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Sustainable Futures as Problems of Social Order

Editorial Introduction

Giacomo Bazzani, Andrea Maurer and Jasmin Siri

Abstract. Sustainability has become a general horizon of political legitimacy, economic justification and moral evaluation, yet its sociological significance remains insufficiently specified. This Special Issue argues that sustainability should be treated not as a specialized environmental topic, nor as a managerial language of policy adjustment, but as a problem of social order under ecological constraint. Recent scholarship have shown that sustainability is contested, future-oriented, institutionally mediated and normatively charged. The contribution of this special issue lies in conceptualizing sustainability by emphasizing four dimensions usually analyzed separately: Solidarity, collective action, money and imagination. The articles combine theoretical concepts with empirical case studies and demonstrate how sustainability can be theoretically conceptualized in sociology. Sustainable futures, we argue, are struggles over who counts, how common goals are reached, what is institutionally valued and which futures become credible enough to organize present action. This framework reconnects theory, empirical inquiry and reflexive normativity.

Keywords: sustainability; sociological theory; solidarity; coordination; money; imagined futures; localism; ecological crises

1 Introduction

Societies are more aware than ever of the environmental consequences of their economic and social life, yet they continue to cling to institutions that hinder appropriate policy responses and perpetuate social inequalities. This gap between knowledge and action is not simply a policy failure. It is a problem of social order. The question is how obligations are delimited, how short-term interests are stabilized, how infrastructures reward some futures over others, and why even widely acknowledged dangers fail to reorganize collective priorities (Beckert 2024; Diekmann 2024; Richardson et al. 2023). Sustainability has become the dominant language for naming this predicament, but the spread of the term has not produced much conceptual effort. Governments invoke it to legitimate industrial policy and infrastructure spending. Corporations translate it into reporting standards, disclosure regimes, reputational claims and markets to define particular segments. Municipalities mobilize it in transport and urban planning. Social movements deploy it in struggles over climate justice, energy democracy, food systems and everyday life. Its remarkable diffusion has instead revealed its conflictual character. Sustainability now names a field of competing projects rather than a shared destination. In one register, it promises a greener version of modernization through innovation, efficiency and market coordination. In another, it names a more demanding transformation of social and economic institutions. In yet another, it becomes a language of control, emergency and strategic state steering.

Viewed from a sociological perspective, the concept of sustainability is highly ambiguous, prompting the sociological question of whether this ambiguity is rooted in systemic factors or results from the processes of transnational policy-making. Most likely, as the articles show, it is both. Authors in the field of Sustainability Research also address the vagueness of the concept of sustainability, although primarily as a practical rather than a theoretical problem. Brinkmann (2023), for example, describes the diversity of sustainability concepts as a result of the varied applications and multiple policy definitions since the 1980s, the different practical approaches (small changes versus foundational societal change), the differing conditions in the Global South and Global North, and the various organizations that have engaged with the topic over the past decades. In a 2017 text, Sighard Neckel, from a sociological perspective, describes a similar problem, noting that sustainability has »diversified in many directions and has been cited to support quite contradictory social agendas« (Neckel 2017: 46). Consequently, »sociology should not regard sustainability as a long-sought solution to every environmental and societal problem. On the contrary, sustainability needs to be approached as itself a problem« (Neckel 2017: 46). Neckel further elaborates on how closely the discussion of sustainability is tied to the capitalist economic system. Sustainability has established itself globally as an »ubiquitous ideal for societal change«, which encompasses the normative idea that »the needs of the present must not be realised at the expense of those who will wish to realise their own needs in the future« (Neckel 2017: 47). This indeterminate normative ideal, in turn, is highly compatible with – and exploitable by – capitalist logics, which is why the concept should not be adopted naively in sociology, but rather discussed in a sober and reflexive manner (Neckel 2017: 47 f.).

In the majority of sociological debates, sustainability primarily functions as a theoretically indeterminate and predominantly normative concept. Sustainability is discussed as a value or a policy goal to be achieved, rather than as a concept of theoretical interest. In this respect, it shares the fate of other concepts that are widely used yet remain theoretically indeterminate.

Even these few notes should show: The plurality and ambiguity of the term sustainability is substantive rather than merely semantic. It reveals that sustainability is not a neutral descriptor but a contested attempt to organize the present considering anticipated ecological limits and socially imagined futures. That contestation is intensified by the fact that ecological disruption is no longer plausibly external to social life. Climate change, biodiversity loss, pollution, resource depletion and the destabilization of life-support systems now shape the conditions of future. They affect infrastructures, labor markets, public health, migration, regional inequality, insurance systems, political legitimacy and the temporal horizons through which institutions justify themselves (Richardson et al. 2023; Domingues/Teixeira 2024). The question is no longer whether ecological crisis matters for social life. The question is how societies can manage them and how sociology can conceptualize collective life once ecological constraint becomes constitutive of social order itself.

Contemporary literature has registered this challenge, but it has not yet fully absorbed its theoretical implications. Important advances have been made. Sustainability has been reconceptualized as a conflict among trajectories of modernization, transformation and control rather than as a consensual civic goal (Adloff/Neckel 2019; Adloff 2024). Climate change has increasingly been presented as a core sociological issue rather than a peripheral topic for environmental subfields (Diekmann 2024; Domingues/Teixeira 2024). Sustainability research has moved away from narrow impact management toward relational, regenerative and social-ecological understandings of reproduction over time (Ostrom 2009; West et al. 2020; Tàbara 2023). Research on solidarity, prosociality and collective action has reopened the question of how obligations extend beyond bounded communities under conditions of global interdependence (Prainsack/Buyx 2017; Simpson/Willer 2015; Bazzani 2023; 2024; 2025). Economic sociology and critical monetary scholarship have also shown that money is an important means and vehicle of transformation (Ingham 2004; Braun 2016; Caliskan 2020).

Yet these advances remain fragmented. Given these circumstances, it seems worthwhile to explore the theoretical foundations of the concept of sustainability in greater depth. The problem is not a shortage of good scholarship. It is the absence of a debate on how to link and develop sociological research. We think that such developments should speak to the main dimensions through which sustainable futures are socially organized. This special issue helps address and link four questions that should not be analytically separated for too long: Who counts, how collective goals are coordinated, what is valued, and which futures orient present action. The contributions presented here emerged from discussions first developed at the ESA RN09 Economic Sociology mid-term conference, *European economies in transition: On the way to pro-environmental and prosocial economies*, held at the University of Florence on 6–8 September 2023, and were subsequently reworked into a more explicitly theoretical conversation on sustainability, social order and socio-ecological transformation (European Sociological Association Research Network 09 Economic Sociology 2023).

The argument advanced here is that sustainability should be theorized as a problem of social order under ecological constraint. This formulation is meant to shift the analytical center of gravity. The relevant question is not only how to reduce emissions or improve environmental policy. It is how societies organize responsibility, cooperation, valuation and temporality when ecological limits can no longer be indefinitely externalized. Framed in this way, sustainability is not a specialized environmental theme but a site where sociology's core concerns are reopened. It raises questions of solidarity, coordination, money, legitimacy, futurity and social reproduction at once.

The distinct contribution to the debate of this special issue lies less in identifying these features separately than in bringing them into a shared sociological framework structured around four analytically distinct but empirically entangled dimensions of social order: Solidaristic inclusion, cooperation, valuation, and expectation. This framework allows sustainable futures to be analyzed as socially organized rather than as the cumulative effect of policy tools, technological change, or moralized consumption. Sustainable futures are not simply the cumulative effect of policy tools, technological change or moralized consumption. They are organized through institutions and practices that define who bears costs for whom, how cooperative action becomes durable, what forms of labor and contribution are recognized as valuable, and which futures become believable enough to reshape present commitments. Taken together, the contributions assembled in this issue allow these processes to be analyzed as interconnected dimensions of sustainable futures. Diekmann's interview offers a critical-analytical perspective on research into the climate crisis and argues for a clear distinction between the micro, meso, and macro levels in the conceptualization of social problems. Maurer reopens the problem of cooperation beyond markets and hierarchies when it comes to collective action. Barinaga and Massó put money and monetary design at the center of sustainability analysis. Bazzani reconstructs the solidaristic problem of sustainability transitions. Rycombel shows that ecological futures are imagined through local, classed and morally coded forms of environmental imagination. Beckert's interview adds a sociological reflection on capitalism, growth, legitimacy and the limits of climate policy.

The introduction proceeds in eight sections to outline a framework. The next section, section two, reconstructs sustainability as a problem of social order rather than a thematic extension of environmental policy. Section three situates the current debate and identifies the analytical gap this issue addresses. Sections four through seven elaborate the four dimensions of the proposed framework: Solidarity, coordination, valuation and expectation. Section eight discusses the multiple relationships between theory, empirical inquiry and reflexive normativity. The conclusion formulates a broader research agenda for the sociology of sustainable futures.

2 Sustainability as a Problem of Social Order

Treating sustainability as a problem of social order means rejecting the assumption that ecological crisis is external to the organization of society. The old image of nature as a passive background or as a reservoir of inputs and sink for waste has become sociologically untenable. The current ecological crisis is not an external disturbance that social institutions encounter from the outside. It enters directly into the terms on which livelihoods, infrastructures, state strategies and everyday practices are reproduced. Climate impacts intensify regional inequality, reshape energy systems, alter insurance markets, affect mobility and housing, and change the temporal calculus of public and private investment. Ecological crisis thus operates through institutions rather than beside them (Richardson et al. 2023; Domingues / Teixeira 2024).

The planetary-boundaries literature has made this shift visible in a particularly forceful way. Richardson et al. (2023) argue that Earth has moved beyond six of nine planetary boundaries, which implies that modern societies are reproducing themselves by destabilizing conditions on which long-term collective life depends. Sociology need not simply adopt the epistemic language of Earth-system science to see the broader implication. The relevant sociological point is that ecological constraints now shape struggles over distribution, infrastructure, public authority and the legitimacy of growth in ways that can no longer be treated as peripheral. Ecological crisis is therefore not merely a thematic topic added to existing analyses of capitalism, the state or inequality. It changes the terms under which those analyses proceed.

Recent work in environmental sociology and sustainability studies has begun to formulate this more relationally. Tàbara argues that sustainability should be understood not as one fixed definition or one stable end-state, but as a relational and regenerative problem involving the reorganization of social and ecological conditions of collective life over time (Tàbara 2023). West et al. (2020) likewise call for a relational turn in sustainability science because many dominant frameworks continue to reproduce the separation between social and ecological systems that the empirical world increasingly undermines. These interventions matter for sociology because they redirect attention from isolated outcomes toward the institutionalized relations through which societies secure – or fail to secure – their own conditions of reproduction.

A relational understanding of sustainability also makes clear why the concept is irreducibly normative without in and of itself collapsing into moral exhortation. To describe an arrangement as ›sustainable‹ is never simply to register a neutral fact. It is also to imply judgments about endurance, viability, justice, sacrifice and acceptable futures. The task of sociology is not to remove that normativity, which would be an impossible undertaking anyway. It is to analyze how normative claims are institutionalized, contested and translated into specific projects of shaping the present. Adloff's recent work on post-sustainability is particularly useful here because it shows that sustainability operates as a conflictual framework that condenses divergent projects of modernization, transformation and control rather than as a single social ideal (Adloff 2024; see also Neckel 2017).

A sociologically stronger definition follows from this. Sustainable futures are contested attempts to institutionalize forms of life that can reproduce livelihoods, infrastructures and obligations over time within biophysical constraints while remaining socially and politically legitimate across unequal groups and scales. This definition is demanding by design. It refuses to identify sustainability with lower emissions alone, or with green technology, or with responsible consumption. Sustainability concerns the organization of collective life itself: How burdens are distributed, how cooperation is stabilized, how value is assigned, how time horizons are structured and how legitimacy is produced under ecological constraints.

Once sustainability is understood in this way, the central sociological questions become sharper. Who belongs within the relevant circle of responsibility? How are collective goals coordinated under conditions of uncertainty and conflict? What forms of labor, contribution and livelihood are institutionally valued? How are future risks, benefits and obligations represented and made politically credible? Which organizations, scales and infrastructures mediate between diffuse ecological interdependence and actually existing communities of accountability? These are not secondary questions. They are questions of order in the strongest sociological sense.

This reframing also clarifies why sustainability cannot be reduced to environmental governance. Governance is itself one institutional dimension of a broader problem of social order. The task is to study how social order comes into being and maintains itself through social interaction and manifests in morale and norms, legal rules, institutions, infrastructures, organizations and not at least in money. Ecological disruption interacts with all of these. The issue is therefore not only to govern environmental externalities more effectively. It is to understand how the basic architecture of modern social orders is implicated in the production of unsustainability, in the limited credibility of alternative futures and which social forms and mechanisms work into the direction of more sustainable futures.

3 What Current Sociology Has Achieved and What It Still Lacks

Transformation points toward deeper reorganization of production, consumption and social relations (Adloff/Neckel 2019). Another line of research has centered climate change more explicitly within sociology. Diekmann's provocation – whether climate change has hardly become a topic for sociology at all – matters because it names a disciplinary asymmetry. Sociology has generated extensive research on consumption, inequality, labor, nationalism, migration and risk, but has often treated ecological disruption as external to those domains rather than constitutive of them (Diekmann 2024). Domingues and Teixeira make a similar point by arguing that climate change now belongs to sociology's own province because it transforms the problem of social reproduction and collective futures rather than merely adding one more issue to a crowded agenda (Domingues / Teixeira 2024).

A third cluster of work has shifted sustainability research toward social-ecological systems, regeneration, resilience and institutional adaptation. Ostrom's framework remains decisive because it treats sustainability problems as problems of collective action embedded in social-ecological systems rather than as mere failures of markets or motivations (Ostrom 2009). Tàbara extends this move by emphasizing regenerative capacities and positive tipping points rather than simply impact mitigation (Tàbara 2023). This work has helped move the debate away from purely technocratic or managerial understandings of sustainability.

Yet these advances are still marked by fragmentation. The trajectory literature is strong on future projects and political semantics but often says relatively little about how social order is linked to the overuse of nature. Climate sociology is strong on discipline formation and issue salience, but often less precise about coordination forms and valuation. Commons and collective-action research explain cooperation under certain conditions, but is often less attentive to future imagination, classed culture or the symbolic politics of localism. Monetary and alternative-currency scholarship reveals the institutional structure of money but does not always connect itself to the broader sociology of sustainable futures. Research on ethical consumption and localism is sharp on distinction and culture but less developed on monetary infrastructures or organizational capacity. The empirical object cuts across all these fields, but research and literature often remain separated.

The costs of this fragmentation are analytical rather than merely organizational. A purely cultural account of sustainability does not see infrastructures, rights and institutions. A purely institutional account misses the moral boundaries and imaginaries through which actors interpret transition. A purely economic account ignores solidarity and legitimacy. A purely normative account lacks mechanisms, conflict and constraints. What is still lacking is not another call for complexity, but a more exacting sociological architecture that shows how different dimensions of sustainable futures are co-constituted.

Our special issue brings important questions and perspectives together to initiate a more integrated analytical conversation. It shows that sustainability can be reconstructed around four connected dimensions: Obligation, capacity, valuation and expectation. Obligation concerns who count within the relevant moral and political ›we‹. Capacity concerns how collective goals become achievable and therefore directs attention to coordination forms beyond the market-state binary. Valuation concerns how labor, livelihood, and contribution are institutionally organized and therefore directs attention to money and monetary infrastructures. Expectation concerns how futures become credible enough to orient present action and therefore directs attention to imagination, scale, and the politics of futurity. This four-part formulation does not resolve all problems, but it gives sociology a stronger way of organizing them.

4 Solidarity Beyond Bounded Reciprocity

If sustainability is a problem of social order, it is unavoidably also a problem of obligation. Ecological transitions require decisions about who bears costs, who receives benefits, and who is included within the effective circle of responsibility. Bazzani's contribution refuses to treat solidarity as vague moral rhetoric and instead conceptualizes it as patterned prosocial practice. The analytical gain of this move is that it turns solidarity from an evaluative slogan into an observable form of social action in which actors accept some cost or commitment to benefit others under publicly or tacitly shared norms of other-regarding conduct (Bazzani, in this issue; Diekmann, in this issue; Prainsack / Buyx 2017).

Its relevance for sustainability research lies in the fact that ecological crisis unsettles inherited solidaristic boundaries. Classical sociology, especially Durkheim's distinction between mechanical and organic solidarity, treated solidarity as tied to relatively bounded collectivities defined by likeness or by functional interdependence (Durkheim 1984/[1893]). In the twentieth-century social theory, solidarity remained closely linked to classes, nations, unions, welfare-state publics or territorial communities. Sustainability transitions often do not fit that model. The costs of climate mitigation in wealthy societies may primarily benefit geographically distant populations or future generations. The beneficiaries of lower emissions, ecosystem protection, or just transition policies are frequently absent from direct reciprocal exchange. This is the basis of a distinction between more mutualistic and more outward-oriented solidarities (Bazzani, 2023; 2024; 2025). The special-issue article develops these lines through a mechanism-based account of »innovative solidarities« in Europe's sustainability transitions (Bazzani, in this issue).

What makes the framework sociologically productive is its mechanism-based account of how solidarities emerge, stabilize, and erode. Bazzani does not simply assert that broader solidarities are normatively required. He asks how they are socially generated and stabilized. The mechanisms he highlights – communicative deliberation, moral-economy orientations, shared-risk framing, supportive institutionalization and boundary-bridging networks – matter because they make solidarity an explanatory rather than merely aspirational concept. This move is consistent with wider sociological research on prosociality, which has shown that cooperation and other-regarding behavior are shaped by norms, institutions, networks, incentives and reputational dynamics rather than by internal dispositions alone (Simpson / Willer 2015). The analytical gain is significant. Solidarity becomes something that can be explained, cultivated, blocked or eroded.

The empirical cases illustrate why solidarity matters. Youth climate mobilization extends obligation across national boundaries and toward future generations. Community energy cooperatives institutionalize shared benefits around decarbonization and local participation. Just-transition coalitions seek to reconcile labor protection with ecological transformation. Disaster mutual aid turns exposure to crisis into practices of support that can at times spill beyond the immediate site of damage. These cases are heterogeneous, but they share one important feature: They attempt to organize prosocial commitment where immediate reciprocity is incomplete or uncertain (Kowasch et al. 2021; Velicu / Barca 2020).

The issue's broader significance lies in how it also refuses to romanticize such expansion. Beckert's interview offers a crucial corrective when it insists that solidarity remains socially bounded and that climate change is sociologically interesting precisely because knowledge of danger does not translate into adequate collective action. One reason is that social obligations remain much stronger where social relationships are already dense and institutionally supported than where beneficiaries are distant or abstract (Beckert 2024; Beckert, in this issue). The global scale of climate change does not by itself generate a cosmopolitan public of obligation. The challenge is therefore not simply moral but organizational and institutional.

If solidarity is necessary but not spontaneously global, then sustainable futures depend on arrangements that can carry solidaristic commitments beyond the narrow range of face-to-face reciprocity. Formal institutions, public narratives, organizations and infrastructures matter because they can stabilize commitments when immediacy fades. Sustainable futures therefore require more than the extension of moral concern in the abstract. They require institutionalized mechanisms by which broad circles of obligation become durable enough to support costly and unequal transition processes (Bazzani, in this issue).

Seen from this angle, solidarity is not a moral supplement to sustainability. It is one of the constitutive dimensions through which sustainable futures become politically credible or remain blocked. The question is not simply whether actors care. It is how care is organized across distance, difference and time. That is a core sociological question.

5 Capacity: Coordination Beyond the Market-State Binary

If solidarity concerns obligation, coordination concerns the organization of collective capacity. Maurer's contribution is essential here because it reformulates sustainability as a problem of collective action and asks how more adequate coordination forms can be theorized. Her point of departure is not environmental awareness as such, but the persistent difficulty of restricting the overuse of finite natural resources even when preservation would serve common interests over the long run. She argues that the relevant analytical focus is not merely the market-state divide, but the social forms, institutions and mechanisms through which collective goals become feasible in practice (Maurer, in this issue).

Maurer's theoretical strategy is deliberately cumulative rather than iconoclastic. She does not propose a wholly new theory of sustainability. Instead, she advocates starting from abstract collective-action models and then systematically extending them through insights from new economic sociology, especially social and institutional embeddedness, and through action-based explanation (Maurer 2025; Maurer, in this issue). In doing so, Maurer reconnects sustainability research with explanatory sociology rather than leaving it at the level of institutional preference or normative aspiration. The point is not only to identify desirable alternatives to capitalist coordination. It is to specify when and why such alternatives emerge, how they stabilize, and which mechanisms support or undermine them.

The intervention is directed against two flattened narratives that still structure much sustainability research. In the first, ecological failure is attributed to poor or insufficiently informed individual choices. In the second, sustainability is treated as a policy deficit to be solved by expert design, incentives or regulation. Maurer's article points beyond both. Markets and states remain indispensable, but they do not exhaust the relevant forms of coordination. Cooperative arrangements, commons, community organizations, hybrid public-civic structures and other forms of collective self-organization are not marginal curiosities. They are central empirical and theoretical sites for understanding how sustainable futures may be built.

Research on community energy and cooperative organization points in the same direction. Bauwens, Gotchev and Holstenkamp show that the emergence of wind cooperatives in Europe depends on extremely specific institutional conditions rather than on environmental concern alone (Bauwens et al. 2016). Wierling et al. similarly demonstrate that energy cooperatives have played an important role in the energy transition of several European countries, but their viability is sensitive to public frameworks, organizational capacity and regulatory support (Wierling et al. 2018). These findings support Maurer's broader point: Sustainable coordination does not arise automatically from good intentions. It depends on rules, organizations, trust, monitoring and institutional fit.

The just-transition literature points in the same direction. Velicu and Barca argue that transition discourse can itself reproduce inequality when it abstracts from labor, reproduction and the uneven distribution of costs (Velicu/Barca 2020). Gürtler, Löw Beer and Herberg show that coal phase-out processes involve intense struggles over legitimacy, representation and territorial justice rather than the simple implementation of expert consensus (Gürtler et al. 2021). These studies reinforce the central sociological lesson of Maurer's article: Coordination is not merely technical. It is organized through institutions, conflicts and moral claims.

Maurer's contribution is particularly relevant because it restores coordination as an explanatory object in its own right. Sustainability cannot be explained by obligation alone. Actors may accept wider circles of concern and still fail to coordinate durable collective action under conditions of uncertainty, path dependence and unequal incentives. Nor is coordination only a matter of choosing between market and hierarchy. Alternative forms of organizing the economy must be analyzed through the specific mechanisms that sustain them. This is why Maurer's use of action-based explanation is so important. It provides a bridge between high-level theorizing and empirically grounded accounts of how cooperative institutions actually function.

6 Valuation: Money, Credit and the Infrastructures of Social Reproduction

Valuation is the point at which the issue most clearly departs from standard sustainability debates. Sustainability research often focuses on production, consumption, governance or culture while leaving money in the background as a neutral medium. Barinaga and Massó both reject this assumption. Their shared claim is that money is not a transparent instrument that merely facilitates exchange. It is an institutional infrastructure that shapes value, labor, livelihood, rights and future expectations. Thus, sustainability cannot be adequately theorized without examining the organization of money itself (Ingham 2004; Braun 2016; Bazzani 2020; 2022; Barinaga, in this issue; Massó, in this issue; Diekmann, in this issue).

Barinaga's point of departure is a diagnostic claim about the displacement of responsibility in contemporary sustainability discourse. Much public and scholarly discourse assigns responsibility for ecological breakdown to corporations, consumers or workers and then asks those same actors to behave against the institutional imperatives that organize their conduct. This produces what might be called a behavioral paradox. Individuals are urged to reduce consumption, take care of nature or restrain growth-oriented behavior while they remain tied to infrastructures of money, debt, labor and livelihood that reward the opposite. Barinaga's argument is not that actors lack agency. It is that analyses of sustainability remain incomplete when they leave money absent from the frame (Barinaga, in this issue).

Her central move is to reconnect ecological crisis to the institutional mechanics of money creation. Following post-Keynesian monetary analysis, she emphasizes that in contemporary economies most money is created by commercial banks when they extend loans. The Bank of England's clarification remains decisive here: Bank lending creates deposits; banks do not simply lend out preexisting savings; and the textbook story in which banks passively intermediate between savers and borrowers is misleading (McLeay et al. 2014). Sociologically, the point is that money becomes visible as a dynamic and selective infrastructure rather than as a neutral medium. Credit, collateral, interest and repayment obligations channel activity through specific institutions and expectations. Money is not only a medium of exchange. It is a form of organized social relation.

Barinaga's manuscript extends this point by drawing together the ›money view‹ associated with Mehrling (2011) and the sociological tradition represented by Ingham and Dodd. Money appears as a relational and sociotechnical assemblage, constituted through balance-sheet relationships, accounting practices, material devices and normative priorities (Ingham 2004; Dodd 2014; Barinaga, in this issue). This stronger relational view is important because it dislodges the familiar commodity metaphor according to which money is simply a thing. Once money is understood as an institutional arrangement, its design and governance become open sociological questions.

From here Barinaga develops a more pointed critique of unsustainability. If money is largely created through interest-bearing private bank lending, then the production of money is tied to creditworthiness, asset ownership, profitability expectations and the prioritization of creditor interests. Her claim is that this architecture contributes to inequality and extraction from nature not only because of who gets money, but because of how money comes into being in the first place (Barinaga, in this issue). One need not accept every causal link in maximal form to appreciate theoretical advance. The key point is that sustainability research remains impoverished if it focuses on behavior, carbon accounting or green finance while leaving the fundamental architecture of money creation unexamined.

Barinaga's three empirical cases – Turuta, Vilawatt and Plastic Bank – make this argument tangible. Each links the issuance and distribution of a complementary currency directly to acts of care for nature: Land renewal in the case of Turuta, energy saving in the case of Vilawatt, and the collection of plastic waste in the case of Plastic Bank (Barinaga, in this issue). Their sociological value lies less in whether they can scale seamlessly than in what they reveal about monetary design. These are not merely alternative payment systems. They are prototypes of different trajectories for articulating economic action into environmental care. Each embeds different assumptions about agency, democracy, governance and territoriality.

