation, but a profound systemic symptom of a dying industrial growth paradigm that can be radically inverted through institutional exaptation.

Far from warranting the conventional neoliberal prescription of liquidation or corporate extermination, the structural crises witnessed at Fralib, GKN Florence, Ørsted, and Umicore expose how dormant or bankrupt assets harbour latent socio-technical capabilities ripe for repurposing toward a degrowth-transition. By actively dismantling the extractive imperatives of global supply chains and financialized takeovers – as demonstrated through worker-led autogestion, green re-industrialization, and circular material loops – these cases prove that industrial sites can shed their zombie status to become vibrant nodes of local autonomy and eco-social innovation.

Consequently, future research at the intersection of industrial policy and degrowth must move beyond viewing zombification strictly as a market pathology, reframing it instead as a critical site of political-economic struggle where public intervention and labour agency can rescue

stranded infrastructure from financial ruin. Policy frameworks should thus abandon market-clearing orthodoxies in favour of proactive industrial strategies that institutionalize democratic ownership, protect ecological boundaries, and facilitate the systemic exaptation of legacy capital toward socially necessary, post-growth production.

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