The governance dimension of Barinaga's analysis is especially important. Turuta is organized through community assemblies and a commons logic. Vilawatt follows a state-led or municipal-civic logic. Plastic Bank follows an entrepreneurial market logic with global ambitions but limited user decision power. These differences matter because they show that the question is not only whether money can be greened, but who decides the rules through which money organizes environmental care. Monetary design is therefore inseparable from political design. In Barinaga's terms, tracing money reveals not only instability and inequality, but the possibility of reclaiming and reorganizing money around different social and ecological priorities (Barinaga, in this issue).

Massó's contribution approaches the problem from a different but complementary angle. Whereas Barinaga foregrounds the politics of money creation and the unsustainability of dominant monetary architectures, Massó foregrounds the relation between money, labor and social inclusion. Her starting point is the naturalization of money as a technical object or neutral instrument. Against this, she treats money as a core infrastructure of social reproduction. Sustainability, in her account, is an institutional question about how monetary arrangements shape what counts as value, which forms of contribution are socially recognized, and how economic coordination is organized over time (Massó, in this issue).

This shift is theoretically important because it relocates sustainability within the sociology of value and labor rather than leaving it at the level of environmental efficiency alone. Massó's article explicitly adopts a relational and regenerative understanding of sustainability, drawing on environmental sociology and socio-ecological systems research. Sustainability is defined not as a matter of impact mitigation alone, but as the capacity of societies to reproduce social and institutional arrangements over time in ways compatible with the biophysical conditions that sustain collective life (Massó, in this issue; Tàbara 2023). This formulation is crucial for her monetary argument, because it implies that value and livelihood cannot be treated as independent from their material conditions.

The centerpiece of the article is the Twin Money proposal. Twin Money is a complementary currency designed to assign value to certified forms of socially valuable labor, including care work, community activities and other non-market practices relevant to social and environmental well-being. Its importance lies less in the immediate practical question of whether an identical model could be implemented tomorrow than in the conceptual move it performs. Monetary issuance is linked not to market exchange or opaque financial operations, but to institutionally recognized contribution to the common good (Massó, in this issue). This directly challenges the conventional assumption that only wage labor or market exchange should anchor monetary recognition.

Massó's argument gains depth by linking this design to Polanyi and Simmel. From Polanyi she takes the idea that labor and money are not ordinary commodities and cannot be fully governed by self-regulating markets without generating degradation and social dislocation (Polanyi 1944). From Simmel she takes the insight that money is a form of abstraction and sociation that expands autonomy while also disconnecting coordination from concrete social relations and material foundations (Simmel 2011/[1900]). The Twin Money proposal can be read as an attempt to re-embed monetary abstraction in socially recognized contribution and collective welfare. Whether one endorses the proposal or not, its sociological significance is undeniable: It forces questions of recognition, inclusion and the organization of social reproduction into the heart of sustainability theory.

Literature both supports and disciplines these arguments. Monetary sociology has long insisted that money is a social relation rather than a neutral veil (Ingham 2004). Braun shows that trust and legitimacy are central to contemporary monetary governance, especially under unconventional central-bank policies (Braun 2016). Caliskan's work on cryptocurrencies similarly demonstrates that digital monies are socio-technical infrastructures and not merely technical instruments (Caliskan 2020). Research on community currencies, however, also warns against easy optimism. Michel and Hudon's systematic review finds that community currencies contribute most consistently to social sustainability, while environmental and economic effects are more limited and difficult to demonstrate (Michel/Hudon 2015).

These cautions are analytically productive. They show that the contribution of Barinaga and Massó is not to claim that alternative monies are sufficient solutions. It is to demonstrate that sustainability theory remains incomplete when it leaves money implicit. Once money is brought into view, the organization of value, labor, livelihood and environmental care can be analyzed at the level of infrastructure rather than only at the level of behavior or policy outputs. This is one of the special issue's strongest achievements.

7 Expectation: Imagination, Localism and the Politics of Scale

The fourth dimension concerns expectation: how imagined futures of social transformation become politically and institutionally relevant. Sustainable futures are never only about current institutions. They are also about how actors imagine what can and should exist. This is why the sociology of imagined futures becomes indispensable. Beckert's work remains foundational because it shows how actors orient action under conditions of uncertainty not through secure knowledge of the future, but through fictional expectations that become credible enough to organize present investment and commitment (Beckert 2016; 2020). Economic and political orders are thus future-dependent in a strong sense. They are sustained by stories, projections and models that make action possible before outcomes are known.

Beckert's interview in this issue brings this insight into direct contact with the climate debate. He emphasizes that climate change is a social and political issue because societies know in principle what would need to change and yet fail to act adequately. He is skeptical that the ecological crisis can be fully resolved within capitalism if growth remains structurally coupled to environmental degradation and if negative externalities cannot be effectively internalized (Beckert 2024; Beckert, in this issue). At the same time, he warns against overextending the concept of imagined futures. Imagination matters for current transformation processes, but it does not substitute for the analysis of structural constraints, profitability, path dependency and institutional resistance.

The caution is well placed, since sustainability discourse often slips into one of two weak positions. In the first, future imaginaries are treated as decorative additions to serious political economy. In the second, they are treated as if sufficiently attractive images of green life could by themselves dissolve institutional inertia. Beckert refuses both moves. Imagined futures matter because actors orient themselves through them, but they matter within structured fields of power and constraint. That makes imagination neither epiphenomenal nor sovereign.

Rycombel's article provides the strongest empirical contribution to this line of analysis. Based on ethnographic research and interviews with activists in Monnaie Léman and the Brixton Pound, she examines how leaders of local currency initiatives envision sustainable futures through localism (Rycombel, in this issue). Her cases are analytically valuable because they do not simply express environmental concern. They connect ecological aspirations to community, ethical consumption, short supply chains, local identity, economic education and aestheticized alternatives to impersonal global capitalism.

A particularly useful distinction in the article is that between short-term expectations and longer-term imaginaries. In the nearer horizon, activists emphasize ethical local consumption, stronger local communities, awareness of how monetary systems drive overconsumption and support for ecological or socially grounded local businesses. At a more distant horizon, they imagine localized economies with limited international trade, small businesses, compact towns, walking and cycling infrastructures, and forms of food provisioning tied to nearby localities and community gardens (Rycombel, in this issue). This distinction helps specify what sociologists often treat too vaguely under the heading of ›imaginaries‹. Some futures are proximate, pragmatic and organizationally plausible. Others function more as aspirational horizons or moral signposts.

Rycombel's second major contribution is to show that localism is not simply an environmental doctrine. In both cases, community rather than direct pro-environmentalism forms the core of localism. The belief is that denser interpersonal and civic bonds foster responsibility, and that responsibility then extends to the natural environment. This helps explain why localist projects can remain compelling even when their environmental effects are uncertain. Localism answers a wider moral and cultural dissatisfaction with distant ownership, opaque production chains and impersonal exchange. Environmentalism is partially derived from that larger critique rather than standing alone.

The article also makes a sharper and more critical point. These localist ecological imaginaries are classed. Rycombel explicitly interprets them through eco-habitus and the hipster economy. Local currencies are embedded in forms of ethical consumption often associated with actors possessing significant cultural capital and with nostalgic attachments to small, family-like businesses and authentic local exchange. Gerosa's recent work on the hipster economy provides a broader framework for this diagnosis by showing how authenticity, craft, locality and morally meaningful consumption have become central organizing principles of late-modern capitalism, but also sites of distinction, gentrification and unequal access (Gerosa 2024). Rycombel's intervention matters because it brings these classed dynamics into the analysis of environmental imagination itself.

This critical move is important for the issue as a whole. It prevents sustainability from being romanticized at the level of local alternatives. Rycombel shows that activists often move quickly from a critique of global industrial capitalism to an affirmation of the local as such. Yet local scale is not inherently just or ecologically superior. It is politically and morally produced. It can generate solidarity, visibility and care, but it can also reproduce exclusion, nostalgia and narrow horizons of concern. The article is therefore not simply a case study of local currencies. It is a contribution to the sociology of scale, class and environmental imagination.

Read together, Beckert and Rycombel clarify the role of expectation in sustainable futures. Futures matter because they orient current action, but they do not operate freely. Their plausibility depends on institutions, infrastructures, class positions and political economies of scale. Imagination is necessary, but insufficient. A sociology of sustainability must therefore analyze not only whether attractive futures are imagined, but who imagines them, from what position, through which institutional media, and with what capacity to generalize them beyond niche milieux.

8 Theory, Empirical Inquiry and the Reflexive Normativity of Sustainability

A final contribution of the special issue lies in how it organizes the relation between theory and empirical inquiry. Climate change and questions of sustainability represent the most pressing societal challenges of the 21st century. We have discussed the diversity and plurality of sustainability research before. An unintended consequence of this thriving and diverse field of research is that it gives rise to epistemological and theoretical problems, as its theoretical and normative foundations are often not clearly defined. Sustainability therefore is the kind of object that easily produces two opposite failures. One is a moralizing perspective, in which sustainability appears as an unquestioned good and analysis collapses into advocacy. The other is empirical research that is detached from theory; case studies accumulate without resulting in a more comprehensive conceptual framework. This Special Issue avoids both by treating theory and empirical work as recursively related and interwoven rather than opposed.

Maurer's article uses action-based explanation to refine theory through outlining classes of coordination problems and how they can be dealt with in social interaction. Bazzani uses mechanism-based analysis to move from observed solidaristic practices toward a broader account of how obligation can be expanded under conditions of global interdependence. Barinaga and Massó deploy conceptual arguments grounded in concrete monetary arrangements and institutional design. Rycombel shows how ethnography can modify theoretical accounts of imagination, localism and class. None of these pieces treats theory as ornamental or empirics as merely illustrative. The relation is iterative. The point is consequential because sustainability is internally normative. It always implies judgments about what should endure, what should change, which costs are legitimate and what kinds of future remain worth striving for. The task is therefore not to purge normativity. It is to analyze how normative claims are built into institutions, categories and projects of transformation. This is also why the issue's engagement with theoretical sociology is so important: Sustainability becomes a valid object of general theory not because it is morally urgent, but because it condenses questions of order, value, conflict, temporal orientation and institutional design in especially visible form.

While the coexistence of empirical evidence and theory is evident in all articles, it is particularly evident and discussed in detail in the interview with Andreas Diekmann. Diekmann places particular emphasis on the link between empirical findings and theory and discusses the limitations of individualistic experiments as well as the explanatory power of grand theories. Drawing on his book »Climate Crisis« (Diekmann 2024), he describes the mitigation of climate change as a public good, which gives rise to numerous and complex coordination problems. Using a synthesis of recent studies and theoretical conclusions, Diekmann highlights the complexity and multifaceted nature of the global climate crisis. In doing so, he impressively succeeds in providing a sociological explanation for both the failures and successes of concrete climate policies. His assessment of the research landscape offers a critical reflection on the burden placed on individuals taking responsibility for climate change, as well as on overly simplified causal relationships that stem from a lack of theoretical foundation. To give just one example from the interview: Referring to the example of ›nudge research‹, Diekmann explains how disastrous it can be to forego replication and a theoretically precise formulation of hypotheses. Accordingly, effects of nudging have been massively overestimated in relation to environmental behavior and climate policy while systemic and structural factors have been underestimated. According to Diekmann, this could have been avoided by taking the three-level model – micro, meso, and macro levels – seriously. Diekmann promotes a sociology that accurately describes macro-level events and interconnects them with individual actions. Linking people's actions to social context helps to explain intended and, above all, unintended consequences (Diekmann, in this issue).

9 Conclusion

The central argument of this introduction has been that sustainability should be treated as a problem of social order under ecological constraint. The value of this reframing lies in displacing two inadequate tendencies. The first is the technocratic narrowing of sustainability to policy instruments, managerial targets and efficiency gains. The second is the moral inflation of sustainability into a generic language of virtue detached from institutions, infrastructures and conflict. A stronger sociological approach begins from the fact that ecological crisis now enters directly into the terms on which collective life is reproduced. Sustainability therefore concerns obligation, coordination, valuation and expectation before it concerns any specific instrument of environmental governance.

The special issue introduced here advances that approach by bringing together contributions that illuminate each of these dimensions while remaining analytically connected. Bazzani reconstructs the solidaristic problem of ecological transition. Maurer reconstructs the problem of coordination beyond the market-state binary. Barinaga and Massó reconstruct the monetary and valuation infrastructures through which sustainable or unsustainable orders are reproduced. Rycombel reconstructs the classed and localist imaginaries through which ecological futures are envisioned. Diekmann focuses on norms as a means to enhance sustainability goals and politics. Beckert re-situates these themes in relation to capitalism, growth, legitimacy and structural constraint. The issue's distinctive contribution lies in showing that these are not separate subfields but interdependent dimensions of sustainable futures. What emerges most clearly is the need to link theory to practice and to reconnect empirical research to theory.

The framework developed here also points toward a broader research agenda. Sociology needs more comparative work on solidarities that extend beyond bounded reciprocity; more precise explanations of how cooperative coordination forms emerge and endure; deeper integration of money and monetary governance into sustainability research; stronger analysis of how imagined futures are classed, territorialized and institutionalized; and more systematic attention to how ecological transition intersects with social reproduction, labor, care and livelihood. These priorities are not additions to existing theory from the outside. They are ways of renewing the discipline's own conceptual resources.

Sustainability should therefore no longer be treated as a secondary thematic specialization or as a policy issue external to sociology. It is one of the sites where sociology's central concepts are being tested most sharply. To theorize sustainability adequately is to theorize how collective life is organized when ecological limits, unequal vulnerability and future uncertainty can no longer be displaced outside the social order. That is the stronger claim made possible by this special issue and by the discussions from which it emerged.

References

Adloff, Frank (2024): »Trajectories of post-sustainability«. In: *International Journal of Politics, Culture, and Society* 37, pp. 477–492.

Adloff, Frank / Neckel Sighard (2019): »Futures of sustainability as modernization, transformation, and control: A conceptual framework«. In: *Sustainability Science* 14(4), pp. 1015–1025.

Barinaga, Ester (in this issue, 2026): »Greening monies: Three trajectories for the socio-environmental transformation«. In: In: Bazzani, Giacomo / Maurer, Andrea / Siri, Jasmin (Eds.): *Sustainable Futures – Theorizing Sustainability.* Zeitschrift für Theoretische Soziologie, 6. Sonderband. Weinheim: Beltz Juventa, pp. 76–99.

Bauwens, Thomas / Gotchev, Boris / Holstenkamp, Lars (2016): »What drives the development of community energy in Europe? The case of wind power cooperatives«. In: *Energy Research & Social Science* 13, pp. 136–147.

Bazzani, Giacomo (2020): *When money changes society. The case of Sardex money as community.* Wiesbaden: Springer.

Bazzani, Giacomo (2022): »Money Infrastructure for Solidarity and Sustainability«. In: *Historical Social Research / Historische Sozialforschung* 47(4), pp. 114–138.

Bazzani, Giacomo (2023): »Climate solidarity: A framework and research agenda for low-carbon behavior«. In: *Sociological Forum* 38(2), pp. 352–374.

Bazzani, Giacomo (2024): »From organic to climate solidarity: Challenges for climate change mitigation«. In: *Globalizations* 21(8), pp. 1632–1641.

Bazzani, Giacomo (2025): »Solidarity reimagined in the face of global challenges: The emergence of altruistic solidarity«. In: *European Journal of Social Theory*. Advance online publication, n.p.

Bazzani, Giacomo (in this issue, 2026): »Innovative solidarities in Europe's sustainability transitions: A mechanism-based account«. In: Bazzani, Giacomo / Maurer, Andrea / Siri, Jasmin (Eds.): *Sustainable Futures – Theorizing Sustainability.* Zeitschrift für Theoretische Soziologie, 6. Sonderband. Weinheim: Beltz Juventa, pp. 127–159.

Beckert, Jens (2016): *Imagined Futures: Fictional Expectations and Capitalist Dynamics*. Cambridge: Harvard University Press.

Beckert, Jens (2020): »The exhausted futures of neoliberalism: From promissory legitimacy to social anomy«. In: *Journal of Cultural Economy* 13(3), pp. 318–330.

Beckert, Jens (2024): *How We Sold Our Future: The Failure to Fight Climate Change.* Cambridge: Polity.

Beckert, Jens (in this issue, 2026): »How We Sold Our Future«. Interview by Andrea Maurer. In: Bazzani, Giacomo / Maurer, Andrea / Siri, Jasmin (Eds.): *Sustainable Futures – Theorizing Sustainability.* Zeitschrift für Theoretische Soziologie, 6. Sonderband. Weinheim: Beltz Juventa, pp. 188–195.

Braun, Benjamin (2016): »Speaking to the people? Money, trust, and central bank legitimacy in the age of quantitative easing«. In: *Review of International Political Economy* 23(6), pp. 1064–1092.

Brinkmann, Robert (2023): »Defining Sustainability«. In: Brinkmann, Robert (Ed.): *The Palgrave Handbook of Global Sustainability*. Palgrave Macmillan: Cham. https://doi.org/10.1007/978-3-031-01949-4_1.

Caliskan, Koray (2020): »Data money: The socio-technical infrastructure of cryptocurrency blockchains«. In: *Economy and Society* 49(4), pp. 540–561.

Diekmann, Andreas (2024): »Klimawandel – kein Thema für die Soziologie?« In: *Zeitschrift für Soziologie* 53(1): pp. 3–7.

Diekmann, Andreas (in this issue, 2026): »A Sociological Perspective on the Climate Crisis«. Interview by Jasmin Siri. In: Bazzani, Giacomo/Maurer, Andrea/Siri, Jasmin (Eds.): *Sustainable Futures – Theorizing Sustainability.* Zeitschrift für Theoretische Soziologie, 6. Sonderband. Weinheim: Beltz Juventa, pp. 28–46.

Domingues, José Maurício/Teixeira, Mariana Albuquerque (2024): »The social and sociological province of climate change: Introduction«. In: *International Journal of Politics, Culture, and Society* 37, pp. 447–458.

Dodd, Nigel (2014): *The Social Life of Money.* Princeton: Princeton University Press.

Durkheim, Émile (1984/[1893]): *The Division of Labor in Society*. New York: Free Press.

European Sociological Association Research Network 09 Economic Sociology (2023): »European economies in transition. On the way to pro-environmental and prosocial economies«. Mid-term conference programme, University of Florence, 6–8 September 2023.

Gerosa, Alessandro (2024): *The Hipster Economy: Taste and Authenticity in Late Modern Capitalism*. London: UCL Press.

Gürtler, Konrad/Löw Beer, David/Herberg, Jeremias (2021): »Scaling just transitions: Legitimation strategies in coal phase-out commissions in Canada and Germany«. In: *Political Geography* 88: 102406, n.p.

Ingham, Geoffrey (2004): *The Nature of Money*. Cambridge: Polity.

Kowasch, Matthias/Cruz, Juan Pablo/Reis, Pedro/Gericke, Niklas/Kicker, Kerstin (2021): »Climate youth activism initiatives: Motivations and aims, and the potential to integrate climate activism into education for sustainable development and transformative learning«. In: *Sustainability* 13(21): 11581, n.p.

Massó, Matilde (in this issue, 2026): »Designing monetary infrastructures for the common good: Reciprocity, social inclusion, and parallel currencies«. In: Bazzani, Giacomo/Maurer, Andrea/Siri, Jasmin (Eds.): *Sustainable Futures – Theorizing Sustainability.* Zeitschrift für Theoretische Soziologie, 6. Sonderband. Weinheim: Beltz Juventa, pp. 100–126.

Maurer, Andrea (2025): »Action-based explanations as a basis for the analysis and design of the social world«. In: *British Journal of Sociology* 76(1), pp. 173–179.

Maurer, Andrea (in this issue, 2026): »Theorizing sustainability: how to better understand the social puzzle of alternative coordination forms«. In: Bazzani, Giacomo/Maurer, Andrea/Siri, Jasmin (Eds.): *Sustainable Futures – Theorizing Sustainability.* Zeitschrift für Theoretische Soziologie, 6. Sonderband. Weinheim: Beltz Juventa, pp. 47–75.

McLeay, Michael/Radia, Amar/Thomas, Ryland (2014): »Money creation in the modern economy«. In: *Bank of England Quarterly Bulletin* 54(1), pp. 14–27.

Mehrling, Perry (2011): *The New Lombard Street. How the Fed Became the Dealer of Last Resort*. Princeton University Press

Michel, Arnaud/Hudon, Marek (2015): »Community currencies and sustainable development: A systematic review«. In: *Ecological Economics* 116, pp. 160–171.

Neckel, Sighard (2017): »The Sustainability Society: A Sociological Perspective«. In: *Culture, Practice & Europeanization* 2(2), pp. 46–52.

Ostrom, Elinor (2009): »A general framework for analyzing sustainability of social-ecological systems«. In: *Science* 325(5939), pp. 419–422.

Polanyi, Karl (1944): *The Great Transformation*. New York: Farrar & Rinehart.

Prainsack, Barbara / Buyx, Alena (2017): *Solidarity in Biomedicine and Beyond*. Cambridge: Cambridge University Press.
Richardson, Katherine / Steffen, Will / Lucht, Wolfgang et al. (2023): »Earth beyond six of nine planetary boundaries«. In: *Science Advances* 9(37): eadh2458, n.p.
Rycombel, Marlena (in this issue, 2026): »Envisioning sustainable futures of localism: The environmental imagination of local currency activists in Monnaie Léman and the Brixton Pound«. In: Bazzani, Giacomo / Maurer, Andrea / Siri, Jasmin (Eds.): *Sustainable Futures – Theorizing Sustainability.* Zeitschrift für Theoretische Soziologie, 6. Sonderband. Weinheim: Beltz Juventa, pp. 160–187.
Simmel, Georg (2011/[1900]): *The Philosophy of Money*. London: Routledge.
Simpson, Brent / Willer, Robb (2015): »Beyond altruism: Sociological foundations of cooperation and prosocial behavior«. In: *Annual Review of Sociology* 41, pp. 43–63.
Tàbara, J. David (2023): »Regenerative sustainability: A relational model of possibilities for the emergence of positive tipping points«. In: *Environmental Sociology* 9(4), pp. 366–385.
Velicu, Irina / Barca, Stefania (2020): »The just transition and its work of inequality«. In: *Sustainability: Science, Practice and Policy* 16(1), pp. 263–273.
West Simon / Haider, L. Jamila / Stålhammar, Sanna / Woroniecki, Stephen (2020): »A relational turn for sustainability science? Relational thinking, leverage points and transformations«. In: *Ecosystems and People* 16(1), pp. 304–325.
Wierling, August / Schwanitz, Valeria J., / Zeiß, Jan-Peter et al. (2018): »Statistical evidence on the role of energy cooperatives for the energy transition in European countries«. In: *Sustainability* 10(9): 3339, n.p.

A Sociological Perspective on the Climate Crisis

Interview with Andreas Diekmann

Conducted by Jasmin Siri[1]

Jasmin Siri: In 2024, you summarized many years of research and reflections on environmental issues in your book »Climate Crisis« (Diekmann 2024). Was there a specific reason for this, and how important is the topic to your work?[2]

Andreas Diekmann: The specific reason was that I've been giving lectures and leading seminars on the topic for many years now, and it was finally time to put it all down in writing. »Climate Crisis« is, after all, a synthesis of various disciplines – sociology, of course, but also social psychology and economics. And integrating the findings and theories in this way – I think that's something new. The topic itself has occupied me for many years, because I've actually been working on it–both empirically and theoretically–using models and theories for nearly half a century, since the late 1980s. Together with Anatol Rapoport, I had a DFG (German Sociological Association) project on the tragedy of the commons back then, as early as the late 1980s. And then I continued my research in Bern. In collaboration with Peter Preisendörfer, we conducted empirical studies on environmental awareness and behavior. That is the background. And along the way, we published various books. The first volume was published in Bern, co-edited with my doctoral student at the time, Axel Franzen, on cooperative environmental action (Diekmann/Franzen 1995). Another noteworthy development from that time is the first special issue on environmental sociology in the Cologne journal from 1996, co-edited with Carlo Jäger (Diekmann/Jäger 1996). In 2001, Peter Preisendöfer and I then wrote the first German textbook on the subject of environmental sociology (Diekmann/Preisendörfer 2001). These were all milestones along the way here.

Jasmin Siri: How do you conceptualize sustainability theoretically, and how would you implement that?

1 The interview was conducted in January 2026.
2 The translation of this interview was generated by DeepLPro and then manually edited and refined.

Andreas Diekmann: Sustainability is, after all, a term from forestry that dates back to the 18th century. And sustainability, as is generally known, means that resources should be conserved for future generations and not essentially consumed by the current generation. As calculations by Johan Rockström (2009) of the Potsdam Institute show, we have far exceeded planetary resource limits in many areas. We also run the risk of crossing tipping points in the climate and environmental system, in the Earth system. There is still some leeway in some areas, while in others we have long since gone beyond that point. People always talk about the climate crisis or climate change, but it's not just the climate. Nowadays, we speak of a polycrisis: the climate crisis, resource overexploitation, and biodiversity loss.

Jasmin Siri: It is, after all, a sociologically interesting paradox that despite all the climate conferences and despite all the research you've just traced back to the 1980s and 1990s, world society has so far been unable to halt climate change. How do you explain that? You are well known for your game-theoretical work, including on the prisoner's dilemma. How would you explain, from a game-theoretical perspective, that global society does not see itself as capable of preserving itself and its very foundations?

Andreas Diekmann: First of all, without any game theory at all, on the level of perception. These are mostly processes that unfold gradually. We hardly notice them. We don't perceive climate change because we lack the sensory awareness for it. Nor can we directly sense the loss of biodiversity. If we drove on the highway in the 1980s, to give an example, the windshield would be covered in insects. Today, the windows are largely clear in that regard. Some species we used to encounter on forest walks have declined by 90 %. That is a creeping process that is barely noticeable. When you consider that shocking events like Chernobyl or Fukushima immediately created political pressure to act, it's striking. But the processes that are now even more serious, we hardly notice. We perceive them through the media, which is why communication about this is so important–especially regarding the scientific expertise that draws attention to these connections. That is the first point.

The second point would be the game-theoretical explanation. Climate change mitigation is a public good, which creates a coordination problem[3] Without further measures, the actors – that is, states at the global level and individuals at the local level – will act as ›free riders‹. When discussing the much-cited discrepancy between environmental awareness and behavior, it is not the discrepancy itself that is surprising, but rather the opposite – namely, that at least some citizens do behave in an environmentally conscious manner, provided that such behavior is not too costly. Yet this does not solve global environmental problems. The

3 For an introduction to game theory, see Diekmann 2016.

›tragedy of the commons‹ or ›prisoner's dilemma‹ are the key concepts here. This is the standard but highly simplified description. Perhaps the dilemma can be illustrated quite well using the fish pond example from social psychology, which has also been used in experiments (e.g., Mosler/Gutscher 1996). Of course, this is just a metaphor. The fish in the pond reproduce at a rate of 25 % within a period of, say, one year. We have 10 fisherman catching fish from the pond. What must they do to ensure the pond is managed sustainably? They must ensure they catch exactly 20 % of the fish population–meaning 80 % must be preserved, and 20 % can be harvested. Then, with a growth rate of 25 %, the population will return to 100 % by the end of the period. That would be sustainable management. If there are 10 fishermen and things are to be done fairly, then each should catch 2 % of the fish so that the pond can regenerate to 100 %. But what does each individual fisherman do? He thinks: My colleagues will want to take out much more. So I'll take more too. This brings us straight to the topic of conditional cooperation. And we're faced with the question of how the fishermen can best get out of this predicament. The best way, of course, is for them to sign an agreement and say: »Each of us is allowed to take only 2 %«. But then we face the problem that we need a monitoring system for what they catch. And then we face the next problem: What do we do if they break the rules? In that case, sanctions are necessary, and we need an institution to enforce them. Games like these–and other, more complex variations of these resource games–are an excellent way to study how people react in such situations.

This example illustrates the problems that arise. Applied to the global commons, this means that individual countries will not cooperate out of their own volition; rather, it requires treaties such as climate protection agreements, which have not yet been optimally successful. We are in the midst of a very difficult cooperation problem. Of course, the metaphor of the fish pond is just an example. The interactions within the global commons are much more complex. Moreover, the relationships are asymmetrical. There are countries that profit from fossil fuels, and then there are countries that lack the necessary resources to address climate change. We have the Global South; we have the wealthy North. We have the countries that have been using fossil fuels for 200 years. We have the fossil fuel industry, which profits from this in the short term, and all the people employed in these industries.

So we're dealing with a massive Gordian knot, a huge tangle of problems that means that despite all the climate conferences, we may have glimpses of solutions today, and all the technical means for a solution, but we're still marching down a devastating path. Fossil fuel interests and lobbies are still far too powerful to allow for a real shift in course.

Jasmin Siri: That does not sound too good. Do you think we're dealing with a problem that's highly unlikely to be solved?

Andreas Diekmann: Let's also consider the scale of the problem: People tend to think: »So much is being done for climate policy and so many resources are being allocated.« In public opinion polls, there are those who say: »We've already done too much. It's far more important to stimulate the economy.« In fact, we are facing a major transformation. The energy transition is a process that encompasses all sectors of society. Karl Polanyi (1973) called the upheavals brought about by the Industrial Revolution and the expansion of capitalist markets »The Great Transformation«. These words can also be applied to the energy transition. If you look at the facts now, we're still pretty much at the beginning. Globally, and even in Germany where supposedly so much has been done, we still rely on fossil fuels for between 70 and 80 % of our energy. So reaching net zero in less than a generation is a massive challenge. But at the same time, there are also things we can count as positives: The rescue of some nearly extinct species, the decline in air pollution in some regions, and the fact that we can now swim in rivers that used to be sewers.

When it comes to climate policy, people often focus only on the costs and burdens. In contrast, we should also clearly emphasize the benefits we will all enjoy. Imagine: Cities where SUVs aren't clogging the streets everywhere. Cities where e-mobility and public transit prevail, where conflicts between cars, cyclists, and pedestrians are better resolved. Imagine a city where no combustion-engine vehicles are driving around. The improvement in air quality would be enormous, as would the reduction in noise. Added to this is the greening of cities, which protects us from the heat, and so on. All of these are benefits that characterize a livable urban environment. And there is one more point that offers hope today, despite all the setbacks caused by crises and backward-looking policies: the production of solar energy, wind energy, solar cells, and battery storage has become dramatically cheaper (see Roser 2020). Regardless of one's ideological stance, this opens up enormous opportunities for the use of green technologies. Today, solar and wind energy are cheaper than electricity generated from fossil fuels or nuclear power. This changes the nature of the dilemma. Instead of free-riding in the prisoner's dilemma, green energy, electric cars, heat pumps, and so on will also have a positive impact on people's wallets. The decline in prices for green technology and energy is a true game changer.

Jasmin Siri: You mentioned that you've been studying this topic for a very long time. In this Special Issue we are also interested in the role of sociology. What can sociology contribute to the debate on sustainability and climate change? How do you observe the role of sociology, and perhaps also: How has it changed since you began working on the topic in the 1980s?

Andreas Diekmann: Sociology is, after all, involved in this topic both theoretically and thematically across all its individual disciplines. Whether it's economic sociology, which examines businesses, or organizational sociology. Whether it's urban sociology, which deals with the architecture and infrastructure of cities; and, of course, environmental sociology, which has emerged as a new subdiscipline. One could go through the individual branches of sociology; They are all affected. And from a theoretical standpoint, we have a lot to offer, including classical perspectives. Think of Robert Merton and the unintended consequences. Think, also in relation to Merton, of the Thomas Theorem, of the role of what people think, what other people think and expect, of beliefs. This is a very important topic today in sociology, but also in economics and psychology. And in this context, the topic of false beliefs or pluralistic ignorance is quite interesting. Pluralistic ignorance means: »I think I act in an environmentally conscious way, but everyone else–or at least the vast majority–doesn't.« There is an interesting study that has examined this worldwide (Andre et al. 2024). Around the world, environmental awareness is relatively high in many countries. Yet in almost all countries, people believe that others are less environmentally conscious. And we now know that people are more likely to act cooperatively when others do the same. However, due to pluralistic ignorance, they are less inclined to do so because they believe that others are not.

Jasmin Siri: We've just been discussing the relationship between theory and empirical research. My impression is that there are many fascinating empirical studies, but they rely relatively little on theory. Should we provide these empirical studies with a stronger theoretical foundation? Or is it simply due to the breadth of the field and the complexity of the empirical data that this isn't possible–and perhaps isn't even necessary? In your opinion, what should the balance between theory and empirical research look like?

Andreas Diekmann: I wouldn't view this quite so negatively. After all, the study just cited is based on theoretical insights into beliefs, pluralistic ignorance, and reciprocity. Grand theories, on the other hand–such as Luhmann's systems theory–are difficult to apply empirically, even though they undoubtedly provide some useful insights. Furthermore, the term ›theory‹ is used in very different ways within sociology. For me, conceptual disputes over terminology do not yet constitute a theory. By ›theory‹, I mean a set of interconnected statements from which at least some hypotheses can be derived that are testable using empirical data.

On the empirical side, a particular problem arises, which can be illustrated by the multitude of studies on environmental awareness and environmental behavior. In these and many other empirical studies, conclusions about causalities are often drawn prematurely. Furthermore, the question of environmental behavior is frequently measured using fairly simple indicators. Whether people recycle, turn off the lights, or engage in similar behaviors generally has very little to do with actual resource consumption and actual greenhouse gas emissions. And it is possible that many studies are actually misleading in this regard. As Stern (2000, p. 408 ff.) points out, we must distinguish between »intent-oriented« behavior and the actual »impact«, that is, the actual CO_2 emissions of a household or company. To uncover causal relationships, we would need to approach this much more rigorously from a methodological perspective, for example by using panel data–which we are attempting to do here with the new GLEN project (German Longitudinal Environmental Study, https://glen-studie.de). But back to the connection with theory. As I said, I wouldn't view the current situation so negatively. We have theoretical models and hypotheses derived, for example, from behavioral game theory and considerations regarding social dilemmas. Incidentally, this isn't just about the prisoner's dilemma – which is a very simplified model – but there are very different structures. And we try to model these structures using game theory. The prisoner's dilemma – and especially the symmetric prisoner's dilemma – is an extreme simplification; at best, it is a metaphor or a parable. One must recognize that there are environmental problems of very different natures. Indeed, a serious environmental problem was largely solved, namely the ozone problem in the 1980s. While global warming caused by CO_2 has been known for a long time, the depletion of the ozone layer was discovered relatively late, in the 1970s and 1980s. Paul Crutzen, who also coined the term »Anthropocene« (Crutzen 2002), played a key role in this. In record time, as early as 1987, nations agreed on the Montreal Protocol. In particular, CFCs, used, among other things, as refrigerants or in the infamous aerosol cans, were banned. Incidentally, the ban also reduced the greenhouse effect, as CFCs contribute to it as well. It is interesting to note that this was not a prisoner's dilemma situation, but rather a problem with an entirely different structure that facilitated a solution. So we see how, in this case, the theory and conceptualization of the situation lead to entirely different recommendations and solutions. That is why it is essential to recognize the exact structure of a social problem.

Jasmin Siri: Could you explain how the nature of the problem contributed to the solution?

Andreas Diekmann: Yes. One of the main reasons was that the U.S. realized in the 1980s that the costs of cancer cases caused solely by ozone were significantly higher than the profits generated by production. There were only a few manufacturers, unlike in the fossil fuel sector, where millions of companies are involved, and once other countries were brought on board and states with limited resources were compensated, a solution could be found that benefited everyone. The ozone problem was also a public goods problem, except that in this case, one actor already had an interest in producing the public good, as Cass Sunstein (2007) had pointed out. In the sense of Mancur Olson's theory of public goods, the U.S. was a so-called privileged actor. A solution to the climate crisis would also be beneficial for everyone, but it is far more difficult to achieve, as it involves many more sources of emissions, widely diverging interests, capital locked into fossil fuels, and the climate-damaging interests of the fossil fuel lobby. There is no one-size-fits-all model for all environmental problems.

Jasmin Siri: Does the time dimension play a role in this? I mean, I imagine that the CFC problem was fairly straightforward to conceptualize in terms of the time dimension, whereas the melting of the poles might not be imminent enough to be taken seriously as a problem? Or am I wrong, here?

Andreas Diekmann: Ozone was also something that people didn't really notice. The greenhouse effect has been known in science for over a hundred years – the principle itself for over 200 years – and the findings have been increasingly substantiated to this day. The Swedish pioneer Svante Arrhenius, back around 1900, already predicted global warming. He still saw it in a positive light: »Great, then it'll get warmer in Scandinavia, that can only be an advantage.« But he had already made calculations showing the extent to which CO_2 influences the climate. This research was continuously refined until, after considerable effort, Charles Keeling finally established the observatory in Hawaii —which is now under threat from the Trump administration.[4] Based on precise measurements of atmospheric CO_2 concentrations, the steeply rising »Keeling Curve« was subsequently determined. However, it is also true that the tendency to focus heavily on the present prevents us from investing in the future. Although we are already experiencing climate change firsthand – for example, through extreme weather events – some processes and consequences have a long-term time horizon. As our own studies show (Bruderer Enzler et al. 2014, 2019), a large proportion of people have strongly present-oriented interests: »What I have in my wallet today is more important to me than what I will have tomorrow.« This already applies to the purchase of electric cars or heat pumps: »I have to invest now; I'll enjoy the benefits later.« Economists refer to this as a high personal discount rate; the value of the future is subjectively devalued to a great extent. This is a problem for future investments, whether in terms of personal health, nutrition, addictive behaviors, or the environment.

Jasmin Siri: You previously emphasized that your understanding of theory involves deriving at least some empirically testable hypotheses from interconnected observations of social phenomena. You referred to these as statements. You also argued that the connections between the micro, meso, and macro levels are crucial for sociological argumentation. What would happen to our arguments if we didn't take that into account?

4 The Mauna Loa climate observatory is facing closure, as the U.S. government plans to cut funding for this station and three others in its 2026 budget, stations that have been providing atmospheric data for decades. Source: https://www.spiegel.de/wissenschaft/natur/mauna-loa-klima-messstation-auf-hawaii-von-schliessung-bedroht-a-68e6d3f1-c525-4a92-84e2-3f38745ed22c, last accessed on February 2, 2026.

Andreas Diekmann: Today, the social sciences and sociology examine human reactions as well as the interactions between human behavior and ecological systems. Based on various models – such as social dilemmas, which can be formalized using game theory, among other methods – as well as other theories, researchers develop hypotheses, for example regarding conditional cooperation or the social adoption of new technologies such as electric cars or heat pumps. These hypotheses are tested in field trials, surveys, and laboratory experiments. In this way, we obtain the empirical data needed to confirm or refute these hypotheses. Numerous hypotheses have been refuted or could not be replicated. We know from many studies on nudging – the classic example comes from Thaler and Sunstein (2009), i. e., non-monetary incentives, those small psychological ›nudges‹ – that many of these so-called effects are not replicable. While nudge research has yielded some interesting insights for psychology, it has been massively overestimated in relation to environmental behavior and climate policy. Among these are studies that have been cited thousands of times. Replications, however, show that the effect does not exist at all, or not in the claimed form, or that the effects are much smaller than originally assumed.

One exception is the ›default effect‹. That is, the strong influence of default settings, which has been utilized, for example, in the ordering of green electricity (e.g., Liebe et al. 2021) or in legal regulations regarding organ donation. This effect has been replicated very successfully. On the other hand, a great deal of effort has been invested in research that may have yielded little overall benefit. Psychology and social psychology need to rethink their approach here, as some authors acknowledge; the critical contributions by Niesen et al. (2021) and by Chater and Loewenstein (2023, p.1 ff.) are good examples of this. The latter speak of the »i-frame« and the »s-frame«, of individual behavior and of structural, systemic conditions. They argue that greater weight should be given to the »system frame« in research.

Jasmin Siri: In many debates – both in the public sphere and within sociology – the view is held that individuals can actually make a difference through their concrete actions in the environmental sphere. I am interested in your perspective on this. Your recent book focuses heavily on large-scale structures and political measures. But then: How relevant are individuals and their concrete actions in the environmental sphere? And how does the meso level come into play?

Andreas Diekmann: If you focus solely on individual characteristics – or, to put it in quotes, merely practice psychology – then you might fail to recognize the truly effective policies. It's very much about systems and structures – and this is hardly news, especially in sociology. But it's not just about the macro level; it's about how these systems and structures influence individual behavior.

We need to clarify this context and these interconnections, and I would argue that we can start with a model in which, at the macro level, we have the role of institutions, international treaties, regulations, laws, and incentive structures, and that we then have a level of individual action –the micro level. In between lies a meso level consisting of organizations, companies, local authorities, etc., and these three levels interact with and are interconnected. Of course, ultimately it is always people who act. It is well known that the problems we face today with social security systems or the shortage of skilled workers are attributable, among other things, to the decline in birth rates since the mid-1960s. Ultimately, these are unintended consequences of millions of individual decisions, the outcomes of which at the macro level – in this example, the decline in the birth rate – have been known for decades and whose consequences were accordingly predictable. Yet it is the structures and processes underlying these developments that constitute the systemic causes sociology seeks to investigate. This is precisely the task of analytical sociology: To provide a deeper explanation for the interconnections we observe at the macro level – such as the rise in CO_2 emissions and global warming despite all the climate conferences – that is, to shed light on the darkness of the black box of social processes. Such explanations can then also contribute to the development of more effective climate policy instruments that gain public acceptance.

Jasmin Siri: Your book and your lectures are heavily influenced by knowledge from natural sciences. In particular, it contains information about scientific studies and data, which you then interpret from a sociological perspective. Do you think that sociologists who want to learn more about sustainability also need to engage more deeply with developments in the natural sciences in order to explain sustainability?

Andreas Diekmann: I think that, at least to a certain extent, one has to engage with these issues. Of course, we are not climate scientists who are currently analyzing ice cores, and climate science itself consists of so many different disciplines and brings together knowledge from various fields. But just as one must also deal with technological innovations in the sociology of technology, the same applies to environmental processes. When analyzing people's reactions to environmental processes, one will have to incorporate scientific findings there. I myself have to rely on the consensus of climate science. In a scientific field characterized by collaboration, I need to be able to trust and rely on many things. That, by the way, is also an interesting problem. Of course, we rely on a multitude of scientific measurements. Who tells me that Mont Blanc is 4,805.5 meters high? Here we rely on the measurements of geographers. It was recently reported that the length of the Rhine had been incorrectly stated for decades. The fact that a section of the Rhine had been omitted and the incorrect figure repeatedly circulated apparently stemmed from a transposed digit in a source that was continuously used. But hopefully that is the exception when it comes to facts that have been repeatedly verified. With new, barely verified hypotheses, however, this is no exception. Failibilism (german: Fallibilismus) teaches us that all knowledge, no matter how thoroughly it has been examined, carries a certain degree of uncertainty. We must build upon the findings of the natural sciences and take into account what is considered provisionally established knowledge. An important source here is the climate reports of the IPCC (Intergovernmental Panel on Climate Change, https://www.ipcc.ch).

Jasmin Siri: This seems like a good time to discuss the topics of conflict, counter-movements, legitimization, and delegitimization. In »Climate Crisis: Ways Out of the Dilemma« (Diekmann 2024), you also examined in depth the reactions of society and the public to the climate crisis and climate policy. For example, you examined a possible redistribution of CO_2 emissions and suggested that low-income earners could benefit from it – which is almost tantamount to a policy recommendation. Would you recommend such a model to increase acceptance of sustainability measures, and if so, why?

Andreas Diekmann: That's an interesting topic. It's also a very important topic in environmental research, namely the question of acceptance of environmental policy – and especially, let's say, environmental policy that actually makes a difference. Promoting environmental awareness is important, not because people will necessarily act more environmentally consciously in their daily lives as consumers. What matters far more is citizens' environmental awareness as active participants in society, as citoyens. That is, as politically engaged citizens who, even if they are passive, make their views known through their voting behavior or actively participate in protests. At least in democracies, and ultimately even in authoritarian systems, climate policy will only change if the public gets on board. And now to this question, which has to do with acceptance: What kind of policy is appropriate here?

We know that raising the price of fossil fuels – that is, of CO_2 – has a very strong impact and is an extremely effective measure. And strangely enough, as we can now see from our GLEN data, a great many people believe that this is not effective. Higher taxes and prices are unpopular. We face a dilemma similar to that in risk research, where laypeople and experts perceive risk differently. The public thinks differently about the effectiveness of CO_2 taxes than experts do. Many studies show that CO_2 taxes have a very strong influence on behavior. In particular, the European Emissions Trading System is hardly known to the general public, even though it affects everyday life and all of us. We also asked, »How well informed are you about CO_2 taxes?« A large majority is not informed at all. Yet the Emissions Trading System (ETS) has achieved so much. Over the past few decades, greenhouse gas emissions covered by this system have declined by about one half. The ETS has contributed significantly to this. Just imagine that. That's a hundred times more than all nudging, all individual, and all educational programs combined. And building acceptance for this is therefore incredibly important.

And now on to the next question about redistribution. As part of the GLEN project, we've just developed a module to track CO_2 emissions – that is, the impact of household actions and investments. We've made this as precise as possible through surveys. We have a highly detailed framework covering mobility, consumption, housing, and food. We've even included pets. Our four-legged favorite, dog, emits an average of one ton of CO_2. That's not something to be overlooked. And now we come to the distribution of CO_2 emissions – what is commonly referred to as the ecological footprint. This concept is also viewed critically, as it originates from BP (British Petroleum). It is claimed that the company developed it to shift responsibility from industry onto citizens. That said, the concept itself isn't bad. Of course, industry manufactures the products, and people buy cars and other things. But it's certainly interesting to know the distribution of CO_2 emissions. For example, how big is the difference between the bottom 10 % and the top 10 %? The average figure is about 10 tons, which is slightly higher than the official statistics. It is possible that some of the data in those statistics is underreported; there is much to be said about the survey methods.In line with other studies, we find a heavily right-skewed distribution of CO_2 emissions. Our research group found similar results in Switzerland (Bruderer Enzler, and Diekmann 2019). A right-skewed distribution means that the 50 % threshold – the median – lies below the mean. Using the German data, this results in a median of about 8 tons. About two-thirds of the population falls below the mean. With a CO_2 tax featuring per-capita redistribution, everyone who emits less CO_2 than the mean of 10 tons per year would benefit net. This proposal would therefore benefit two-thirds of the population!

In reality, however, the proposal for a CO_2 tax with redistribution is, as we've found, highly unpopular. In the book, I defended this proposal. For many years – since the 1990s – this idea has been around under the name ›eco-bonus‹. But the idea is often misunderstood or rejected, presumably in part because the eco-bonus is also distributed to wealthy individuals. Yet the system has a socially equalizing effect. A CO_2 tax without redistribution acts like a regressive tax: The poorer pay higher CO_2 taxes relative to their income. With redistribution, however, the regressive tax becomes a progressive one. Poorer households benefit.

Jasmin Siri: That's interesting. One might therefore wonder why this hasn't been regulated by law for years. In Germany, the Red-Green coalition (1998–2005) could have introduced this measure.

Andreas Diekmann: It was actually a coalition decision by the last German coalition government, but it was never implemented. It's different in Switzerland. There, there is a relatively high CO_2 tax of 120 francs (about 130 €), though only on heating fuels, of which two-thirds are refunded and one-third goes into a fund for climate measures. In Switzerland, the refund is processed with minimal administrative effort through health insurance. In Germany, we are still waiting for a system that makes it technically possible to make payments to citizens with minimal administrative effort.

My current proposal would be to stop redistributing funds on a per capita basis and instead use the money from the Climate Fund primarily to lower electricity prices for everyone, not just for industry. The simple model of refunding CO_2 taxes has a catch. As we can also see from our GLEN data, affluent households are increasingly investing in renewable energy – namely, heat pumps, solar energy, and electric cars. But then the social balance of per capita redistribution deteriorates year by year. Thus, inequality decreases and the progressive effect of redistribution fades. Here, too, it becomes clear that the dynamics of these relationships are more complex than initially assumed. Lowering electricity prices for everyone is more popular than CO_2 taxes with redistribution. And it creates a win-win effect: there is an incentive effect from CO_2 taxes and an incentive effect from lower electricity prices, which are relatively high in Germany. Both provide incentives to invest in electric cars, heat pumps, etc.

Jasmin Siri:What are your thoughts on social conflicts when you consider examples like these? I'm not surprised that people aren't familiar with these emissions issues – not only because they're complex, but also because they're tied to class issues. What social conflicts do you think are at play here? And perhaps, following on from that, the questions of whether sociology has overestimated the climate protests of the last decade? Or whether we've focused too much on researching these protests?

Andreas Diekmann: The whole climate issue is, of course, also linked to a huge number of questions of social inequality. I think it's very important to study climate protests because we know from theory and empirical studies that interests don't automatically lead to solidarity-based movements and that political entrepreneurs are needed to spark protests. Fridays for Future (FFF) was enormously successful at times. Angela Merkel said she wouldn't have pushed the Climate Protection Act and climate policy so hard if it hadn't been for FFF. Now, however, it seems that the protests have died down significantly, and that we are also facing many other crises.

Research on climate protests is an important topic in sociology and political science. In addition to studies of the environmental movement, the counterforces should also be examined. These issues are interconnected and interrelated. Inequality and class issues, for example, are naturally also present in climate protests. Let's not just think of FFF, but also of the Yellow Vests. That was, after all, an uprising partly by the underprivileged rural population. In the case of the Yellow Vests in France, it was particularly the rural population – the periphery –

against the wealthy people in the center. The rural population, which depended on cars, had good reasons to protest. Macron's French government planned for the CO_2 tax to flow into the general state budget, and people were outraged by this. So, when it comes to the acceptance of this tax, everything was done wrong in France (see Gagnebin et al. 2019). That was certainly a lesson for environmental policy. The fear of the Yellow Vests is a political trauma. But we must not draw the wrong conclusion from this and completely water down climate policy. In Germany, too, we immediately saw protests by farmers over agricultural diesel. Powerful lobbies can spark uprisings when certain privileges or subsidies are curtailed. Climate policy is therefore closely linked to the issue of social inequality.

It is therefore crucial for climate policy to gain public acceptance and to compensate social groups who cannot afford investments in renewable energy or who, as renters, have fewer opportunities to do so. In the GLEN data, we have now seen very clearly that the purchase of heat pumps, solar systems, and electric cars – not surprisingly – correlates strongly with income. Direct subsidies also tend to be distributed from the bottom up, especially since the income thresholds for eligibility are set very high. It would likely be more important to expand the charging station infrastructure and keep electricity prices low. Electricity prices at charging stations that are far too high act as a deterrent. Solar panels on rooftops, on the other hand, are more common among the affluent. So everything is very closely linked to the issue of inequality and thus to one of the central themes of sociology. But we also need to demonstrate this empirically. Of course, we know that wealthier people are more likely to be able to afford this. However, the extent to which this is true, how we can counteract it, and what effects and side effects it has must be determined empirically.

Jasmin Siri: There have also been some interesting political counter-movements recently, such as climate change deniers or so-called ›climate opportunism‹, which actually sees a certain potential in climate change. What is your view on this?

Andreas Diekmann: What I consider important for sociology and for our topic is to take a closer look at the counterforces ›from above‹. For example, to examine in detail how the fossil fuel industry operates and justifies its actions through propaganda. Consider the so-called ›Heizhammer‹ (heating hammer) and the denigration of heat pumps in Germany through a large-scale campaign by these counterforces and its resonance in the media. The campaign contributed to the failure of the Traffic-Light coalition.[5]

5 The so called traffic-light-coalition (german: Ampelkoalition) refers to the coalition of Social Democrats, Greens and Liberals in Germany from 2021–2024. The coalition led by Chancellor Scholz began with goals such as climate protection and modernization, but was marked by in-

Or think about the denigration of electric cars. At GLEN, too, we ask about the practicality of electric cars for everyday use, and a significant portion of the population denies this. Although anyone who has even a passing familiarity with the technology knows that this is practically the future and that the German auto industry has missed the boat. So it is certainly interesting to analyze the discourse; there is already a great deal of work on this in environmental sociology. There was a strong focus on media discourse, involving both qualitative and quantitative discourse and content analyses. This also involves the use of new methods such as web scraping and the analysis of large volumes of digital data.

Jasmin Siri: You have just introduced the concept of counterforces. How can sociology capture these ›counterforces‹? If you were to outline ›counterforces‹ now, including within the framework of problem constellations, how would you do so?

Andreas Diekmann: I'd say all those who are currently profiting from fossil fuels in the short term. That's obviously the oil and gas industry, the fracking industry in the United States –»Drill Baby, Drill!« – and the shift in policy by the U.S. government since Trump took office. Then, of course, the oil-producing nations, namely the U.S., Saudi Arabia, the Emirates, and so on. It's only logical that they all want to sell off their reserves quickly now. That is what the economist Hans-Werner Sinn (2012) has called the »green paradox«. That we are – quite rightly – trying to switch to renewable energy, but there is an incentive to bring even more fossil fuel onto the market. That is undoubtedly a huge challenge.

Jasmin Siri: So for you, the opposing forces would be all those connected to fossil fuels?

Andreas Diekmann: That would be the crux of the matter. Of course, there are also all those who want cheap, fossil-fuel-based energy. The farmers in Germany who use their subsidized agricultural diesel. In general, diesel is subsidized in Germany, whereas that is not the case in other countries. Why do these fossil fuel subsidies exist at all? Why is diesel taxed less than gasoline? There's absolutely no reason for it, but it's been done for many years. And so far, no government has reversed it. These are also barriers to the transition: Fossil fuel subsidies, which are particularly pronounced worldwide and in Germany. Simply scaling back these would already be a major win for the climate and the environment.

Jasmin Siri: In sociology and beyond, there is intense debate about whether and how the market and the state can promote environmentally friendly behavior. We have just discussed this, but if we take it a step further, we might ask to what extent a fundamental transformation

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ternal conflicts, including disagreements over economic an finance policy, which led to its collaps.

of capitalism is necessary and whether ›green capitalism‹ is possible. Does this play a role in your thinking?

Andreas Diekmann: The first question is, what is capitalism, anyway? There are people who call for the term to be abolished. Are there any non-capitalist countries at all? Is capitalism defined by the property regime? There is no country that allows for the unlimited use of property or, conversely, does not allow for private markets. Can capitalism or socialism be defined by the public sector share? During Helmut Kohl's time, Germany had a public sector share of 55 %. France still has a public sector share of over 50 %, while other countries – the Anglo-Saxon countries – have a much lower public sector share. There are very different forms of capitalism. The public sector share and the extent of inequality could be used as criteria. Personally, I prefer to live in a welfare state that provides basic services for everyone and limits inequality. What good is wealth to the rich if they have to live in gated communities?

A serious problem is that the immense wealth and resulting wealth inequality stemming from unchecked capitalist economic practices threaten democracy. In her eco-bestseller, Brigitte Herrmann (2022) writes about abolishing capitalism and introducing an eco-economy modeled on the British wartime economy. That strikes me as extremely unrealistic. The climate crisis is hardly going to wait until capitalism is abolished. Socialist and democratic forces should strive to rein in capitalism, establish rules for the tech giants, regulate markets, but also harness the immense innovative power for climate protection and adaptation to the effects of climate change. That is the European way – as opposed to the Anglo-Saxon one – at least in theory, if not always in practice. If you will: more Kant, less Machiavelli.

I am very skeptical of the arguments for degrowth – that is, transformation through renunciation. Very few people actually do that. Sure, there are more and more people who eat a vegetarian diet, who largely forgo meat. But I see little chance of this catching on among the entire population, let alone worldwide. On the contrary: Meat consumption is rising globally, for example in China. As people become wealthier, it increases. Instead, I'm pinning my hopes on technological innovations in the food industry. But that's just speculation. I don't think that reducing consumption – or voluntarily cutting back on consumption – is the solution. However, we do have a method for what I'd call targeted degrowth. It's not as if all growth is bad. In healthcare, education, caregiving, artistic creativity, and services of this kind, growth is certainly welcome. And in science and medicine. It's a major achievement that life expectancy has risen so sharply. In certain areas, we want growth; in others, particularly with fossil fuels, we don't want growth. But if we now tax the externalities precisely or impose levies on them, then growth in these areas will decrease. And in other areas that become relatively cheaper, it may increase. So degrowth is achieved precisely through appropriate institutions, through appropriate institutional rules that redirect the dynamics of growth.

Jasmin Siri: Economic sociologists, including those in the volume we are co-editing, focus on alternative forms of coordination as a path toward greater sustainability. Energy cooperatives, bioenergy villages, local currencies, and, more recently, alliances between the state, the private sector, businesses, and civil society are presented as socio-ecological experiments and pathways for development. How do you assess this, and what potential and limitations do you see in such alternative projects?

Andreas Diekmann: Energy cooperatives can bring about progress in several ways, including social progress, when people come together and build social capital as a byproduct. Take heat pumps, for example. The question is whether it makes sense for everyone to install a heat pump individually in their own home. Or would it be more sensible to centralize this, or for apartment buildings or cooperatives to provide heat through renewable energy, potentially at a lower cost? But there's a problem, and this applies to energy-saving and nudging campaigns as well. This is where the so-called ›waterbed effect‹ comes into play. The sector covered by emissions trading is then relieved of pressure. The local power plant has to buy fewer allowances because we're emitting less CO_2. They then sell those allowances to power plants that may still be running on lignite. And the CO_2 emissions saved are offset again. That's the logic behind capped emissions trading. So in sectors covered by emissions trading, energy conservation isn't rewarded. You have to keep that in mind.

Jasmin Siri: Now I'd like to move on to the final concept we'd like to discuss with you. We know that you've engaged deeply with the idea of solidarity and traditional approaches to it. We'd like to ask you whether – and, if so, what kind of solidarity – class, gender, and generational solidarity, to name just a few, are relevant in light of the urgent climate crisis.

Andreas Diekmann: That brings us back to some of what we've already discussed. Solidarity is, of course, a classic concept in sociology. I would also speak of cooperation here. The two are very similar. Perhaps solidarity also encompasses a value system, meaning that it is cooperation underpinned by shared values. And that is precisely the question that can be well captured through game theory and cooperation theories, and the basis of legitimacy is exactly this question of acceptance of climate policy measures.

Climate change affects both genders and all generations. One might say that younger people are more severely affected, but older people also have children and grandchildren and suffer particularly from the health consequences of, for example, heat stress. One problem, as Jens Beckert has particularly emphasized, is that solidarity within the climate movement is not tied to social class (Beckert 2024). He sees this as an obstacle. However, it can also be an advantage – here we align more closely with Ulrich Beck and his famous observation that ›poverty is hierarchical, while smog is democratic‹ (Beck 1990) Which, of course, isn't entirely accurate. Our empirical studies in four Swiss and German cities showed that while environmental impacts do not differ significantly by socioeconomic status, the upper classes are better able to protect themselves against environmental impacts, particularly noise. Wealthy people in particular are drawn to trendy urban neighborhoods, which often have higher noise levels, but they then have larger apartments, courtyard locations, soundproof windows, and bedrooms that do not face the street. We have called this the »environmental shielding« hypothesis (Diekmann et al. 2023). But it is clear that the middle and upper classes also suffer from environmental stressors, heat stress in cities, or air pollution, even if the poorer classes, especially from a global perspective, are more severely affected. Climate change ultimately affects all of humanity. Again, certainly not to the same extent, especially when considering the situation in developing countries, e.g., the people in the river deltas of Bangladesh or in the slums of New Delhi. However, the fact that it affects people across class lines also presents an opportunity to create, in principle, a very broad basis for solidarity.

Jasmin Siri: To conclude, we would like to ask you what kind of sociology you envision in order to address the challenges we have just discussed. In what ways could or should sociology be different – and perhaps even better?

Andreas Diekmann: I would like to see a sociology that accurately describes macro-level events and interconnections – such as environmental movements, migration, social inequalities, social structure, educational opportunities, etc.– careful description is also important – and that explains these interconnections precisely, in other words, looks inside the black box. The macro-meso-micro framework serves as a good guide here. Explanation means linking back to people's actions within a social context. For it is social actions in interaction with other actors – with their intended and, above all, unintended consequences –that ultimately generate the social systems and macro-level interrelationships we observe. To explain social actions, we need three building blocks: what people intend (their goals or preferences), what they think about the consequences of their actions and the expectations of others (their ›beliefs‹), and what they are capable of (their resources or opportunities). How these three building blocks are linked depends on the underlying theory of action. If the actions are strategic, game theory can be applied. In this way, one arrives at ›medium-range‹ theories for specific sociological questions. These are the foundations of an analytical-empirical sociology (see also Diekmann 2026).

What I expect from professional sociology is that theories and the hypotheses derived from them be tested using modern methods, appropriate research designs, and so on. Sociology must teach these skills – the methods, including the handling of digital data – at least at a basic level; specialization can come later. Basic knowledge, such as techniques for testing causal hypotheses and an understanding of potential errors in data analysis, is an integral part of a critically analytical, empirical science. CCS, or computer-assisted social science, is becoming increasingly important, but the same critical methodological principles apply here as well. Research is not about being satisfied with a single study that reports this or that effect. The reproducibility of results is absolutely central. We need more cumulative research and reproducible results. Multiparadigmatic science based on the motto »Anything goes« is a convenient excuse. This approach may work for a certain period of time, but if sociological research is to be taken seriously, it must deliver clear, reproducible results.

References

Andre, Peter / Boneva, Teodora / Chopra, Felix / Falk, Armin (2024): »Globally representative evidence on the actual and perceived support for climate action«. In: Nature Climate Change 14, pp. 253–259. https://doi.org/10.1038/s41558-024-01925-3 https://www.nature.com/articles/s41558-024-01925-3#citeas (last access: 26.03.2026)

Beckert, Jens (2024): *Verkaufte Zukunft. Warum der Kampf gegen den Klimawandel zu scheitern droht.* Berlin: Suhrkamp.

Beck, Ulrich (1990): »On the way towards an Industrial Society of Risk«. In: *International Journal of Political Economy* 20(1), pp. 51–69.

Bruderer Enzler, Heidi / Diekmann, Andreas (2019): »All Talk and No Action? Environmental Impact and Pro-Environmental Behavior. An Analysis of Environmental Concern, Income, and Greenhouse Gas Emissions in Switzerland«. In: *Energy Research and Social Science* 51, pp. 12–19. https://doi.org/10.1016/j.erss.2019.01.001

Bruderer Enzler, Heidi / Diekmann, Andreas / Liebe, Ulf (2019): »Environmental Concern and Future Orientation as Determinants of Household Electricity Use«. In: *Journal of Environmental Psychology* 62, pp. 22–29.

Bruderer Enzler, Heidi / Diekmann, Andreas / Meyer, Reto (2014): »Subjective Discount Rates in the General Population and their Predictive Power for Energy Saving Behavior«. In: *Energy Policy* 65, pp. 524 –540.

Chater, Nick / Loewenstein, George (2023): »The i-frame and the s-frame: How focusing on individual-level solutions has led behavioral public policy astray«. In: *Behavioral and Brain Sciences* 46, e147, pp. 1–84. https://doi.org/10.1017/S0140525X22002023

Crutzen, Paul J. (2002): »Geology of mankind«. In: *Nature* 415, p. 23.

Diekmann, Andreas (2026): »Analytical Sociology. Generative Models, Mechanisms, Explanations«. In: Otte, Gunnar / Sonntag, Nico / Leitgöb, Heinz / Nisic, Natascha / Raub, Werner (Eds.): *Explanation and Causality in the Social Sciences. Special issue of the Cologne Journal of Sociology and Social Psychology,* n.p.

Diekmann, Andreas (2024): *Klimakrise. Wege aus dem Dilemma*. Baden-Baden: Nomos.

Diekmann, Andreas / Bruderer Enzler, Heidi / Hartmann, Jörg / Kurz, Karin / Liebe, Ulf / Preisendörfer, Peter (2023): »Environmental Inequality in Four European Cities: A Study Combining Household Survey and Geo-Referenced Data«. In: *European Sociological Review* 39 (1), pp. 44–66. https://doi.org/10.1093/esr/jcac028

Diekmann, Andreas (2016): *Spieltheorie. Einführung, Beispiele, Experimente.* Reinbek: Rowohlt, 4. Aufl.

Diekmann, Andreas, Preisendörfer, Peter (2001): *Umweltsoziologie. Eine Einführung.* Reinbek: Rowohlt.

Diekmann, Andreas, Jäger Carlo C. (Hg.) (1996): »Umweltsoziologie«. In: *Kölner Zeitschrift für Soziologie und Sozialpsychologie*. Sonderheft 36. Opladen: Westdeutscher Verlag, S. 11–27.

Diekmann, Andreas / Franzen, Axel (Eds.) (1995): *Kooperatives Umwelthandeln. Modelle, Erfahrungen, Maßnahmen.* Zürich: Rüegger.
Gagnebin, Muriel / Graichen, Patrick / Lenck, Thorsten (2019): »The Yellow Vest Protests: An (Error) Analysis of French CO2 Pricing Policy«. Agora Energiewende March 15, 2019. https://www.agora-energiewende.org/fileadmin/Projekte/2018/CO2-Steuer_FR-DE_Paper/Agora-Energiewende_Paper_CO2_Steuer_EN.pdf (last access: 4.4.2026)
Herrmann, Ulrike (2022): *Das Ende des Kapitalismus.* Köln: Kiepenheuer und Witsch.
Liebe, Ulf / Gewinner, Jennifer / Diekmann, Andreas (2021): »Green Energy Defaults Have Massive and Persistent Effects in the Household and Business Sector«. In: Nature Human Behaviour 5, pp. 576–585. https://doi.org/10.1038/s41562-021-01070-3
Mosler, Hans-Joachim / Gutscher, Heinz (1996): »Cooperation through Voluntary Commitment in the Tragedy of the Commons«. In: Diekmann, Andreas / Jäger, Carlo C. (Eds.): *Environmental Sociology. Cologne Journal of Sociology and Social Psychology*. Special Issue 36. Opladen: Westdeutscher Verlag, pp. 308–323.
Nielsen, Kristian S / Clayton, Susan / Stern, Paul C. / Dietz, Thomas / Capstick, Stuart / Whitmarsh, Lorraine (2021): »How psychology can help limit climate change«. In: *American Psychologist* 76(1), pp. 130–144.
Polanyi, Karl (1973): *The Great Transformation. Politische und ökonomische Ursprünge von Gesellschaften und Wirtschaftssystemen*. Frankfurt a. M.: Suhrkamp.
Rockström, Johan et al. (2009): »A safe operating space for humanity«. In: *Nature* 461, pp. 472–475.
Roser, Max (2020): »Why did renewables become so cheap so fast?« In: *Our World in Data*. https://ourworldindata.org/cheap-renewables-growth?utm_source=OWID+Newsletter&utm_campaign=fbf8f05baa-biweekly-digest-2023-05-05&utm_medium=email&utm_term=0_-eb78a3a726-%5BLIST_EMAIL_ID%5D (last access: 16.03.2026)
Sinn, Hans-Werner (2012): *The Green Paradox: A Supply-Side Approach to Global Warming*. Cambridge: MIT Press.
Stern, Paul C. (2000): »Toward a coherent theory of environmentally significant behavior«. In: *Journal of Social Issues* 56 (3): pp. 407–424.
Sunstein, Cass R. (2007): »Of Montreal and Kyoto: A Tale of Two Protocols«. In: Harvard Environmental Law Review 31(1). https://chicagounbound.uchicago.edu/journal_articles/8476/ (last access: 26.03.2026)
Thaler, Richard H. / Sunstein, Cass R. (2008): *Nudge. Improving Decisions About Health, Wealth, and Happiness*. Yale University Press.

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Theorizing sustainability: How to better understand the social puzzle of alternative coordination forms

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Abstract. This article presents a research strategy that aims to develop sociological theories methodologically. This type of theorizing is applied to the issue of why sustainable use of limited natural resources is so difficult to achieve, even though it would be beneficial for the majority. While mainstream research currently focuses on markets versus government regulation, this article presents forms of social self-governance as alternatives and discusses their rise and functioning. The goal of developing expanded theories in this case is to provide explanations that clearly show why certain social factors, constellations, and mechanisms can contribute to the collective goal of a more sustainable future.

Action-based explanations are an important tool for this type of theory formation, as they can be expanded with reference to methodological principles and give explanations for why specific social aspects are relevant. To this end, the article identifies and differentiates between two types of theorizing and shows in which ways they expand sociological theories and what explanations they offer for the social puzzle of the constant rise and fall of alternative coordination forms. The first approach strives for theories of the middle range based on context-related models and emphasises the interaction between individuals and social context. The second approach uses a general principle of action in order to capture the effects of social factors in light of individual properties. Both approaches support the construction of more realistic theses and contribute to the debate on theory formation in sociology, which in turn will enhance the analysis of how a more sustainable way of life can be organised by cooperative coordination forms.

Keywords: alternative coordination forms, sustainability, social institutions, action-based explanations, common goals, Commons, economic sociology

1 Theorizing sustainability

The overuse of natural resources is an ongoing topic in human history, which has reached a new level with the emergence of modern industrial capitalism with an increase in the exploitation of humans, soil, water or forests. One of the ongoing consequences has been the constant overuse of finite natural resources in production and consumption, which has resulted recently in many-fold effects such as climate change, a loss of biodiversity and overheating of cities to mention a few.[1] However, in sociology the theorizing of the overuse and devastation of natural resources has only recently begun. In this paper I address the conservation of natural resources as a common goal. On this basis, I will theorize sustainability from the perspective of organizing appropriate collective actions by establishing coordination forms that utilize a variety of social factors and mechanisms that support long-term collective efforts to maintain resources for use by next generations.

The backdrop of this paper is a growing awareness in society and the social sciences of these fatal effects and a rising concern about which forms of coordination could support a more sustainable use of natural resources beyond, or besides, markets and firms. So, my focus is on exploring social forms that support the aim of preserving natural resources for future generations. I start to outline the issue of sustainability in the framework of common goods, including common-pool resources, and exploring how and why some social factors, institutions and mechanisms support the rise and functioning of cooperative coordination forms as an alternative to hierarchical control as well as market competition.

For epistemic reasons, I do not start from ground zero to construct a completely new theory to deal with the problem of achieving collective goals since there would it be more efficient to systematically reviewing, checking and improving existing theories (see Popper 1935). In my understanding such theorizing can follow the principle of increasing realism. This means starting with highly abstract models or theories and extend them adding relevant social factors (see for example Weber 1978). In this sense, the aim of theorizing is to start with the well-known abstract model of collective action outlined in classic approaches (see for example Olson 1965; Hardin 1968), but then to extend it based on concepts from sociology and especially from new economic sociology (see Maurer 2021; 2025). Especially the notion of social and institutional embeddedness supports the idea of more realistic explanations. From this angle, I believe we can get a new perspective on how and why specific social forms come into being and bring about particular social institutions and mechanisms that explain why the organization of collective actions in favour of a sustainable use of finite natural resources is possible in certain cases. I believe developing sociological theories of collective action by using tools of new economic sociology provides a framework for studying when and why certain social factors, mechanisms and coordination forms can help to manage the exploitation of nature. As a result, I will outline a specific way of theorizing al-

1 According to the UN sustainable development goals (SDG) defined in 1992 and redefined in 2025 (see Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung 2026) I focus on the overuse of natural resources and will ask what social forms could support the overall common goal of building a sustainable future.

ternative coordination forms that support a collective, sustainable management of natural resources by using and developing sociological tools.

The epistemic principles of the modern social science approach (Maurer 2025) which assumes that humans are able to understand the social and natural worlds through their senses can work as a solid basis. In this sense individuals, and their beliefs, motives, intentions and cognitive abilities, can be taken as the analytical starting point for explanations in sociology (see Weber 1978; Granovetter 1992). To take this notion further, social life can be interpreted as problems of coordinating actions from an individual point of view and highlighting coordination forms, and the associated institutions and mechanisms, that might help managing them (see Pinker 2018). As a result, outlining coordination problems and asking for what social forms might support handling sheds new light on how to deal with finite natural resources and by doing it from an individual point of view puts theory into practice. Proponents of the European Enlightenment, most of all David Hume (for more details see Bonß et al. 2021: 31–45), have defined the social sciences as a manner of theorizing that improves our knowledge about social facts. In contrast to philosophy as well as natural sciences the goal is to explain social phenomena by developing concise terms, constructing causal explanations and doing empirical studies. The causal hypotheses formed from these should be as precise as possible so that the theory can be tested and improved, thereby promoting theoretical progress (see Hedström / Swedberg 1998b; Hedström 2005; Maurer 2025).

I will elaborate and apply this understanding of theory formation to provide new, deeper insights into how collective actions and relations can be organized so that the goal of maintaining limited natural resources for future generations could be realized. I will start with the very basic model of collective action and explore by using sociological concepts what social factors, institutions and mechanisms might work in favour of managing it. Theorizing sustainability, in this article, means reviewing, developing and improving theoretical tools, concepts and insights that help to explore how and why individuals might be able to handle and restrict the overuse of nature.

The tool which I want to present and discuss here is action-based theories, which allow for more concrete or realistic theses about why individuals establish and contribute to cooperative coordination forms. To expand such theories in a systematic way means to give concrete reasons for adding and focusing on additional social factors. Thus, theorizing functions as one constructs abstract models taken from reality, in a way that they mirror central aspects of the social world but expand them when there is evidence. One principle to develop theories in this sense is to look for factors that are relevant in reality. In my understanding an increase of realism in sociological theories improves our understanding of how to design and choose social institutions. Garrett Hardin (1968) and Elinor Ostrom can be seen as forerunners of interpreting the issue of a sustainable future in terms of common goods. They both aimed for analysing which kind of institutional setting might (best) support the conservation of common-pool resources against freeriding. In difference to Hardin who emphasized the nation state and property rights in the framework of a classic perspective, Elinor Ostrom due to empirical comparisons adds direct interaction and communication to the classic model and thereby outlines new social institutions in order to overcome freeriding. According to the Commons approach we can put new light on cooperative coordination forms and consider them as a specific solution in the providing of common goods. Even though Hardin's (1968) groundwork and Ostrom's (1990) writings have initiated many analyses of how to regulate the use of common-pool resources they did not offer sociologically informed explanations about what social forms can be expected for certain contexts and how they work differently than markets and hierarchies. So, the question remains: how can sociologists add to this research and develop a theoretical perspective?

In this article I will show how sociologists could start using and developing their tool kit to explain when and why alternative coordination forms might be a solution in the economy that enhances sustainability. One way to do so is by highlighting alternative forms of coordinating beyond competition market and the capitalistic firm. With a brief glance into history, we see that over the last 250 years, while the central capitalistic institutions have stabilized successfully, we see a cycle of rise and fall of alternative forms, which indicates some specificities and challenges. Even if some forms occur repeatedly and are re-established nowadays, such as cooperatives, some other forms, such as social self-governance and collective property rights, have vanished and need to be rediscovered like local energy communities, municipal-private-public partnerships as well as community currencies, green or contested money been reinvented to solve social and environmental problems (see Barinaga, Bazzani, Massó and Rycombel in this volume). Some researchers go one step further and connect the question of alternative coordination forms to the transformation of capitalism (Wright 2013; Neckel et al. 2022).

The relevance of economic sociology in the debate could stem from their recent theoretical developments that help asking under which social conditions individuals contribute to social self-governance forms. By doing so, the line of research initiated by Elinor Ostrom and others could be debated, revised and developed based on the outlined aims, tools and perspectives of (economic) sociology. This would mean theoretical progress as well as a step into the practical realm, which could stimulate further research and define a new research field for sociologists (Beckert 2024; Diekmann 2024 as well as the interviews printed here).

2 New Economic Sociology: a new way of theorizing

Since the 1970s, economic sociology has been rediscovered and has become a new branch of sociology. Two sides of the same coin enhanced the rediscovery of economic sociology in the 1970s. On the one hand, there has been the concern with constructing more realistic theories, which would address social interaction and interdependencies. On the other hand, there has been the concern with outlining a sociological perspective on markets and market exchange, which would address the economy related to social relations. The relevance of economic sociology stems from its focus on the social embeddedness of economic actions and the aim to provide more realistic analyses then classic economic and sociological theory (see Granovetter 1992; Smelser / Swedberg 1994). By doing so, economic sociology could address the social constitution and workings of markets and firms in modern economy. This has made new economic sociology an attractive partner for sociological theorizing, one that works on classic shortcomings. Most of all, it wants to add social interaction and institutions to sociological thinking on the economy by linking action and structure to broaden abstract models on both the social level (see Coleman 1990) or on individual and social levels (Granovetter 1990, 1992).[2]

2.1 Starting point and theoretical background

As a result, in the 1970s and 80s, some sociologists re-established a sound research programme for which they coined the term *New Economic Sociology* (see Smelser / Swedberg 1994). This programme inspired a vibrant research field, which gained high relevance in showing how social aspects frame markets. It also gained theoretical relevance by outlining a foundational framework under which researchers could share and develop tools and insights. The very question now is how it can be developed to theorize and empirically study issues of sustainability.

2.2 The basic research programme

A research programme in the social sciences requires 1) a methodological foundation, 2) assumptions about the social world and 3) theoretical tools and perspectives (Weber 1978: 3 ff.). The classics, Max Weber as well as Émile Durkheim, invented sociology as a social science, which aims to explore causal relations in

2 This was a major issue in the US as well as in European sociology since the 1970s and 1980s; there was much critique on pure correlations between individual properties as well as on economic theory abstracting from all kind of social relations and institutions when assuming full competition markets (see Granovetter 1990; Maurer 2021).

social life by using terms, concepts and models abstracted from reality.[3] Max Weber sees the social world as being constituted by meaningful actions of individuals and thus made the understanding of actions of individuals the basis for sociological explanations. Such a scientific understanding should be evident and could, according to Weber, be attained through rational models such as the model of means-end-rational action. Weber suggests that the methodological reason of evidence starts with the model of means-end rational action but then switches to less rational modes, when there is no evidence in reality. »Methodologically, one very often has only a choice between imprecise terminology on the one hand, and on the other terminology which though precise is unreal and ›ideal typical‹. In such a case the latter are scientifically preferable« (Weber, quoted after Whimster 2004: 327).

Thus, in particular social contexts, for which researchers have empirical knowledge, rational actions can be explained, like in the case of protestants who work hard, save money and, as a result, bring about the central institutions of modern capitalistic institutions due to their belief which later related to their economic interests (Weber 2009). Weber suggests that the methodological reason of evidence starts with the model of means-end rational action but then switches to less rational models, when there is no evidence in reality (section 2). So, Max Weber can be seen as a forerunner for what we call *action-based explanations* today. Moreover, he can be seen as a forerunner for a manner of sociological theorizing that starts with abstract rational models but expanding models due to context and thus offer causal explanations based on content-related models of action and situation. In this sense, Weber is a proponent of causal explanations that assume motives and abilities of individuals depending on social context so that starting with abstract models can lead to context-related explanations or causal reconstructions like that of the Protestant Ethic.

The programme of New Economic Sociology is close in aims and tools to the modern social science approach and especially Max Weber's sociology; without stating this explicitly. It also calls for discovering causal relations in the real social world and for taking individuals' actions as the driving force in the social world; it can be seen as a broader form of Methodological Individualism (Maurer 2024b; Udehn 2001). While early proponents of the programme started with rational models, such as the model of means-end-rational action, to explore which network patterns would support rational actions, some of them began to work with models of socially defined motives taking private interests as special case while

3 While both shared the aim of exploring causal relations, they differed in their central assumption of what constitutes social reality and what should be taken as a central explanatory factor. Émile Durkheim assumes the social world is based on group moral and driven by structural laws. ›Social facts‹ (*fait social*) exist independently from individuals and act as an external force on individuals (Durkheim 1938).

highlighting social goals or values (Granovetter 1990; White 2008; Zelizer 2002). In general, we see economic sociologists moving in the direction of theories of the middle range and a related-out branching (Maurer 2021).[4]

2.3 The concept of ›social embeddedness‹

New Economic Sociology has been established as a research programme, which aims to explain how and why ongoing social relations (Granovetter 1992) reduce uncertainty and thereby support market exchange. Its central tool became action-based explanations and its central challenge was to deal with the ongoing tension between abstraction and realism. The concept of social embeddedness became an integrating umbrella and put New Economic Sociology in a position to collaborate with other theoretical movements, as well as to look for new ways of expanding models in an understandable mode. Market economy is thus described, in contrast to the model of full competition markets, as a sphere of uncertainty due to the future and social actions. Individuals are described, in contrast to the model of homo economicus, through socially framed intentions and cognitive abilities. The notion of rational actors in competition markets is then seen as a special case and not as a general model.

As the economy is seen as socially embedded and framed by ongoing social relations and institutions, New Economic Sociologists reject the model of the modern market economy as an autonomous sphere, as well as a normatively defined functional subsystem of society. Instead, the concept of *social embeddedness* assumes that even in modernity, the economy is framed but not overwhelmed by society. This means one must explore which social factors or constellations influence market exchange and market structure. Early proponents focused on studying how and why ongoing social relations support markets by using network models and methods. Later, newcomers from other approaches began to focus on cultural factors and sometimes even assumed the moral basis of every economy and every economic institution, whether markets, money, financial systems or private households (Fourcade 2007; Zelizer 2011).

4 While Weber justified the construction of ideal types as a means of understanding and an analytical starting point, economic sociologists generally moved in the direction of middle range theories. The notion had been reintroduced by American sociologist Robert K. Merton in the 1940s to focus on theorizing between *Grand Theory* and historical descriptions. Merton coined the term to emphasize causal explanations that clarify why certain classes of social phenomena, such as deviant behaviour emerge. By doing so, Robert K. Merton (1967) inspired the new mechanism approach (Hedström/Swedberg 1998a), which indeed follows the same line of thinking, namely to broaden action models and to stop working with a general action principle (see also section 3.2).

2.4 A specific tool and its insights

The central tool in new economic sociology became action-based explanations that later on became linked to Robert K. Merton's (1967) notion of theories of the middle range. The justification for constructing theories of the middle range is to manage the tension between abstraction and realism by limiting the scope of explanations. Action-based explanations can be constructed in a more abstract or more realistic way since they allow for more abstract as well as more realistic models of social context as well as models of individuals and especially by modelling various forms of interaction between the individual and the social levels. Thus, they allow for causal explanations that clarify why either certain social or individual factors or even constellations of individual and social aspects bring about social phenomena such as economic institutions. In the 1970s, researchers such as Mark Granovetter, Harrison White, James Coleman, Ronald Burt and Victor Nee (for an overview and an introduction see Smelser/Swedberg 1994), to name a few, began to elaborate the notion of action-based explanations to provide more realistic economic analyses than economists. Influential examples are network models like that of strong or weak ties.[5] By doing so, economic sociologists were able to criticize the exclusive emphasis on market coordination in standard economics as well as on hierarchy and control in classic sociology. Instead, they opened the perspective to social groups like business groups (Granovetter 1994: 454; 2001, 2011)[6] as well as to the study of regions (Granovetter 1994: 459; see for a definition Swedberg 2003: 65 ff.; Maurer 2016). One result was that various social forms, beyond market and hierarchy, improve economic performance by undermining short-term profit orientation and by raising trust, loyalty or commitment due to direct social interaction.[7]

5 Network models and institutionalist theories were what broadened economic analyses at this point. In his early study on labour markets, Granovetter showed that weak ties improve the match between employers and employees through a faster and more comprehensive flow of information (Granovetter 2001, 2011). Others worked on concepts of social groups such as business groups, families, ethnic groups or regions to analyse how and why groups can be seen as a special social context, which brings about a switch from egotism to social orientation or form the longing for material goods to ideas or even reduce opportunism and guile on the individual level.

6 Those groups could be traced in Japan, where there is the *keiretsu*, *groupos económicos* in Latin America, and the *twenty-two families* in Pakistan (Granovetter 2001, 2011). They are seen as the social basis for building strategic alliances, creating collaboration, developing interfirm networks and constructing new organizational forms beyond markets and hierarchy. Thus, social relationships and groups can be seen as a factor for economic performance (Saxenian 1994; Stamm et al. 2019: 156–159), instead of as a factor that hinders market competition.

7 Harrison White (1981) defines markets as the result of processes of social interaction due to firms observing and communicating with each other based on signals in the hope that this presents the best trade-off between quality and costs. Ronald Burt (1992, 2005) analyses brokers as a bridge that link previously unconnected people and groups, thus bringing about innovation and

The development of New Economic Sociology shows that action-based explanations are an important tool in explanatory sociology, one which can be used and developed in different ways. Main proponents of New Economic Sociology moved into the direction of middle range theories, which means that they need to construct theories related and restricted to a particular context. By doing so, they improved our understanding of markets and opened the perspective to other coordination forms beyond markets. While this inspired many influential empirical studies, it did not lead to theoretical development or collaboration but rather to a dissolution of contours and new challenges in the field.

2.5 Current challenges of the research field

I see four current challenges in New Economic Sociology when it comes to theorizing. There is the need for a methodological foundation to manage the tension between abstraction and realism, for new perspectives that help to overcome the focus on markets, for an intense debate on how to move further and what kind of theory formation could enhance economic sociology.

First, economic sociology has been developing quite successfully by joining the macro-micro movement and developing action-based explanations about how social factors support markets and economic outcome. In this framework, exciting new insights into the rise, functioning and structure of various markets have been offered. Later, some very influential proponents moved in the direction of middle range theory since they wanted to offer more realistic explanations and analyses of the economy than standard economics. While they shared the goal, they often worked based on a different understanding of how to expand theories. The lack of a significant methodological background debate is evident in the fact that the new development is not based on clear fundamental considerations and principles. Moreover, the price for more realism is often overlooked, meaning the tension between abstraction and realism in the social sciences and how it is related to central goals.

Second, as a result, economic sociologists have widely ignored what has been said and done concerning the coordination forms beyond markets and have indeed overlooked the fact that markets are not always an adequate institutional

creativity; he also highlights that networks and groups can come with negative side effects such as stabilising social boundaries, exclusion and homophily. Brian Uzzi (1996, 1997), when studying the fashion industry in New York showed that direct interaction leads to a higher level of contracts, investment and innovation. It was empirically demonstrated that business partners in a network continue to hold on to cooperation, despite the opportunity for and the advantage of egotistic behaviour. This provides evidence for mixing market and social relations to improve economic outcome.

setting. Therefore, they have overseen the new reality of global warming and the challenge of finding ways into a more sustainable economy and society. Thus, economic sociology today needs to broaden its perspective beyond exchange relations and market coordination and open up to the possibility of other types of social interdependencies and the respective coordination forms, which are related to those new challenges. Issues of sustainability have highlighted the importance of common goals and the question of how to organise collective action to realise them. This has become increasingly urgent in the shadow of climate change. It is no longer the question of how to frame exchange relations but how to organise and coordinate collective actions, which support a more sustainable economy and society. The concept of sustainability, as well as economic and social crises, should lead economic sociologists to rethink markets and firms as the only or the best coordination forms and search for new theoretical perspectives that can guide their analyses and empirical studies on alternative coordination forms. In general, this could enable New Economic Sociology to conceptualize issues of sustainability and to contribute to practical solutions by exploring what could make them feasible in the long term and what they would look like.

Third, the macro-micro movement has supported the reinvention of action-based theories in economic sociology and sociological theory. New Economic Sociologists used this tool to explore social relations as a fundamental force in economic life, one that offers more realistic analyses of the economy than standard economics. They used network models to conceptualize and empirically study how various network patterns or institutions work in concrete markets. They used the tool of action-based explanations in quite diverse ways and often without giving much attention to fully understanding the underlying logic. As a result, we see a variety of network concepts, as well as other concepts in the field, side by side, often without providing a clear explanation for why the factors in question matter and usually without providing any reasons for why the expansion on the individual and / or social levels was necessary. Due to the lack of reflection concerning the extension of the core programme, economic sociologists are not aware of the different forms and what they mean for further collaboration. A major unsolved challenge in the programme of New Economic Sociology is to get a better understanding of the methodological background of action-based explanations and how and whether to expand them or not.

Fourth, the idea of constructing more realistic theories opened the door for newcomers from other approaches. Those newcomers entered the field by focusing on more social-structural or cultural factors and gave up the core task as well as the central theoretical tools of New Economic Sociology. They gave up the idea of interpreting social reality from the viewpoint of individuals to analyse issues and coordination problems and suggest ways to improve living conditions. Thus, the central tasks and tools, such as action-based explanations, became unrecognisable. A loss of identity as well as a rising ambiguity about what it means to work in New Economic Sociology contaminates the programme today (Fligstein 2015; Maurer 2021a. This includes the question of who to collaborate with and where to find methodological and theoretical support. Most of all, economic sociologists need to consider how to deal with the tension between abstraction and realism. Such a debate could help us see what the social science approach offers to a fundamental understanding of how theory and practice are related to each other.

In the following section, we are dealing with how economic sociologists could link to the more general debate about how to broaden and enhance action-based explanations in economic sociology and how this might help to conceptualize and study coordination forms regarding sustainability and moving beyond individual market behaviour.

3 How to theorize and enhance action-based explanations

In the following section, we are dealing with how New Economic Sociology could link to the more general debate about how to broaden and enhance action-based explanations in sociology and how this might help conceptualizing and studying issues of coordination in a broader sense regarding sustainability.

Action-based theories can be considered as a central tool for the development of sociological theorizing, since they are related to the methodological framework of the social science approach. We can also find some helpful principles and rules for expanding theory in them. In order to discover common ground between New Economic Sociology and sociological theory, we need to briefly remember the joint concern of the proponents of the macro-micro movement and of New Economic Sociology. We take what they wanted to achieve to evaluate the tool of action-based explanations and highlight how this can be done. We will also see what methodological rules can be used to broaden explanations and what effects they have for connecting theory and practice.

Researchers in the US as well as in Europe reinvented action-based explanations in the 1970s for opening up black boxes and providing causal explanations. In parallel, New Economic Sociologists began to work on causal theses for how and why social relations shape market exchange. Relying on *Methodological Individualism* (Udehn 2001), individuals were assumed to be the central force in the social sphere. In weaker forms of Methodological Individualism, like the one most economic sociologists rely on, the central idea is to model actors in a social context and related to others. Since the core idea is to lay out social problems of individuals and how they can be handled by social institutions, both levels are described by models taken from reality by abstraction. Thus, one of the central challenges of this approach is to know when and why to be more abstract or more realistic.

3.1 Basic form and logic

One way to construct action-based explanations is quite near to the basics of the modern social science approach (see Maurer 2025). The core idea is to explore and analyse social issues such as violence or deprivation from the perspective of intentional actors and to ask how they could manage them. The methodological basis for doing so is to differentiate analytically between micro and macro levels and reconnect both levels in three steps (see Coleman 1990: 8 ff.). This logic suggests using one general action principle, such as all humans are able to choose actions in light of their motives and intentions or all humans are able to learn by experience. Based on such a general action principle, more complex models of individual action can be developed by adding more details, considering the action principle, such as various degrees of rationality and intentionality.

An important milestone in improving our understanding of action-based explanations and how they can be constructed has been the so-called *Coleman boat* (Coleman 1990: 9). It shows that models abstracted from reality are seen as a tool that should be as simple as possible to provide precise theses that can be empirically proven. The main aim is to explain how and why certain social factors or constellations shape individual actions and, through these actions, bring about social effects. Rational choice theory is recommended as a micro foundation because it helps translate social factors into expected benefits and costs and provides a clear rule for which action individuals choose. Moreover, the general action principle can be used for analysing various social contexts and thereby in other fields and disciplines. In this sense, the basic form is justified by its economic and systematic theorizing. In the framework of this rational social theory, James Coleman referred to and criticised Max Weber's model of bureaucratic organization as the last solution for organizing collective action. Instead, Coleman argued that, on the one hand, such organizations do not arise spontaneously and generally need a constitution and incentives to motivate members, particularly managers, to act in favour of the organizational goals. Coleman introduced the notion of »conjoint organizations« (1990: 72–81) to conceptualize that individuals, in their aim to reach common goals, would pool rights to manage them collectively and often transfer the pool of rights to a central authority that uses and holds them, as is the case with professional associations or unions.

In the writings of James Coleman, to increase realism means, in a first step, to specify or add relevant social factors and constellations, e.g. common goals and the pooling of social rights, to explain what institutions rational-intentional actors establish to realize their interests (see Coleman 1990). By doing so, he outlined that the establishment of organizations brings about new constellations of interest. Thus, a major effect of conjoint organizations is that individuals wish to introduce a constitution to control the rights and become increasingly more dependent on those organizational forms. The strength of this kind of theorizing is to improve our knowledge about social factors in a general framework. The main criticism of this type concerns the use of rational choice theory (see for example Granovetter 1990). It is seen as being too abstract and, one could add, overemphasizes hierarchy as a coordination form to reach common goals (see Maurer 2021).[8]

3.2 Middle range theories: a way to broaden and enhance action-based explanations

Critique of the use of rational choice theory in sociological theory for being too abstract has led many economic sociologists away from this way of theorizing, in the direction of middle range theories (for an overview of the debate in the 1980s see Hedström/Swedberg 1998a). Middle range theories are another way to construct and expand action-based explanations. They can be found in Max Weber's sociology as well as in the writings by Robert K. Merton (1967, 1968), who coined the term *middle range theory* in the 1940s. Although this mode of theorizing adheres to the aim of causal explanations using models of individual action, it steps away from the notion of Grand Theory. Instead, theories of the middle range offer explanations for restricted classes of phenomena, such as the rise of modern Western capitalism or deviance.

3.2.1 Weber's notion of causal reconstruction as a form of content-related explanations

Weber's sociology assumes humans can act meaningfully and that such meaningful actions of individuals are the basis for sociological explanations; it does not mean they act meaningfully all the time. Understanding the meaning of action is always related to certain contexts and in this sense limited to the described conditions, as Weber illustrated in his well-known study of the Protestant ethic where protestants, in search of salvation, developed, due to religious ideas, action patterns such as working hard, maximizing profit and saving money systematically and by doing so triggered the rise of modern capitalism in the Western world starting in the sixteenth century. Understanding the motivation of the group of protestants was the basis (objective chance) for explaining those action patterns which, according to Weber, brought about and stabilized the typical institutions of modern capitalism: mass markets, privately-owned firms and legitimate profit-making (Weber 1978).

More generally speaking, scientific understanding seeks full evidence of the aims and values of individuals and the respective means in a particular context.

8 Max Weber's methodological writings can be seen as an early contribution for interpreting and solving this issue from a methodological viewpoint.

Such evidence is expressed in ideal types or rational models such as means-end rational action. This model understands individual action as a means to realize aims and comes with a high degree of evidence for certain situations where scientists can use their empirical knowledge. This model can serve as a starting point for sociological theorizing. The models of means-end as well as of value-rational action highlight »what-would-have-happened-if-action« had been rational and help to explain why, under certain circumstances, specific action patterns regularly arise and bring about socio-economic effects. Such ideal types lose empirical content but gain conceptual precision, as illustrated above. Max Weber explicitly deals with the tension between abstraction and realism and suggests to start with abstract models since they help to explore precise theses but in case they fail empirical proof to switch to more realistic models that take a more empirical information into account; this covers the idea to assume less rational and intentional actors.

What we can glean from Weber's methodological writings are the following central insights. First, sociology is an empirical science that takes its models or ideal types from reality through abstraction. In this sense, Weber suggests that the construction of ideal types, which highlight one aspect like rationality, shows evident causal relations (Weber 1978; !!!). Theorizing means to understand action patterns and to give an objective chance that they could occur in a certain context and thus bring about specific social phenomena. Broadening such explanations means mainly to specify context. Moving to less rational action models means to weaken evidence. Weber justifies the use of rational (action) models with the methodological rule that this is the most evident way to understand the meanings of individuals.

In his sociological studies, Weber applied this methodology to focus on how and to what extent economic, social or political institutions support rational actions of individuals. In Weber's institutionalism, we find a way of explaining the rise and functioning of specific institutions. A special focus of Weber's sociology is on how particular institutions frame and support the rational actions of individuals. The best-known theses in Weber's work are his analysis of modern rational capitalism, the nation state based on a bureaucratic staff, rational arts, sciences and beliefs (Maurer 2024a). Weber's relevance for practice originates from these concepts and material analyses. Those analyses outline which institutions or institutional settings support rational actions of individuals. As a result, in his work, a legal order based on a clear membership and respective legitimate rules that are implemented and enforced by a bureaucratic staff is proposed as the most rational form of achieving goals collectively due to the rational process of setting and implementing the rules of the social order.

3.2.2 Analytical sociology and mechanism approach: expanding models by taking logical constellations of desires, beliefs and opportunities into account

Proponents of new economic sociology as well as other sociologists have replied to the critique of the basic model and especially to the use of a general action theory.

One of them is Peter Hedström (2005), who began emphasizing Merton's notion of middle range theory to construct more realistic mechanism models. The logical structure of mechanism-based explanations is more complex than the basic model. Moreover, in the framework of the mechanism approach, Peter Hedström aims for causal explanations based on models of actors and social structure. He suggests increasing realism through constructing mechanism models on both levels: on the individual and the social. Consequently, he uses models that explore different logical constellations of social and individual factors. Mechanism models in this sense clarify certain interplays of changing opportunities, desires and beliefs. For example, a self-fulfilling prophecy explains that the false belief of a person about the liquidity of a bank makes him or her withdraw money from the bank and others, observing this, change their belief or recalculate the risk, also withdrawing money from the bank. Changing beliefs and an opportunity structure can lead step by step to bankruptcy if there is no counterreaction by chance that would stop and turn the process (Hedström 2005: 76 ff.) .

Mechanism models are more realistic because they clarify how typical constellations of desires, beliefs and opportunities work. Actions are no longer explained as the result of a rational interpretation of social opportunities but rather as the result of a change in beliefs or desires due to actions of others or even as the result of an interplay between individual factors, like in the case of wishful thinking, when strong wishes determine the interpretation of the situation.

In the end, we have a pool of mechanism models, which express different constellations such as the self-fulfilling prophecy, rational imitation of others, wishful thinking or rational calculation of opportunities. It is the skill of researchers to construct and apply mechanism models. Hedström, using simulation techniques, highlights all kinds of logical constellations. In line with the idea of theorising presented here, we could also draw on classical mechanism thinking, as laid out in the works of Max Weber (1978), Norbert Elias (1978, 123 ff.) and Heinrich Popitz (2017). Moreover, we can recognise in them an early line of context-related theory formation, which results in the abstract representation of specific social constellations exploring what triggers a certain process that starts at point A and continues until point B is reached. The most important model is that of strong competition over limited resources, so that any chance of controlling resources can set a process of monopolizing in motion which in the end leads to the formation of a monopoly and a social stratification around this monopoly (Popitz 185 ff.). In this kind of mechanism approach, theories can be made more realistic by varying the characteristics of the resource, the number of people as well as by specifying time and space. The formation of monopolies is generally explained as a process which step by step leads to a concentration of scarce resources in the hand of few or single persons. Mechanism models, such as those developed by Elias (1978) or Popitz (1992), describe the effect that even random advantages due to context lead in case of strong competition to an accumulation of resources that strengthens the position of few at the expense of others. The core process of monopolizing is driven by competition on scarce resources that means that what one earns is a loss for others. Such models can be broadened by putting in more empirical information about the resources since this is the most relevant aspect; nevertheless, the number of people counts for competition. In the sense of the analytical mechanism approach[9] also belief formation or rational imitation between the individuals might be a way to get more realistic analyses (for more details see Maurer 2021a).

In general, mechanism models describe how social phenomena are brought about step by step. One way to do this is by outlining how actions change in a systematic way the opportunity structure, e.g. leading to a more unequal distribution of scarce resources and opportunities. Another way, which is outlined by Peter Hedström, takes the interplay of social and individual factors as well as of opportunities into account and often combines different mechanism models even on the individual level.

3.2.3 Two ways of developing and expanding action-based theories

We have seen that action-based theories have been a central issue in sociological theorizing. Moreover, we have seen that there are two different ways of using and developing them.

On the one hand, there is the principle to base explanations on a general action theory, which is highly abstract, but which supports analyses of various social contexts and issues within a framework. This line of thought is mainly elaborated in rational choice sociology as well as in new institutionalist thinking. Collaboration means to use models across fields and to analyse the effects of various social factors through rational individuals in societal, political and economic spheres.

On the other hand, there are explanations built from middle range theory that aim for more empirical content and less abstraction in order to offer more realistic analyses than standard economics and sociology. This way is represented by parts of New Economic Sociology, Weberian institutionalism as well as the mechanism approach. Proponents of this line of thinking take action-based explanations a step further by conceptualizing various interrelationships between action and structure, which includes a change of the assumption of rational intention

9 For a comprehensive critical discussion, see Little 2025.

and of belief systems. Accordingly, those lines step away from the basic logic of interpreting all kinds of social contexts from the viewpoint of rational-intentional actors and the following effects. Instead, content-related models that explore various forms of interaction between individuals' motives and cognitive abilities become relevant for explaining social phenomena. In this sense, proponents of New Economic Sociology have begun to analyse markets as framed by moral and driven by irrational or at least non-rational motives.

By differentiating the two lines, we see that the aim to provide deeper economic analyses can be reached by either adding or specifying social constellations or by setting the assumption of a rational-intentional actor aside. This can be done by taking the social constitution of actors into account, like Max Weber described for protestants in the Western world, or by assuming that intentions, orientation, beliefs and levels of information are influenced by networks, social groups and other social relationships. Then, theories can assume objectively right as well as wrong beliefs, full or restricted information and even irrational aims and means. Assumptions of a lack of cognitive abilities, like unrealistic or objectively wrong belief systems, mean that sociological theories no longer refer to rational intentions, so they lose the classic normative point of reference for designing institutions and evaluation coordination forms.

A bridge between both lines can be seen in providing reasons for when and why actors rely on social institutions, frameworks or belief systems to choose actions, like when they know they lack knowledge as Raymond Boudon and Thomas Schelling outlined (see Hedström / Swedberg 1998a). Working on action-based explanations is one way to get a better understanding of how and why social factors and constellations shape the economy as well as society. To realise the tension between abstraction and realism and what the different ways to construct more realistic explanations would mean for designing social institutions helps to get a better understanding of whom to collaborate with and how to move forward.

4 How to apply the tool of action-based explanations to theorize sustainability

Today's debates focus on the overuse of nature and aim to find solutions for limiting the exploitation of natural resources such as water, air, soil, forests or fishing grounds and the related effects such as climate change. While New Economic Sociology was successful with action-based explanations in outlining how social factors reduce uncertainty in market exchange, they have not yet applied this tool to deal with this topic. Looking for theoretical tools to conceptualize sustainability in sociological terms and to outline social solutions is thus an important task today. Even though we have not worked enough with issues of sustainability and alternative forms that could help move towards sustainability, we could do this if we remind ourselves of existing tools. This would not only enhance sociological theory but also its practical relevance. In this section, we will discuss what we can learn from other social scientists like Garrett Hardin and Elinor Ostrom, who have already started to deal with the exploitation of commonly used resources, using action-based explanations.

We will use the tool of action-based explanations to explore shortcomings in the work of those approaches (section 4.1) and will ask how sociological concepts could contribute to looking behind the given solutions (see section 4.2). We will consider the self-governance form based on social institutions as an alternative to markets (see section 4.3).[10]

4.1 Forerunner: Garrett Hardin and »The tragedy of the commons«

Garrett Hardin (1968) outlined the social problem that rational-intentional actors systematically overuse commonly shared natural resources such as water, fishing grounds or community meadows (the so-called *Allmende*). He explored a specific social interdependence that means that every single individual would get benefits only when using the commonly shared resource but would expect to pay the costs of others' use. Thus, the incentive for every individual is to use as much as possible. In the end, the tragedy of the common-pool resource is inevitable. For Hardin, the only proper practical solution would come through private property rights that would restrict individual use and would be guaranteed by the state. The solution is based on the idea of socially restricting the use of natural resources through hierarchy. As a side effect, Hardin (1968) revised and expanded the classical perspective, that assumed that rational-individual decisions, under the condition of markets, would bring about a social optimum.

4.2 Pathfinder: Elinor Ostrom and the »Commons Approach«

Elinor Ostrom is among Hardin's critics even though she shares his concern about the overuse of common-pool resources. She criticizes him for his highly abstract assumption that individuals do not interact or communicate. Moreover, she emphasizes that, in the real world, solutions, which go beyond governmental rule might be possible. »A substantial gap exists between the theoretical prediction that self-interested individuals will have extreme difficulty in coordinating collec-

10 A relevant debate over the last years has been about taxes raised by the state versus certificates, which firms can buy and sell on the market to restrict air pollution (see for example Engels 2006).

tive action and the reality that such cooperative behaviour is widespread, although far from inevitable.« (Ostrom 2000: 138)

On the one hand, Elinor Ostrom shares the outline of the research question and emphasizes the systematic exploitation of common-pool resources. On the other hand, she insists that there is a form of problem-solving beyond governmental regulation. Based on empirical observation, she points out that when communication and interaction are possible, a successful management of common-pool projects might be possible too (Ostrom 1998). She sees that communication and direct social interaction can bring about informal social institutions that restrict the individual use of the common-pool resources and thus substitute formal hierarchy as well as private property rights. From a comparison between successful and unsuccessful Commons, she concludes that such social institutions should be based on eight design principles that allow for dealing with the three main underlying problems: 1) the problem of supply, 2) the problem of credible commitment and 3) the problem of mutual monitoring. In various studies she outlines quite complex configurations of social factors that in her view need to be analysed to understand which rules individuals would establish and how they would improve both individual and collective benefits (Ostrom 1990, 2005, 2010). Based on this, she describes the following eight design principles as relevant for managing common-pool resources in practice. 1. The resource and its appropriators must be defined and thus limited. 2. There is a fit between the rules of the Commons and local conditions and a congruence between an individual's contribution and the yield they reach. 3. There are established arenas for collective decision-making and conflict resolution mechanisms. 4. There is monitoring of the resource and its extraction and the persons who monitor are accountable. 5. Sanctions are graded according to the offence and exclusion is only a minor sanction. 6. The commons are granted the right to organise themselves by the organisations surrounding them. 7. The right to organise themselves is guaranteed by the authorities. 8. Actions and responsibilities are embedded at various levels (Ostrom 2005: 258 f.; 1990: 88–102).

While these principles are given in a general description, they can be found in various forms in practice. This characterizes the whole approach presented by Elinor Ostrom. She uses abstract models but is not limited to them. She, like Weber, appreciates the analytical power of abstract models, like the ones of Garett Hardin, but also wants to rely on »theoretically informed empirical inquiries in both laboratory and field settings« (Ostrom 2005: 216) and aims in her comparative studies to explore »confounding variables that simultaneously affect performance« by relying on theory as well as on qualitative fieldwork, experiments or quantitative survey research (Ostrom 2005: 280).

At first glance, we see a clear, theoretically based research question. Upon giving it a second look, we see the concept of »polycentric governance systems« managed by eight design principles to inform the practice of common-pool resources based on empirical insights. From a methodological point of view, Ostrom alters her way of theorizing and moves into content-related analyses of how a social order can be built and stabilized. With a third look, we see that Ostrom offers explanations for the rise, functioning and reproduction of self-governance forms limited to certain conditions, which often allow for a change of motives. This is the reason why Ostrom's design principles make intuitive sense but lack clear sociological terms, concepts and theses.

4.3 How to move further by using concepts of New Economic Sociology

We can take Ostrom's approach as an invitation to go further and use the tools and concepts of New Economic Sociology for theorizing the rise and design of social rules that support a sustainable use of common goods such as water, air or soil. This is because Ostrom raises the question of how to organize and stabilize the use of pool-resources like Garrett Hardin but does not start from scratch. She assumes that self-governance systems can emerge to handle the issue that »individuals have continuously faced substantial incentives to behave opportunistically« (Ostrom 1990: 88 f.). She also notices some reasons for what social self-governance systems would need in terms of social conditions: 1) long-lasting social relations and the expectation to share a future that makes investments beneficial ; 2) extensive norms that define proper behaviour; 3) close relations and social interdependencies that make reputation a value asset, 4) similar assets, skills, knowledge or race. In general, she concludes that self-governance systems rely on rules that are brought about in long processes through collective-choice and using constitutional-choice rules. This means that common-pool systems have a history and use various social institutions to define and enforce operational rules that fit their context.

Referring to the social problem that a systematic overuse of common-pool resources is generated by the inherent incentive to behave egotistic and opportunistic, she asks for social rules and even norms that could restrict actions of individuals. She assumes there is pre-existing social communication, interaction as well as constitutional rules. She starts with context-related models as well as descriptions that allow the rise of a social order through various institutions and bring about successful forms of self-governance that vary in form and content. Thus, she describes the eight design principles not as conditional but rather as helpful for organizing common-pool resources. Furthermore, she offers only quite wide descriptions for how and why they work. Thus, her approach does not offer precise theses about how and why some institutions and rules work and support common-pool projects. She simply declares that they »affect incentives in such a way that appropriators will be willing to commit themselves to conform to operational rules devised in such systems, to monitor each other's conformance, and to replicate the CPR [common-pool resources; AM] institutions across generational boundaries« (Ostrom 1990: 91) This is quite similar to a functional definition as it does not explain what motivates the commitment of individuals to the operational rules.

This is the right point for collaboration since it brings the before-mentioned tool of action-based explanations into showing how to use sociological concepts to offer more precise theses for why particular design principles are important. By doing so, we reach a deeper understanding of the functioning and stabilization of CPR forms. We approach this by referring to the two ways and logics outlined above (see section 2).

4.3.1 General concepts and tools used and developed in New Economic Sociology

When we take the notion of working with a general action principle (see section 1), the models would focus on social factors from the viewpoint of the generalized actor. They would lift the veil of some of the design principles by exploring why they matter to this generalized actor. Moreover, we can strive for how they may even enforce each other in restricting individuals' actions and at the same time improve the benefits of collective action.

When we take the explored design principles: 1 (clear membership and boundaries), 3 (arenas for collective decision-making and conflict resolution mechanisms), 4 (monitoring of the resource and its extraction as well as persons who are accountable), and 5 (graded sanctions), the well-established and improved concepts and theories of social capital, based on rational choice theory help to explain potential effects and offer clear empirical theses about how and why particular design principles support social self-governance and also how and why the mentioned preconditions might bring about social order to reach common goals. In this framework, we could state that clearly defined boundaries and membership are the basic conditions for monitoring and sanctioning because they define to whom they can be applied in a legitimate manner; this is even more important when it comes to global issues. A clearly defined membership defines to whom the rules matter and distributes benefits exclusively to members. Exclusion from a group means exclusion from the benefits, therefore group membership is an efficient form of social sanctioning. In this case, monitoring and membership are the pre-conditions for a successful construction and application of a sanction system, which could involve reputation or organizational roles, to name a couple, as a way of rewarding members beyond and independently from the collective goal, which undergoes the incentives of opportunism. The higher the benefits and the more effective monitoring and sanctioning, the more individuals' actions can be shaped and limited. As a result, a respective social order is explained through social factors that, on the one hand, make opportunism and resource overuse costly, while, on the other hand, providing incentives beyond the common goals. Furthermore, we can add that arenas (as well as different forms of) for collective decision-making and conflict-solving institutions reduce control and information or knowledge and thus improve efficiency so that benefits increase. As a result, the withdrawal of membership and reputation function as costly sanctions on the individual level but are often the side-effect of social processes and come with low real costs.

As a research strategy, sociologists should focus on the opportunity structure to explain what social factors help to establish social self-governance forms and which social factors support the functioning and stabilization of collective projects. In a first step, according to Weber, this means to search for social institutions which balance interests and values. The research field, which would open up, reveals first relevant social factors that bring about social order and forms of social self-governance and, in the second step, why membership, sanctions, monitoring and forms of collective-decision making are important and what social scientists can say about how they should be designed in practical terms.

4.3.2 Content-related models and insights from New Economic Sociology

When we follow the idea of middle range theories, content-related models as well as mechanism models are used. In this case, we can either rely on Max Weber's methodology and ideal types, the concept of social embeddedness developed in New Economic Sociology or mechanism models to shed light on the rise of common-pool projects and the functioning of at least some principles.

Again, sociological concepts and models can be used to reveal the functioning and the effects of principles 1 (clear membership and boundaries), 2 (collective-choice arrangements), 4 (monitoring through responsible members) and 5 (conflict-solving). It is important to use models that show why egotism and opportunism are restricted, for example, through rules that are accepted as legitimate. Weber stated that when people accept rules because they believe them to be legitimate, either by being set in a formally correct way, based on tradition or charismatic characteristics of a leader, we can say that social order based on legal constitution, tradition or charisma of leaders will be accepted and followed by members and order is obeyed (Weber 1978). Thus, the central thesis says that when, due to the social background, the social order and the respective social institutions are seen as legitimate, people will basically follow the rule regardless of their interests. In this sense, the acceptance of the order as legitimate by the individuals explains its functioning and effects as well as the degree of rationality. The second principle can be read as an accepted basis for setting rules as well as systems of monitoring. When the order and the rules match local conditions, they raise efficiency by using knowledge and reducing the need for control. In this sense, the belief of individuals that a social order is legitimate is the basis for the functioning, efficiency and stabilization of self-governance forms. One thesis to be proven would say that when a common-pool system signals assigned legitimacy by its members, due to a match of operational rules with constitutional rules, it is related to society or the larger groups and thus can restrict opportunism and egotism in the project. In this case, the social context works through a change in motives and beliefs; or to say it in other words: short-term egotism is framed through societal ideas or beliefs. The relevance for practice would stem from the suggestion that collective action can be organised based on rules that are accepted as legitimate. Therefore, charismatic leaders, tradition as well as international rules are essential for the establishment and functioning of social self-governance.

On this second path, in the framework of the mechanism approach, we can look for mechanisms which could explore the functioning of the design principles. In this case, we need to check for constellations of changing desires, beliefs and/or opportunity structure that explain why actors stick to the collective aim and how opportunism and egotism can be limited. The simple default option in this case could be used to explore principles 4 (monitoring) and 5 (graduated sanctions), which then would mean that the monitoring and sanctioning of others would change the opportunity structure of the majority of members so that, in the next step, the legitimacy, commitment and, in the end, the efficiency of the collective action would improve. One social factor, which would bring in more realism but is not mentioned in the work of Elinor Ostrom, is a charismatic leader or members who could change the beliefs of others and could, by imitation, rise the social responsibility of individual as well as corporative actors (e.g. see Koos 2021). In this case, empirical studies could check to what degree monitoring and sanctions and charismatic members would improve collective action.

5 Conclusion

In this paper I suggest developing expanded theories, based on classical models while considering current challenges of our time such as sustainability. This way of theorizing aims to explore social problems and conceptualize them in precise terms and translate them into clear sociological research questions that support our understanding of the social world. In difference to other approaches (see for an overview Swedberg 2014), this research strategy builds on methodological and theoretical elements that exist, revisiting them, improving them and taking them a step further, rather than discarding everything and starting from ground zero. To this end, I have proposed to construct theories based on clear methodical rules to handle the ongoing tension between abstraction and realism.

I have rediscovered action-based explanations as a central tool of the social sciences, reinterpreted them, and shown how they make it possible to expand theories on the basis of clear methodological principles. I have presented this as a basis for sociologists to respond in particular to the demand to make explanations of social, economic and political phenomena more realistic by identifying social factors and taking them into account as relevant. Furthermore, I have outlined two main ways of undertaking such extensions from an epistemic perspective. To this end, I have specified their background and the resulting form of extension as well as the related effects for sociological theory formation. Thereby I could show that one way to expand action-based theories aims for exploring the effects of additional social factors in managing certain coordination issues through the lens of rational-intentional actors thus highlighting costs and benefits. The second way highlights the relevance of specific social constellations between context and individual, and how this supports or hinders problem-solving by framing motives and cognitive abilities.

In contrast to much of the research on sustainable behaviour, I propose not to assume a given prosocial orientation, but rather to examine the question of why a collective sustainable use of resources with regard to future generations is not easy to achieve. To this end, I refer to the concept of common goods and the outlined incentives for excessive use due to the interaction and time structure. Then I ask what social factors and underlying mechanisms can help to redefine this constellation. When interpreting a sustainable future referring to the foundational concept of common good and collective action, we can identify not only a systematic incentive for individual opportunism but moreover explore the chance for coordinating action in favour of this common good based on social factors and mechanisms. In exploring this research question, I have discovered alternative forms of cooperative coordination that differ from markets and hierarchies in that they are found in specific social contexts and are accompanied by particular social mechanisms that contribute to achieving common goals such as the more sustainable use of natural resources.

A central aspect of this article is the role of New Economic Sociology in applying action-based explanations and expanding them for analysing economic phenomena. In contrast to the highly abstract models of economic theory, New Economic Sociology emphasizes the social embeddedness of markets. In difference to classical sociological approaches, it illustrates the need for adding social relations, networks or institutions in sociological analyses and broaden the model of the role player. This approach has helped much to realize the limits of the highly abstract market model used in neoclassic theory and put the coordination effects of markets in question what opens the view to other coordination forms. Thus, I suggest applying the tools developed within new economic sociology, mainly action-based theories of middle range, to look for other coordination forms and related institutions that could support a more sustainable use of resources. In practice this would mean integrating cooperative forms of coordination into the research program and identifying which social institutions support the rise as well as the functioning of such social self-governance forms to gain a more sustainable economy. This result would be, in my view, an important contribution to the debate of why we so often observe the collective failure to manage the use of natural resources and what could help to strengthen alternative coordination forms. Economic sociologists can contribute to the overall question of what markets and hierarchies cannot do, and when cooperative forms help organizing collective actions in favour of a sustainable future. The idea is that economic sociologists can indeed use and develop their concepts and tools to explore those social factors that help to restrict and control commonly used resources such as water, soil and forests. Context-related models like those of given direct interaction and communication, commonly shared values, charismatic leaders, pre-existing constitutional rules or legitimacy can be used to explain, step by step, how cooperative coordination forms can be established and maintained or when they fail. In light of this, this manner of theorizing takes empirical contexts as the central basis for exploring preconditions and characteristics of specific alternative forms in order to initiate empirical studies. Economic sociology could open a new perspective on sustainability and define a new research field, in which various forms of self-governance become the central topic and object for empirical studies. Theoretical progress would come from exploring what social factors, constellations and institutions help build and stabilize cooperative coordination to deal with current challenges such as a more sustainable use of limited resources.

In addition to new economic sociologists, proponents of strict methodological individualism and/or the rational choice approach in sociology also developed a way of theorizing that aims to provide more realistic explanations, but at the same time follows the epistemic idea of efficient and economical theory formation by demonstrating the relevance of social factors from the perspective of a general model of action. This way uses the model of rational-intentional actors as an analytical starting point, in order to interpret social contexts from the viewpoint of a general actor. It can also take this model as a normative point of reference for outlining practical solutions that then emphasise benefits by coordinating actions. I have shown that broadening explanations means to provide a reason for why additional aspects of the social context are relevant for individuals when achieving their goals. Only in a second step, limited knowledge or cognitive abilities should be taken into account; what is especially important when prices are not the single dominant information or when there are no prices like in markets for single goods. Theoretical progress comes from exploring different social factors that support either autonomous individual action or collective action such as that in cooperative forms, in favour of a more sustainable use of natural resources. This line of thinking provides precise theses on why certain social factors, like strong-knit groups, support the rise and maintenance of cooperative coordination forms, even within the modern economy. The central insight is that alternative coordination forms, which depend on social institutions that restrict individual opportunism and profit-seeking, are in constant need of balancing common goals and private interests. The further task for sociologists would be to search for those factors that build up alternative forms in favour of a more sustainable use of resources successful by providing a variety of benefits for individuals.

Another new perspective and insight have been elaborated here by addressing common goals such as a more sustainable future through studying alternative coordination forms. This helps us to look at one of the most exciting puzzles, when debating coordination, namely that of the cycle of rise and fall of cooperative forms. This has been set as a clear research question here: The question of what enables individuals to reach common goals and what social institutions help them manage challenges in practice such as the balance between common and individual interests. In essence, we see that theorizing within this framework can be applied to different social issues, however it means translating them into clear research questions, using and then developing action-based theories so that one can explore what social factors become relevant and why. This would, in the end, open the way to practical, theory-based solutions that can be outlined and empirically studied.

While many sociologists over the last fifty years have abandoned the aim to revisit and develop theories, using concepts and orientation hypotheses for doing empirical studies, I highlight the idea of a systematic methodologically guided elaboration of classic models, by adding relevant social factors to offer new and deeper insights into the social world. To deal with current challenges such as organizing a more sustainable use of natural resources I suggest exploring those specific social factors that help to establish, promote and stabilize collective action in order to achieve sustainability and therefore provide more realistic explanations. Moreover, by exploring, theorizing and empirically studying the specific social factors and mechanisms that promote collective action in favour of common goals, helps to understand and solve the puzzle of alternative coordination forms. Thus, this result of being able to study, theorize and analyse alternative coordination forms is a central contribution to create a more sustainable world. The contribution of sociologists in this field is to work on and offer more precise theses about what coordination forms function why and what particular social factors support them. The form of theorizing presented here can help us do that.

References

Beckert, Jens (2024): How We Sold Our Future. The Failure to Fight Climate Change. Cambridge: Polity.

Bonß, Wolfgang/Dimbath, Oliver/Maurer, Andrea/Pelizäus, Helga & Schmid, Michael (2021): Gesellschaftstheorie. Eine Einführung. 2nd edition. Bielefeld: UTB transcript.

Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (2026): »Nachhaltigkeit«. https://www.bmz.de/de/service/lexikon/nachhaltigkeit-nachhaltige-entwicklung-14700 (last accessed: 15.2.2026).

Burt, Ronald S. (1992): Structural Holes. The Social Structure of Competition. Cambridge: Harvard University Press.

Burt, Ronald S. (2005): Brokerage and Closure. An Introduction to Social Capital. Oxford: Oxford University Press.

Coleman, James S. (1990): Foundations of Social Theory. Cambridge / MA and London: Belknap Press.

Diekmann, Andreas (2024): Klimakrise. Wege aus dem Dilemma. Baden-Baden: Nomos.

Durkheim, Émile (1938): The Rules of Sociological Method. New York: Free Press.

Elias, Norbert. (1978): The civilizing process. New York: Urizen Books.

Engels, Anita (2006): Market-Creation and Transnational Rule-Making: The Case of CO_2 Emissions Trading. In: Djelic, Marie-Laure / Sahlin-Andersson, Kerstin (Eds.): Transnational Governance: Institutional Dynamics of Regulation. Cambridge: Cambridge University Press, pp. 329–48.

Fourcade, Marion. (2007): Moral Views of Market Society. In: Annual Review of Sociology, 33, pp. 285–311.

Fligstein, Neil. (2015): What Kind of Re-Imagining Does Economic Sociology Need? In: Aspers, Patrik / Dodd, Nigel (Eds.): Re-imagining economic sociology. Oxford: Oxford University Press, pp. 301–315.

Granovetter, Mark (1990): The Old and the New Economic Sociology. A History and an Agenda. In Friedland, Roger / Robertson, Alexander F. (Eds.), Beyond the Marketplace. Rethinking Economy and Society. New York: Aldine de Gruyter, pp. 89–112.

Granovetter, Mark (1992): Problems of Explanation in Economic Sociology. In Nohria, Nitin / Eccles, Robert G. (Eds.): Networks and Organizations. Structure, Form, and Action. Boston: Harvard Business School Press, pp. 25–56.

Granovetter, Mark (1994): Business Gropus. In Smelser, Neil / Swedberg, Richard (Eds.), Handbook of Economic Sociology. Princeton: Princeton University Press, pp. 453–475.

Granovetter, Mark (2001): ›Coase Revisited: Business Groups in the Modern Economy‹. In: Granovetter, Mark / Swedberg, Richard (Eds.): The Sociology of Economic Life. 2nd edition. Boulder: Westview Press, pp. 93–130.

Granovetter, Mark (2011): The Impact of Social Structure on Economic Outcomes. In: Granovetter, Mark / Swedberg, Richard (Eds.): The Sociology of Economic Life. 3rd edition. Boulder: Westview Press, pp. 46–61.

Hardin, Garrett (1968): The Tragedy of the Commons. In: Science, 162(3859), pp. 1243–1248.

Hedström, Peter (2005): Dissecting the social. On the Principles of Analytical Sociology. Cambridge: Cambridge University Press.

Hedström, Peter / Swedberg, Richard (Eds.) (1998a): Social Mechanisms. An Analytical Approach to Social Theory. Cambridge: Cambridge University Press.

Hedström, Peter / Swedberg, Richard (1998b): Social mechanisms: An introductory essay. In: Hedström, Peter / Swedberg, Richard (Eds.): Social Mechanisms. An Analytical Approach to Social Theory. Cambridge: Cambridge University Press, pp. 1–31.

Koos, Sebastian (2021): Social Responsibility in the Economy. In: Maurer, Andrea (Ed.): New Perspectives on Resilience in Socio-Economic Spheres. Wiesbaden: VS Springer, pp. 289–302.

Little, Daniel (2025): Rethinking Analytical Sociology. Cheltenham: Routledge.

Maurer, Andrea (2016): In Search of the Golden Factor: Conceptualizing Resilience in the Framework of New Economic Sociology by Focusing ›Loyalty‹. In: Maurer, Andrea (Ed.): New Perspectives on Resilience in Socio-Economic Spheres. Wiesbaden: VS Springer, pp. 83–110.

Maurer, Andrea (2021a): Exploring Social Factors in the Economy: New Economic Sociology and The Mechanism Approach. In: Maurer, Andrea (Ed.): Handbook of Economic Sociology for the 21st Century. Cham: Springer Nature, pp. 47–61.

Maurer, Andrea (2021b): Handbook of Economic Sociology for the 21st Century. Cham: Springer Nature.

Maurer, Andrea. (2024a): The sociology of Max Weber: background, foundation and perspectives on the economy. In: Maurer, Andrea (Ed.): Max Weber's Sociological Thought on the Economy. Newcastle: Agenda Publishing, pp. 31–57.

Maurer, Andrea (Ed.) (2024b): Max Weber's Sociological Thought on the Economy. Newcastle: Agenda Publishing.

Maurer, Andrea (2025): Action-based explanations as a basis for the analysis and design of the social world. In: British Journal of Sociology, 76(1), pp. 173–179. https://doi.org/10.1111/1468-4446.13155

Merton, Robert K. (1967): On Theoretical Sociology. Five Essays, Old and New. New York: The Free Press.

Merton, Robert K. (1968): Social Theory and Social Structure. New York: Free Press.

Neckel, Sieghard/Degens, Philipp & Lenz, Sarah (Eds.). (2022): Kapitalismus und Nachhaltigkeit. Frankfurt/Main: Campus.

Olson, Mancur (1965): The Logic of Collective Action. Cambridge: Harvard University Press.

Ostrom, Elinor (1990): Governing the Commons. The Evolution of Institutions for Collective Action. Cambridge: Cambridge University Press.

Ostrom, Elinor (1998): A Behavioral Approach to the Rational Choice Theory of Collective Action. Presidential Address, American Political Science Association, 1997. American Political Science Review, 92(1), pp. 1–22.

Ostrom, Elinor (2000): Collective Action and the Evolution of Social Norms. In: Journal of Economic Perspectives, 14(3), pp. 137–58.

Ostrom, Elinor (2005): Understanding Institutional Diversity. Princeton: Princeton University Press.

Ostrom, Elinor (2010): Beyond Markets and States: Polycentric Governance of Complex Economic Systems. In: The American Economic Review, 100(3), pp. 641–672.

Popper, Karl (1935): Die Logik der Forschung. Vienna: Julius Springer.

Popitz, Heinrich (2017): Phenomena of Power. Authority, Domination, and Violence. German Orig. 1969/^{2}1992. New York: Columbia University Press.

Pinker, Steven (2018): Enlightenment Now. The Case For Reason, Science, Humanism, And Progress. New York: Viking.

Saxenian, AnnaLee (1994): Regional Advantage: Culture and Competition in Silicon Valley and Route 128. Cambridge: Harvard University Press.

Smelser, Neil/Swedberg, Richard (Eds) (1994): The Handbook of Economic Sociology. Princeton: Princeton University Press.

Stamm, Isabell/Discua Cruz, Allan L. & Cailluet, Ludovic (2019): Entrepreneurial Groups: Definition, Forms, and Historic Change. In: Historical Social Research, 44(4), pp. 7–41.

Swedberg, Richard (2003): Principles of Economic Sociology. Princeton: Princeton University Press.

Swedberg, Richard (2014): Theorizing in Social Science. The Context of Discovery. Stanford: Stanford University Press.

Udehn, Lars (2001): Methodological Individualism. Background, History and Meaning. London and New York: Routledge.

Uzzi, Brian (1996): The Sources and Consequences of Embeddedness for the Economic Performance of Organizations. The Network Effect. In: American Sociological Review, 61(4), pp. 674–698.

Uzzi, Brian (1997): Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness. In: Administrative Science Quarterly, 42, pp. 35–67.

Weber, Max (1978): Economy and Society. An Outline of Interpretive Sociology. German orig. 1920. Berkeley: University of California Press.

Weber, Max (2009): The Protestant Ethic And The Spirit Of Capitalism. New York and London: Norton.

Weber, Max (2011): Methodology of Social Sciences. London and New York: Routledge.

Whimster, Sam (2004): the essential Weber. London and New York: Routledge.

White, Harrison (1981): Where do markets come from? In: American Journal of Sociology, 87(3), pp. 517–47.

White, Harrison (2008): Identity & Control. How Social Formations Emerge. Princeton and Oxford: Princeton University Press.

Wright, Eric O. (2013): Transforming Capitalism through Real Utopias. In: American Sociological Review, 78(1), pp. 1–25.
Zelizer, Viviana. (2002): Enter Culture. In: Guillén, Mauro F./Collins, Randall/England, Paula & Meyer, Marshall W. (Eds.): The New Economic Sociology. Developments in an Emerging Field. New York: Russell Sage Foundation, pp. 101–125.
Zelizer, Viviana (2011): How culture shapes the economy. Princeton: Princeton University Press.

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Greening monies: Three trajectories for the socio-environmental transformation

Ester Barinaga

Abstract. Money is central to capitalism and its sustainability crises. This article argues that it is not money itself, but its internal design and governance – how it is created, distributed, and governed – that drives inequality, ecological degradation, and unsustainable growth. Yet, money's architecture is not fixed; it can be reimagined to foster fairer, greener economies.

Approaching money as a socio-technical assemblage, the article first traces how conventional money creation – dominated by private banks – fuels environmental and social harm. It then examines three innovative monetary initiatives – Turuta, Vilawatt, and Plastic Bank – each redesigning money to align economic activity with ecological care. These initiatives embody distinct organizing principles: the commons (Turuta), the state (Vilawatt), and the market (Plastic Bank). By embedding environmental stewardship into monetary rules, they reshape individual agency and collective action, offering pathways toward a just and sustainable future. In rethinking money, these experiments open new horizons for civilizational change.

Keywords: complementary currencies; socio-environmental transformation; monetary design; monetary governance; commons

1 Introduction

The scientific consensus is unequivocal: climate change and biodiversity loss are direct consequences of human activity and represent unprecedented challenges to the future of our civilisation. Among major international institutions, the consensus about the gravity of our environmental sustainability troubles is also clear. The World Bank positions climate change alongside poverty and inequality as one of the three ›defining issues of our age.‹ The International Monetary Fund characterises it as ›a major threat to long-term growth and prosperity,‹ while the United Nations declares it ›a global emergency that goes beyond national borders.‹ Meanwhile, international summits fall short in their agreed ambition to tackle climate change (Masood/Tollefsen 2021), governments fail to implement the measures and reach the targets they have committed themselves to

(UNEP 2022), and big corporations continue to engage in outright deliberate environmental crimes, greenwash practices at best, ecocide at worst (Nurse 2022).

Ongoing environmental collapse is but a manifestation of the extent to which the fate of the environment is interwoven to the way we organise society. Nature and society are but two sides of one phenomenon. In baptising our time the ›Anthropocene Epoch‹(Cruzen 2002; Autin 2016; McNeill/Engelke 2016), scholars recognise the constitutive relationship between human activity and the health of the planet. It is, too, a recognition that tackling the environmental collapse and restoring healthy ecosystems requires reorganising our economies. Indeed, to highlight the extent to which the dominant organisational form of our economies is at the root of our global environmental challenges, some scholars suggest the term ›Capitalocene‹ to refer to our present epoch (Malm 2016; Moore 2016).

Accordingly, scholars search for the root of our many environmental crises in the behaviour of various economic actors. It is corporate greed that exploits nature, oppresses workers, and transforms citizens into consumers (Chertkovskaya/Paulsson 2021). It is the consumerism of many individual consumers that drives extraction from nature beyond its capacity to regenerate (Redclift 2020). The solution under such analyses implies that monied capitalist behaviour must change. For such progressive scholars and policy makers, reform comes in the form of individual resistance: as eco-friendly consumers, we are to reduce our levels of material and energy consumption to minimise social and environmental damage (Jackson 2009; Hickel 2021); as oppressed workers, we are to organise work through trade unions or the cooperative ownership of the means of production (Cheney et al. 2014; Azzellini 2018; Souleles 2019); as inhabitants of the Earth, we must care for all livelihoods, biodiversity, and promote production processes that rely on waste and recycling instead of on newly extracted or non-local natural resources (Korhonen et al. 2018).

These suggestions amount to placing responsibility on individuals for a challenge that is systemic. The result is a behavioural paradox. In our individual roles of consumers, workers, and inhabitants of the Earth, we are asked to behave in a way that counters the larger socio-economic forces that steer us. As precarious workers competing for jobs, we are asked to collaborate. As impoverished inhabitants, we are asked to invest in solar panels. As consumers in a world of programmed obsolescence, we are asked to reduce consumption. It is as if we asked the puppet to move against the strings that handle it. Made impossible by structural design.

The paradox, and with it our inability to coordinate action that can move towards a more sustainable future, rests on a blind spot underlying such analyses and proposals. We may live in a thoroughly monetised society – one in which we work for money, need money to satisfy our needs and act in an environmentally responsible way only if it is monetarily advantageous – but money is absent from analyses of the Capitalocene and proposals for system transformation. Whether discussing ›green capitalism‹ or ›degrowth‹, whether calling for markets or the state to green the economy, whether standing on the right or the left of the ideological debate, money itself – its internal design and governance –, shines in its absence. Analyses of our sustainability predicaments and programmes to usher a green economy most often disregard the tight connection between the form of our conventional money system and the challenges we face.

Contrary to the mainstream economic view of money as neutral to the functioning of the economy, as a thing that merely serves to grease the wheels of commerce, post-Keynesian economists and economic sociologists are showing that the way money works shapes the behaviour of individual economic actors and, thereby, socio-economic dynamics. Following the mechanics through which money is created and introduced into the economy, these scholars show that the bulk of our money is created when private banks record newly created loans on their ledgers; that this accounting process consists on simultaneously marking up both the assets and liabilities sides of both the customer's and bank's ledgers; that, in other words, lending (credit-creation) precedes deposits (savings); and that, as a consequence, this very process embeds in the economy the priorities of those who can create money by originating credit over the needs of those who have to ask for it. That is, these scholars show that money consists of a network of accounting records of debt-credit relations (see for instance, Keen 2022; Gross/Siebenbrunner 2019; Werner 2014; Jakab/Kumhof 2018; Ingham 2004). There is hope in this insight because, if money is an accounting phenomenon, then that accounting process can be redesigned to foster fairer, greener and more equitable behaviour.

The article makes this argument in four steps. First, it conceptualises money as a sociotechnical assemblage with infrastructural powers. Building on this conception of money, in the second step, the article unfolds our conventional monetary system to trace our many un-sustainability troubles to the specific design of its money creation process. It follows that if we are to advance a sustainable economy, we need to redesign and reorganise money creation. Fortunately, a myriad of small-scale initiatives around the world are experimenting with novel ways of designing and organizing money. In the third step, the article investigates three of these initiatives which are intentionally designing their monies to usher a healthier relationship between nature and society. In each of the three complementary monies analysed – Vilawatt, Plastic Bank, and Turuta – we will be able to recognise a money that is both constituted by, and constituting of, an economy committed to the stewardship of nature. Each designed and governed along a distinct organising principle – the state, the market, the commons –, the three monetary assemblages transform actions of care for nature into monetary units and then organise the larger infrastructure so that those units can be transferred across persons and exchanged for goods and services. The internal monetary designs line-up actors, ideas, interests and materials so as to make a difference on the individual motive of action – from pure gain to care for nature – and thus on the capacity to organise collectively towards respecting and caring for nature. The final step of the argument compares the three organising principles that these initiatives prefigure for reorganizing money. While delineating three distinct trajectories to advance the socio-environmental transformation, the difference between their underlying organising principles does however differently shape their strategy to mobilise for global transformation with consequences for the quality of democracy and our possibility to advance civilisational change.

2 Follow the money

Some place the origins of money in faraway barter communities who, to overcome Jevons' problem of the ›double coincidence of wants,‹ agreed on a universal medium of exchange to use for trading. Others place money's origins in the ancient Mesopotamian city-states whose central authority issued it in the form of debt as a means to coerce people to produce surplus that a minority elite appropriated. The first define money as a commodity. The second conceive it as credit. The first see the inefficiency of barter as the problem money was invented to solve. The latter see the organisation of society to serve a non-laboring elite as the challenge money was set up for. The first see private actors interacting in a self-regulating market as the inventors of money. The second see the state as the originator of money. Interesting as such intellectual debates between market and state may be, they have trapped scholars within rigid dichotomies that restrict our thinking and inhibit our capacity to imagine new ways to organise money (for a detailed and historical description of these debates, see Ingham 2004).

Post-Keynesian economists are taking a more pragmatic approach to the study of money, one that focuses not on abstract definitions of what money is, but on keen observation of how money works. It places real-world financial practitioners centerstage to observe accounting records on balance sheets. This approach allows to follow how money is created, by whom, and for what; it follows payments and cash flows; it examines the symmetric recording of debits and credits; and, because doubly-entry bookkeeping practices leave traces in the balance sheets of both the payer and the receiver, it is able to see the interlocking of balance sheets that occurs as money is created and used. In studying the accounting records of loans and payments, this approach reveals money as a dynamic system of interconnected promises to pay, visualised as assets on the receiver's balance sheet and liabilities on the payer's. By examining money's internal mechanics, the ›money view‹ (Mehrling 2011) not only offers a way of reconciling the contradictions brought by abstract definitions and origin stories. It also unveils how the form in which money works shapes relations among economic actors, thereby organizing the economy.

These economists' »vast web of promises to pay« (Mehrling 2011: 10) is parallel to economic sociologist's understanding of money as a »social network of credit and debt« (Ingham 2004: 195), as »a process, not a thing, whose value derives from the dynamic, every-changing, and often contested social relations that sustain its circulation« (Dodd 2014: ix). In focusing on the constitution of money by debt-credit relationships, post-Keynesian economists and economic sociologists of money share a relational and dynamic understanding of money.

Money is seen as relational in at least two ways. The first, and most minimalist understanding of money relationally is the observation that money is created through the recording of debt-credit relationships in the issuer's and receiver's balance sheets. Issuer's of credit issue ›claims‹ – IOUs or credit – that their holders can use to claim – buy or pay – goods. Hence Simmel's definition of money as a »claim upon society« (Simmel 2004/[1900]). In the accounting records of issuer and user, the recording of those claims are mirrored by a symmetrical recording of the holder's promise to pay back. Hence Ingham's »money is a social relation« (Ingham 1996). It is the web of recorded debt-credit relationships that constitute the monetary system itself.

In a second, most maximalist approach, money's relationally goes beyond the human-to-human relationship between the creditor-issuer and the debtor-user, to include human-to-object and object-to-object relationships. Building on Science and Technology Studies (STS), this view conceives money as a sociotechnical arrangement with infrastructural effects (Barinaga 2024; Ingham 2004); the monetary system an assemblage of material objects (for instance, the technology that records), social practices (as that of double-entry bookkeeping), and normative ideals (creditors' interests are to be prioritised to those of debtors) that shape how money works. Technologies, social institutions and cultural ideas are woven together, constituting a particular form of money. That is, we shape money. And vice versa; as we use the money so constituted, it shapes how we relate towards each other and towards our surroundings.

There is hope in analyzing money through the stronger relational perspective. For understanding how money is constituted through cultural ideals and social institutions opens up the possibility to remake it by embedding different ideals and social institutions. This process invites the imagination of fairer and more sustainable economies and to shape money to those images. Not only monetary policy, but the very organisation of money – the design of its internal configuration and governance institutions that prioritise other interests – shapes how the economy is coordinated and society organised. In other words, money becomes a dynamic tool for forging new forms of association and of living together.

Post-Keynesian economists' advice to follow the money by tracing its trail through balance sheets is the methodological operationalisation of the sociological understanding of money as a relational phenomenon. The next section therefore turns to balance sheets and accounting records to reveal how our conventional monetary system is enmeshed in our many sustainability challenges.

3 The mechanics of money creation

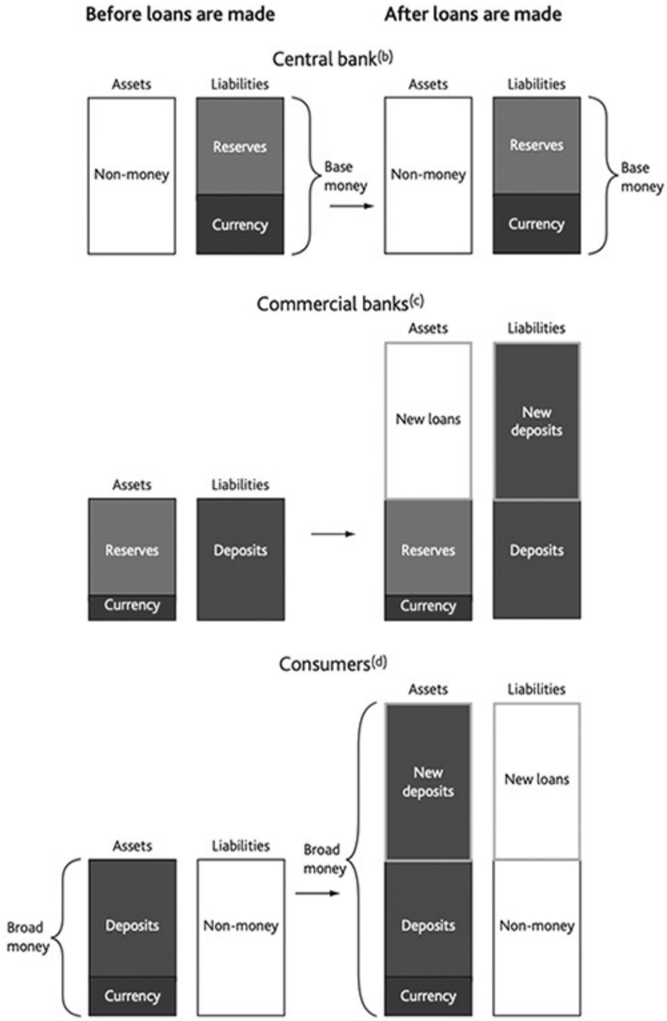
A rare admission was published twice in the Spring of 2014 by economists at the Bank of England. In the Bank's *Quarterly Bulletin*, McLeay et al. (2014) recognised that the majority of today's money was created by commercial banks when granting loans; that contrary to popular conceptions, banks were neither mere intermediaries between depositors and borrowers nor did they multiply central bank money; and that, in normal economic circumstances, central banks played a minimal role in determining the supply of money. Commercial banks, these economists conceded, created up to 97 % of the money circulating in the UK.

Apart from providing insight into the magnitude of the phenomenon, the Bank of England economists offered a clear explanation of how most of today's money is created: Banks create money in the form of new deposits recorded when making new loans, and this is done by expanding the two sides of the balance sheets – through double-entry accounting – of both the loan-taker and the loan-granting bank. More specifically, when a bank extends a new loan, it simultaneously marks up 1, the asset (the new deposit created by the new loan) and 2, liability (the new debt created by the new loan) on the borrower's balance sheet, as well as 3, the asset (the borrower's obligation to repay the loan) and 4, liability (the bank's commitment to give the borrower access to the new deposit) on the bank's balance sheet. The mentioned economists illustrate the money creation by an individual bank when making a new mortgage loan in Figure 1.

The article's simplified illustration of money creation mechanics helps us to unveil some common misconceptions concerning money. First, by extending a loan, deposits in the economy go up. This is not a money someone – the bank – has and lends to someone else. In the popular and textbook descriptions of money and banking, banks act as intermediaries merely lending the savings of others. That view describes money as existing first, savings (deposits) being possible then, and finally comes lending. The reality of money mechanics is however the reverse: loans create deposits, and money is thereby produced. As the economists from the Bank of England write «[m]oney creation in practice differs from some popular misconceptions – banks do not act simply as intermediaries, lending out deposits that savers place with them« and continue, «[w]henever a bank makes a loan, it simultaneously creates a matching deposit in the borrower's bank account, thereby creating new money« (McLeay et al. 2014: 1). That is, money is created the moment the bank and its customer enter a relation of debt and credit. More precisely, the

Figure 1: Money creation by the aggregate banking sector through granting loans; in McLeay et al. 2014: 3

Figure 1 Money creation by the aggregate banking sector making additional loans[(a)]



(a) Balance sheets are highly stylised for ease of exposition: the quantities of each type of money shown do not correspond to the quantities actually held on each sector's balance sheet.
(b) Central bank balance sheet only shows base money liabilities and the corresponding assets. In practice the central bank holds other non-money liabilities. Its non-monetary assets are mostly made up of government debt. Although that government debt is actually held by the Bank of England Asset Purchase Facility, so does not appear directly on the balance sheet.
(c) Commercial banks' balance sheets only show money assets and liabilities before any loans are made.
(d) Consumers represent the private sector of households and companies. Balance sheet only shows broad money assets and corresponding liabilities — real assets such as the house being transacted are not shown. Consumers' non-money liabilities include existing secured and unsecured loans.

majority of new *money is created through the accounting process of banks when recording a debt-credit relationship*.

A second common misconception is that the amount of loans a bank creates is limited by reserves or cash the bank holds. The article in the Bank of England's *Quarterly* also dismantles this conventional piece of knowledge: »reserves are, in normal times, supplied on demand by the Bank of England to commercial banks in exchange for other assets on their balance sheets. In no way does the aggregate *quantity* of reserves directly constrain the amount of bank lending or deposit creation« (McLeay et al. 2014: 3, italics in original).

A third feature of money mechanics is key to understand how the way money works shapes the economy. When the borrower uses the new deposit to pay for what it borrowed it for – say, a house –, payment to the seller is conducted by marking down the buyer's new deposits and up the seller's deposits by the same amount. The borrower's new loan remains unchanged – his / her obligation to repay to the bank equal to the deposits the seller now holds. In other words, once the sell is conducted, the seller's bank account records the credit side of the debt-credit relationship money was created through, the debit side still recorded in the borrower's balance sheet. Because money is created through a debt-credit relationship, *someone's credit is always somebody else's debt.* This is important to put centerstage as, we will see below, how creditors decide to use their money holdings will shape debtors (in)ability to repay their debts, pushing them to incur further debt and forcing the systemic need for continual economic growth.

4 The unsustainable consequences of money creation by private banks

Though the accounting mechanics of creating 97 % of our money may seem purely technical, socio-economic relations underpin those mechanics: Commercial bank money rests on debt-credit relationships individuals enter with banks. The creation of most of our money rests on individuals borrowing and *banks wanting to lend*. Herein, in banks' lending calculations, we find the source of many of our unsustainable predicaments.

While money creation through private bank lending has fueled unprecedented rates of innovation, allowed many to own their homes, and enabled small entrepreneurs to set up shop, the *reasoning private bankers follow when extending loans strengthens inequality and intensifies economic cycles*. First, through the form taken by bankers' trust in its customers. The debt-credit relationship anchoring the newly produced money (deposit) relies on the bank trusting the customer's ability to repay the loan that originated it. Or, in other words, on the bank's assessment of the customer's *creditworthiness*. The collateral of a house ensures creditworthiness; record of a well-working business; a work contract that proves stable income – scarce blessings in the current environment of work precarity, inequality and instability. Lacking these, the bank distrusts the prospective borrower's ability to repay her debt and thus denies the loan. Bank money is *dispensed as selectively as unequal is the economy*: It goes to those that already have wealth (in the form of assets to put as collateral) and stable income, further entrenching inequality.

The second aspect of banker's reasoning related to our sustainability predicament relates to the performativity of their future expectations. Deeming the economy will grow, bankers see in the collateralised house an asset which price will rise; in the entrepreneur's business plan they see the satisfaction of increasing consumer demand; in the work contract, sure employment. When hopeful of the future, bankers create money that strengthens consumer demand, secures employment and fuels price rises. And vice versa; when gloomy about the future, bankers reduce net lending. Falling consumer demand and rising unemployment worsen banks' creditworthiness assessments of its borrowers, eventually shrinking the money supply. In other words, *bankers' confidence* over the future steers money creation, glutting the sectors of the economy which potential they presume – the housing market – and starving those sectors which chances they doubt – prioritising, for instance, fossil fuel over green energy projects (Demetriades / Politsidis 2025). This has two direct implications for the real economy. One, bankers' expectations of future profits set the direction of the economy. Two, lending when confident and tightening when fearful, the spirits and partial calculations of financial actors seal the fate of the real economy (made of people of flesh and blood) into a pro-cyclical behaviour that intensifies booms and busts (Minsky 1986).

Inequality is further entrenched by the mechanics of interest charged on bank loans. When loans are granted, the borrower commits herself to pay back the amount borrowed (principal) *plus* interest. Unpaid interest compounds on the principal, repayment obligations thus growing exponentially. Compound interest multiplies debt through a mathematical principle independent of the ability of debtors to pay back those debts, thus contributing to siphon wealth from those that had to ask for money towards those that could create it. Debtors have to work harder and longer to attend their growing debts. »It is no accident«, political economist Ann Pettifor observes »that the deregulation of finance led to the deregulation of working hours, and the abolition of Sunday as a day of rest. Instead, longer hours or work – ›24/7‹ – with shops open 24 hours a day for 7 days a week – became an acceptable practice as the finance sector's values took precedence over other considerations« (Pettifor 2017:46).

In the exponential growth of debt that steams from compound interest some find the root of a monetary-driven imperative to constant economic growth (Kennedy 1995; Lietaer et al. 2012; Eisenstein 2011). To repay growing debt, businesses are coerced into continuous growth, with consequent intensification of natural extraction. The seas are over-fished; forests stripped; the soil degraded. Financing the productive economy through ever-growing debt squeezes nature's finite resources, effectively consuming the land that feeds us for the sake of honoring repayment to the world's creditors.

Others argue that the imperative to grow, that so erodes nature, comes not from interests themselves but from the hoarding of money. Because, as we saw, money is created through a debt-credit relationship, someone's credit is always somebody else's debt. It follows that what creditors do with the received interests and what savers do with their holdings affect debtors' capacity to repay their debts. For, when money accumulates and remains stagnant – in, for example, the form of personal savings accounts and corporate cash holdings – debtors experience increased difficulties to earn money with which to settle their debts. This leads individual debtors to work an extra shift, compels businesses to produce and sell more to pay interests or dividends to their creditors and locks the economy into an imperative to grow that traps humanity into incessant exploitation of nature (Arnsperger et al. 2021).

In sum, the creation of money through interest-bearing loans by commercial banks following a profit motive involves, in effect, no less a transformation than that of the human and natural substance of society into commodities to sell in labour and commodity markets. The dislocation caused by the money creation process ensnares society into behaviours that threaten to subjugate people and nature to the interests of finance. Our sustainability predicaments, that is, are rooted in the very mechanics of the process through which our economies create 97 % of their money. No need for moralistic critiques of corporate greed that exploits nature, oppresses workers and transforms citizens into consumers, nor for moralising discourses on the ignorance of the masses and the selfishness of individuals. The behaviour that leads to the exploitation of workers and nature can be traced to the internal mechanics and configuration of the monetary system.

So, how are other forms of money rethinking the money creation process? And, what can we learn from them that can help us re-articulate the economy-nature twosome?

5 Three monetary initiatives re-articulating nature into the economy

The answer to that question comes in many forms. A multiplicity of monetary initiatives around the world are rethinking money to connect its very creation to acts of care for nature, thereby re-constituting the economy-nature divide. This section investigates three such initiatives: Turuta, Vilawatt and Plastic Bank. Each of them is designed and governed to deal with their own specific environmental predicament – that is, the momentary configurations have been made greener. Conversely, each of them induces individuals and communities to care for their natural environment – in other words, these are monetary infrastructures that nudge individual agency and collective action towards green behaviour. Hence the double meaning intended in the article's title: money has been made green; it, in turn, greens the behaviour of its users.

5.1 Turuta

Vilanova i la Geltrú is a city of some 65,000 inhabitants located in the Mediterranean coast about 45 kilometres south of Barcelona. In July 2009, a group of citizens started to meet regularly to research and debate how they could organise collectively »to transition towards another model of society«. Over a year later, in October 2010, the citizen group launched the Turuta currency. They considered that a local complementary currency could be an effective instrument to »spur new actions«, mainly those that could »promote the production of local products and maximum energy savings, in a word: local resilience« (Casal Lodeiro 2015).

From its inception, this territorial and participatory commitment translated into efforts to »integrate the local currency fully in the local economy, people and culture« because, they argued, »real strength is in the people and in our cooperative capacity to do things, to transform our world, to promote the transition from the current exclusive, unsustainable and aggressive model to a model that is respectful of diversity, sustainable, and peaceful« (Casal Lodeiro 2015). They therefore opted for a monetary design that allowed for the articulation of local merchants, individual citizens and public authorities on equal terms and that assumed and imbued care for nature as *the* motive of action.

First, community land-recuperation projects are decided through direct participatory democracy. The General Assembly (GA) is open to all members and meets two or three times a year. Collectively, attendants to the GA deliberate on the viability of the land recuperation or other community projects members have proposed to the board prior to the assembly. Once the GA approves a project, an account is open to each project, nature thus holding an account. Different to individual member accounts which are not allowed to go below zero, nature-project accounts are allowed to go negative. Then, as members work recuperating the land, the time they spend is remunerated at ten turutas (Tt) per hour. These are recorded as credit into the individual account and as debit into the account of the particular land-recuperation project. That is, turutas are created through work to improve the environment, and are distributed to those carers of the local natural commons. Individuals can then spend their Turuta balances in associated local merchants as well as buy the produce of the land they have worked to recover. In other words, the rules governing the creation and distribution of turutas are modelled to promote caring human-nature relationships. What time and care individual commoners dedicate to regain nature in the local territory, is taken back in the form of herbs, fruits and vegetables. The state of the balance of that caring relationship is visualised in turutas. Turutas, that is, are accounting records tracing relationships of care between humans and nature, which can be cleared out once nature has healed and become productive. In this way, the Turuta monetary arrangement integrates nature with the environmental concerns of those who inhabit it.

Slowly but surely, through small-scale but organised continuous action, conducted by grassroots working groups of individuals integrated in the civic, commercial and administrative fabrics of the city, the Turuta has become a common sight in the urban landscape. Regular Turuta markets, stickers on the front doors of local merchants announcing acceptance of turutas and, in July 2014, the City Council's unanimous approval of the Turuta as the local currency of Vilanova i la Geltrú. The City's Environmental Department became another member, on an equal footing to that of some other 565 members, 66 of whom are »professional providers (businesses, commercial establishments, legal free-lancers, etc.)«.[1]

Merchants accepting turutas witness reaching a new customer profile. A baker who offers the possibility to pay 25 per cent of the price of their products in the local currency observes that

> »a very interesting new clientele is coming with values of ecology, cooperation and lovers of local products, all of which I share. This means that I have a lot of turutas, but I am already beginning to be able to exchange them for other products or services, and [...][these new clients] also mean I get [more] euros« (Casal Lodeiro 2015).

Further, merchants no longer need to worry about their perishable goods. By the end of the week, the fishmonger, whose fresh products rarely last through the weekend, began accepting tururas for the full price of her fish. Before long, she faced no issues with unsold produce and had to cap turuta payments to 50 per cent of the fish's price.

Despite the citizen group's advances in recovering and commoning urban land, they do not aspire to grow beyond a communal scale: »500 to 1,000 inhabitants at most, because relationships of proximity, knowledge, trust and, above all, participation are very important« (Casal Loreiro 2015). For members, it is active participation in the general assemblies, in the working groups, in the approved projects, that makes community and spurs individuals into environmental action. The local currency is a tool that incites, organises, visualises and remunerates participation. Growing too big risks diluting the sense of social obli-

1 Quotations without a source are taken from personal conversations with the author.

gation that moves individuals to action. »If there would be too many, we would create another [association], and another, and another. The Turuta would be the same for everyone, but the projects would be the responsibility of the respective [association]« (Casal Loreiro 2015). An organisational logic, that is centred in the everyday, in the small, in cooperation, in constant and slow action, in the capacity to adjust to the »dynamics and singularities of each territory« (Casal Loreiro 2015) – reflecting the organizing principle of the commons. Their motto: »We go slow because we are going far«. Their hope: »The sum of all these initiatives is what will lead to great change« (Casal Loreiro 2015).

5.2 Vilawatt

A city of some 67,000 inhabitants in just 20.4 square kilometres, Viladecans grew in the 1960s and 1970s to become a service city to the Catalan capital. Some of its most densely populated neighbourhoods were constructed with poor building techniques before the Spanish legislation on building insulation of 1976 and consume, as a result, above average levels of energy. Montserranina is one such neighbourhood, home to over 20,000 residents who, on average, earn an annual income 15 % lower than the city's average. As a result, they are likely to suffer from energy poverty. The Viladecans City Council conceived a local currency to usher citizens, merchants and public institutions into collaborating »to promote and ensure a secure, clean and efficient use of energy« in the city (UIA Vilawatt project). The name Vilawatt refers to both the public–private–citizen consortium behind the initiative and to the currency.

At the center of the Vilawatt monetary arrangement lies the City Council, with the authority to issue the currency and impose taxes, which payment it enables in the municipal currency. Issuance of the currency is firmly entwined to the energy savings goal that guides the initiative. It is then injected into circulation through public spending in energy producing and energy savings capacity. Finally, the local currency is withdrawn from circulation by the City accepting it in payment of municipal taxes, a design feature that makes the money more easily acceptable. That is, the origin and direction of this municipal currency goes from public investment to private spending to tax payments.

In Viladecans, the initial public investment was largely funded by the EU programme ›Urban Initiative Actions‹ and focused on reducing the energy consumption and on developing the energy production capacity of buildings. Windows, doors, fences and blinds were changed, internal and external insulation was installed, and solar panels were placed on rooftops. Citizen communities were created with the capacity to share energy with other neighbourhoods. An information office was set up to advise citizens on their contracts and bills, and bulk-buying of renewable energy was coordinated by the Vilawatt Consortium. Half of the energy savings thus accrued are then issued in Vilawatts and automatically transferred to citizens in the Consortium. The other half are reinvested in retrofitting other buildings through direct public investment or through subsidies to citizens. The over 3,500 citizens participating in the initiative use their Vilawatts at more than 400 local merchants associated to the network. These merchants, in turn, can spend the local complementary money on goods and services among themselves and, since 2022, use it to pay municipal taxes and services. In this way, Vilawatt's monetary architecture, by design, entangles the city's fight for climate neutrality and against energy poverty into the city's local economy.

Anchoring the issuance of Vilawatts on accomplished reduction in energy consumption and introducing them into circulation through rewards for, and further investment in, energy saving measures, the Vilawatt monetary architecture is decisively articulated to the energy-production needs of the territory. The monetary arrangement thus aligns the interests of individual citizens with the interests of nature. Beyond aligning interests, Vilawatts monetary units visualise energy savings. At the intersection of government bureaucracy and scientific objectivity, numbers – especially when they serve as rewards for the behaviour they visualise – act as catalysts for democratic debate (Porter 2020). In this case, they have sparked broad discussions among citizens and local businesses about everyone's role in the energy transition. These conversations have also highlighted the need to update skills and knowledge to advance a climate neutral future – a process of re-skilling that the Vilawatt Consortium supports through the creation of learning communities, training programmes to small businesses, and labour market interventions targetting the most vulnerable citizens. In this way Vilawatt not only aligns the interests of residents in Viladecans with those of the planet. Most importantly, in underscoring every single one's energy use, Vilawatt heightens self-reflection on one's energy practices in relation to those of one's neighbours – personal meditations that nudge the individual motive of action from monetary gain to care for the environment. To put it simply: a money integrated in energy savings cultivates, by design, awareness of our collective responsibility for the Earth that we all share.

To heighten the democratisation of energy-awareness and knowledge, the Vilawatt Consortium that governs the currency includes local merchants and citizen associations alongside the City Council. Because issuance and circulation of the local currency is grounded on energy savings accomplished by residents and local businesses, the energy behaviour of residents and local businesses plays a central role in the functioning of the Vilawatt monetary assemblage. This requires actors in the network to continuously listen to residents' and businesses' concerns, practices and situated knowledges in matters of energy consumption and production. In their dual role as providers of renewable energy and as energy users – or, in other words, as backers of the currency's issuance and as entry points for the circulation of the local money – the behavioural patterns of residents and merchants can determine the success of the city's climate neutrality efforts as well as the stability of the Vilawatt green money. To pay attention to their voices, doubts, challenges and learnings, the Vilawatt Consortium inserts merchants and residents in the very constitution of the Consortium itself. Collaboratively, local residents, local businesses and local elected public authorities decide on the development of Vilawatt, the currency and the energy projects charging it. Jordi Mazón, deputy mayor of Vildecans, argues that the governance model is »the greatest strength of Vilawatt Project … a well-established structure, the PPCP [public–private–citizen partnership] Consortium, which manages energy differently and is leading to the change of the energy model« (URBACT 2024).

The impact of an initiative based on the wide participation of citizens and local merchants is visible in the number of dwellings retrofitted (55), the aggregate energy savings in the city (about 30 %), the ubiquity of energy debate, which has become part of citizens' everyday life, the expansion of the project from the initial district to include the whole city, and the persistence of the initiative beyond the initial EU funding. The optimism generated is such that the year targeted for the city to achieve climate neutrality has moved from 2050 to 2030.

The focus of the environmental efforts of Viladecans City Council is squarely on their local territory; on their constituency. The climate challenge is however a global one. To organise for global transformation, those behind Vilawatt argue for the sum of many city-led efforts, a movement of cities working along similar lines. Jordi Mazón, deputy mayor for ecological transition and leader of the Vilawatt project, uses the metaphor of atoms to describe the worldwide movement of cities required to reach global climate neutrality:

> »The most amazing materials currently being developed – the ones that are changing fields such as urban planning, engineering, and measurement, transforming our way of life in a radical way – are based on nanoscience. … These innovative materials are based on manipulating atom by atom and putting them in optimal positions, to achieve a better material. The macroscopic properties of a material are the result of an optimal microscopic structure. … Likewise, small-scale innovation on a small municipal-scale must make it possible to build a better society and planet. Municipalities are what atoms are to materials, and politicians are the equivalent of nanoscience engineers. We aim to create a better planet by improving our municipalities« (URBACT 2024).

Vilawatt organises money along a state organisational principle where a central authority, though municipal, has the capacities to both issue and accept the complementary money in payment for the provision of a public good (energy savings). Although uncompromisingly local, such radical municipal initiatives envision global change by inspiring one municipality at a time. To this end, Viladecans has already started collaborating with the cities of Seraing (Belgium), Nagykanizsa (Hungary) and Trikala (Greece) to share knowledge, transfer practices and keep the momentum of an emerging municipality-driven city-based polycentric movement.

5.3 Plastic Bank

Waste-pickers are among the most stigmatised and vulnerable groups of society. They offer, nonetheless, an invaluable service to people and the Earth. In gathering plastic waste from river-banks and beaches and in bringing that waste to collection centres, waste-pickers discontinue the path of waste towards fields and valleys and onto rivers and oceans, and connect the trash with the recycling centre. In performing such disconnecting and connecting work, waste-pickers constitute the human component of waste-collection infrastructures (Simone 2004; Graham / McFarlane 2015). With an estimated 23 million metric tons of plastic entering the earth's oceans every year (Borrelle et al. 2020), and with low-to-middle-income countries in coastal areas being its main entry points, waste-pickers in these countries could play a key role in the sort of waste-recycling global circular economy international agencies and think-tanks call for. And yet, the value of their labour is seldom recognised, their waste economy remains largely informal, their living conditions undignified. Dissociated from the value of waste-pickers' stewardship of the environment, our monetary arrangement maintains the illusion of nature as separate from society.

David Katz saw the connections between the two and recognised that making it explicit, the nature–society relationship could help galvanise collective action. Finding peace where the sea meets the shore, over the years, Katz had »just seen it degrade. Every year it gets worse and worse. What we see on the water's edge is what the ocean spits back at us« (UN Global Compact 2016). A 3D printing seminar helped him appreciate the economic value of plastic and associate the plastic debris that litters beaches to the living conditions of the poor. If only there was a paradigmatic change in how we understood plastic, what today is one of our utmost environmental disasters could be transformed into an economic opportunity that mobilised the many towards its management. In Katz's own words, »if we could change how people see plastic, that will be part of the solution« (Katz 2019). Plastic Bank, the initiative David Katz set up in 2014, was born from the insight that such a cultural change could be catalysed by articulating plastic waste to major brands that use plastic in their production process through the mediation of waste-collectors, plastic disposal-and-recycling centres, and the provision of money, goods and services against collected waste. Plastic Bank was to organise a monetary assemblage to infrastructure a waste-based economy.

Plastic Bank's monetary configuration is designed in parallel to the circular waste economy it aims to instigate. In the regions where it works, the venture sets up a network of storefronts where collectors can bring the plastic and provides these stores with equipment to weigh, clean, shred, bale and ready the plastic for export. For the plastic waste they bring to the store, collectors are credited at »a consistent above-market rate« (Katz 2019) »in a blockchain-based banking application« (Katz 2017a). Collectors can then use their credit to acquire basic goods and services offered at the store or can keep the credit in the form of »blockchain-secured digital tokens« (Katz 2019). In essence, David Katz admits:

> »[W]e are a global chain of stores for the ultra, ultra poor, where everything in the store is available to be purchased using plastic garbage. And we offer school tuition, medical insurance, communications, power, sustainable cooking fuel, high efficiency stoves, sanitation, communication, and a whole product range, all available to be purchased using plastic garbage« (Katz 2017a).

In this way, the poor and vulnerable in the communities Plastic Bank works in are mobilised to clean beaches while earning »a stable, reliable source of income« (Katz 2017b).

Similar to the Turuta and Vilawatt monetary arrangements, by integrating care for the environment into the rules deciding the creation and distribution of monetary units, Plastic Bank directs individual self-interest to attend the needs of nature. Reportedly, Plastic Bank's monetisation of waste has mobilised individual agency and resulted, by August 2025, in 8.4 billion plastic bottles and over 168 million kg of plastic waste being stopped from ending up in the seas.

Alongside waste-collectors, Plastic Bank connects major companies using plastic in their products into the monetary arrangement by selling to them what it calls Social Plastic – plastic that »provides a social benefit: impoverished communities gain access to stable income, local economies are boosted, and life necessities, such as food, water, and electricity, become more accessible« (Katz 2017a). Plastic Bank's Social Plastic attaches the poor into its value, for which it can charge above market prices for the plastic waste it sells to brands – such as Marks & Spencers or Henkel »who've commissioned the use of social plastic in their products« (Katz 2017b). In this way, David Katz concludes, »we've created a globally recognisable and traceable currency that is waste« (Katz 2017a).

In placing plastic waste at the heart of the monetary arrangement undergirding a waste-based circular economy, Plastic Bank forces us to reconceptualise value and money. In Plastic Bank's monetary arrangement, value consists neither of the objective value assumed intrinsic to materials such as gold; nor does value consist of the subjective desire expressed at markets. Rather, value becomes a sociomaterial relational phenomenon that derives from connecting a variety of actors (collectors, stores and brands), recycling equipment (to weigh, clean, shred and bale plastic) and understandings (waste as a resource and waste-pickers as stewards of the environment) to an accounting system that visualises relations of value. Money becomes the configuration of actors, equipment and understandings; the actor-network that enables the performance of waste's value, that visualises it through figures, and with which collectors are remunerated for their infrastructuring work. Collectors accept the credit (in the form of Plastic Bank units) recorded in the blockchain application in payment for the waste they have collected because the totality of the monetary assemblage allows for the circulation of the value represented by those units. Neither the credit nor the monetary units are value in themselves. Collectors accept the credit-units because they can move through a network of actors that transforms them into goods and services they need. With a more visual metaphor, David Katz compares waste to diamonds to highlight the way value hinges on the particular configuration of many heterogeneous components. »It's not different to walking over acres of diamonds. If Lise [a waste-collector] was to walk over acres of diamonds but if there was no store, no bank, no way to use the diamonds, no way to exchange them, they'll be worthless too« (Katz 2017b).

Plastic Bank's efforts to organise for wider global change is through the creation of a market for the end product of collectors' efforts. As David Katz writes: «[O]ur ambition is to let the open market determine the price of Social Plastic, while today we have a fixed price. It will be a great success if Social Plastic can become cheaper than virgin plastic« (Katz 2019). Because in Plastic Bank's monetary arrangement the price of plastic waste collected is the remuneration paid to collectors for their labour, for their work caring for the beaches, a market for Social Plastic indirectly sells collectors' labour to major brands. The fairness and sustainability of such a scaling up strategy is subject to the mechanism determining the price of collectors' labour of care. When monetary arrangements move in the direction of subsuming labour to the market, workers, and their families, are forced to bear the labour costs that are no longer rewarded by the lower price. They risk being forced to get by with reduced remuneration for the same amount of labour. Lower prices satisfy the interests of big brands without necessarily attending to the needs of the poor – an organising logic, that is, that prioritises the demands of capital over those of an informal unprotected and unorganised global proletariat. While the alliance between corporate capital and entrepreneurs with a liberal humanist agenda is a requirement for articulating diverse actors into a global fight for nature, we need to be attentive to the way such an alliance, if organised through the ideal of a self-regulating market mechanism, organises bare life in the poor coastal areas of the planet.

6 Articulating nature into the money assemblage

Naming the present epoch the ›Capitalocene‹ is a recognition of the interdependent fate of nature and the organisational form of our economies. Mainstream economists may build their models on the assumption of a nature divorced from the economy, they may regard the environmental consequences of the market-based organisation of societies as mere ›externalities‹ to be ignored. And yet, whatever economic models depict and predict, nature speaks back at them with apocalyptic force. The land has been impoverished, the air polluted, the waters made poisonous. Droughts, heatwaves, precipitations, hurricanes have intensified. Life on earth – the life of plants, animals and us – is threatened with extinction thanks to the very form we have organised ourselves. As we become increasingly aware of the need to build new civilisational forms that unhesitatingly put the economy at the service of nature, this article has argued for a new starting point by focusing on money itself.

Building on an understanding of money as a sociotechnical assemblage infrastructuring the economy, the article first examines our conventional money to elicit how its creation – primarily through private banks issuing interest-bearing loans – lies at the root of many sustainability challenges. It is not so much how much money one has or has not, but the actual process of creating money that is the source of pervasive inequality and extraction from nature. There is hope in this insight as locating the root of our challenges in how our conventional money is designed and works opens up the possibility to reclaim, redesign and reorganise money so as to attend to the needs of people and planet. In this line of thinking, many small initiatives around the world are experimenting with novel ways of organising the economy–nature twosome by reorganizing money. In order to articulate the economy into nature itself, in an attempt to mobilise individuals to take care of nature, these new monies are designed to reshape individual agency, to move people into environmentally caring trajectories of action.

The article then set out to unfold three complementary currencies organised to advance green economies. In attempting this, the issuance and distribution rules of all three currencies are linked directly to acts of care for nature. In Turuta, monetary units are issued to pay for the labour involved in cleaning, preparing and cultivating previously abandoned and dilapidated land. In Vilawatt, the monetary units are issued to subsidise citizens' investments in lowering their homes' energy consumption as well as rewarding accomplished energy savings. In Plastic Bank, monetary units are issued and distributed in exchange for plastic waste collected and brought to Plastic Bank storefronts. As these monies remunerate land renewal, energy savings and plastic waste collection, individuals are moved to renew land, save energy and clean the beaches of plastic waste. As these monetary configurations transform a dilapidated plot into productive land, decrease energy use, and turn collected plastic into transferable value, individuals are guided towards caring for those specific dimensions of the local habitat. In short, the monetary rules governing the creation and distribution of money fundamentally shape how people act towards the environment around them. By directly linking the creation and injection of money to the stewardship of nature, these monies mobilise people to actively care for nature. Anchoring the supply and initial distribution of money in acts of natural care is the first step to put the economy at the service of nature.

Not only do monetary rules matter. Who gets to decide those rules also matters (Martin 2014). In governing their moneys, Turuta, Vilawat, and Plastic Bank do also offer different suggestions. Organised along community lines, the governing institution of the Turuta is the General Assembly that meets every two-three months. That is, Turuta relies on direct participation by all members in deliberating and deciding community projects through which to issue the currency. It follows a logic of the commons that intentionally remains small and local in scale to foster relationships of proximity. In contrast, Vilawatt materialises a state-led logic, where a central authority – even if a private-public-citizen partnership –, decides on monetary issuance, injection and withdrawal. Finally, in Plastic Bank decisions are made by the social entrepreneur attending the earnings it gets through the Social Plastic market. It follows a market-logic that aims at global reach yet deprives those doing the work of caring for nature from all monetary decision-power. The rules of Turutas are co-designed by its users from before their implementation – ex-ante direct participatory democracy. In Vilawatt, citizens elect those that decide and re-elect them, or not, every four years – representative democracy as we know it. In Plastic Bank, the social entrepreneur decides and implements before users are even rewarded for their work, skewing the system to attend first the interests of the entrepreneur. In both Turuta and Vilawatt, money and the economy are subordinated to democratic politics; direct and continuous democracy the first; indirect and intermittent democracy the latter. In Social Plastic, democracy and the economy are subordinated to the market organisational principle espoused by the entrepreneur and coded into the monetary algorithm.

In other words, tracing money has become critically important not only because instability is threatening our productive capacity and rising inequality is threatening the social fabric of our democracies. More relevant to those aiming to remake money for a more sustainable and inclusive future, understanding the relationship between how our conventional money works and our unsustainable predicaments can help us set the frame for different forms of money in at least two ways. The first concerns the design of money; to steer away from the type of monetary arrangements underpinning our multidimensional crisis. The second concerns the governance of money; to ground the new monies on the needs, priorities, and voices of the communities they are to serve. That is, in following the genesis, workings, and governance of various monies, the article aimed to set the stage for the possibility to reclaim, reimagine and reorganise money.

The next step in the work of advancing civilisational change seems still in need of resolution: how to mobilise widely towards socio-economic change, how to go beyond the smaller local community, how to organise collective action at the global scale? Following a community-based organisational principle of collective action, those behind Turuta call for many small communities of citizens organising locally. The focus is on instigating an individual sense of responsibility towards each other and towards one's territory. Vilawatt's suggested answer similarly focuses on the territory and similarly places the locus of organisational efforts at the local level; in Vilawatt, however, the driving local actors are not organised citizen communities but elected municipal councils. As in Turuta, Vilawatt proposes global transformation needs to happen through the mobilisation of many localities each adapting their efforts to their own priorities and circumstances. Plastic Bank's answer is instead global from the outset. Herein resides the main strategic difference between the three monies. In Plastic Bank the organisation of collective action requires connecting actors that already have a global reach – international corporations – to the many hyper-local efforts of waste-collectors through the creation of a global commodity market – a global market for social plastic, a material produced with human labour. While its price remains fixed and higher than other forms of plastic, there is little risk for the deterioration of the living conditions of the collectors. But if the global price of social plastic is allowed to vary alongside the supply and demand of the material, the globalisation of Plastic Bank's prototyped waste-based-economy risks benefiting big corporations at the expense of vulnerable waste-pickers and their families. To remain inclusive, fair and resilient, we therefore cannot leave the organisation of global collective efforts in the hands of profit-seeking capitalists nor subordinate the income of waste-pickers to the self-regulating price mechanism of free markets. And yet, the dilemma remains. If we are to reach globally, it may be too slow to wait for communities and cities around the world to take action. In the face of global climate and environmental catastrophe, our very survival hinges on tight global cooperation between dense clusters of local action. How can local action and global cooperation be catalysed and organised simultaneously?

The answer advanced in this article is that organising glocally can effectively be done by rethinking and remaking money. It is through the reconstitution of money that we may be able to start a transformation of our civilisation's relation to nature. Indeed, the actors behind the three complementary monies seen in the article are leading the creative efforts by working on intentionally articulating society to nature. Their strength lies in having understood the entangled relationship between monetary configurations and civilisational forms. Their canniness resides in having seen that it is impossible to distinguish nature from society and society from the form of that society's money. A lay-person may think she is holding a »funny money« in her hands, whereas in fact she is holding a small-scale infrastructural prototype of a new civilisational form, a model that directs individual agency towards caring for nature in order to enable the organisation of collective action towards changing the way the economy and nature interact. As soon as we unfold the configurational design of the monetary infrastructure behind the money-unit we hold in our hand, we are able to identify all the actors, cultural ideas, interests and material artefacts that have been lined up so as to incite us to get hold of that money-unit. Money, once more, is framed by human design, and pre-formats individual action. If we are serious about addressing our environmental predicament, it is therefore imperative to realign money to cater for the health of nature.

References

Arnsperger, Christian/Bendell, Jem/Slater, Matthew (2021): »Monetary Adaptation to Planetary Emergency: Addressing the Monetary Growth Imperative«. University of Cumbria, UK: Institute for Leadership and Sustainability.

Autin, Whitney J. (2016): Multiple dichotomies of the Anthropocene. *The Anthropocene Review* 3(3), pp. 218–230.

Azzellini, Dario (2018): »Labour as a Commons: The Example of Worker- Recuperated Companies«. In: *Critical Sociology* 44(4-5), pp. 763–776.

Barinaga Martin, Ester (2024): *Remaking Money for a Sustainable Future: Money Commons*. Bristol: Bristol University Press.

Borrelle, Stephanie B./Ringma, Jeremy/Law, Kara Lavender/Nonnahan, Cole C./Lebreton, Laurent/McGivern, Alexix/Murphy, Erin/Jambeck, Jenna/Leonard, George H./Rochman, Chelsea M. (2020): »Predicted growth in plastic waste exceeds efforts to mitigate plastic pollution«. In: *Science* 369(6510), pp. 1515–1518.

Casal Lodeiro, Manuel (2015): »Transició VNG y la ›turuta‹: hacia una sociedad diversa, sostenible y pacífica«. In: *15/15/15*: https://www.15-15-15.org/webzine/2015/09/18/transicio-vng-y-la-turuta-hacia-una-sociedad-diversa-sostenible-y-pacifica/ (last access: 16.03.2026)

Cheney, George/Santa Cruz, Iñaki/Peredo, Ana María/Nazareno, Elías (2014): »Worker cooperatives as an organizational alternative: Challenges, achievements and promise in business governance and ownership«. In: *Organization* 21(5), pp. 591–603.

Chertkovskaya, Ekaterina/Paulsson, Alexander (2021): »Countering corporate violence: Degrowth, ecosocialism and organising beyond the destructive forces of capitalism«. In: *Organization* 28(3), pp. 405–425.

Cruzen, Paul J. (2002): »Geology of mankind«. In: *Nature* 415:23, n.p.

Demetriades, Elias/Politsidis, Panagiotis N. (2025): »Bank lending to fossil fuel firms«. In: *Journal of Financial Stability* 76, 101349, n.p.

Dodd, Nigel (2014): *The Social Life of Money*. Prinston & Oxford: Princeton University Press.

Eisenstein, Charles (2011): *Sacred Economics: Money, Gift & Society in the Age of Transition*. Berkeley, California: North Atlantic Books.

Gong, Yu/Wang, Yang/Frei, Regina/Wang, Bill/Zhao, Changping (2022): »Blockchain application in circular marine plastic debris management«. In: *Industrial Marketing Management* 102, pp. 164–176.

Graham, Stephen/McFarlane, Colin (2015): *Infrastructural Lives: Urban Infrastructure in Context*. New York: Routledge.

Gross, Marco/Siebenbrunner, Christoph (2019): »Money Creation in Fiat and Digital Currency Systems«. In: *IMF Working Paper*.

Hickel, Jason (2021): *Less is More: How Degrowth Will Save the World*. London: Penguin Random House.

Ingham, Geoffrey (2004): *The Nature of Money*. Cambridge: Polity Press.

Ingham, Geoffrey (1996): »Money is a Social Relation«. In: *Review of Social Economy* 54(4), pp. 507–529.

Jakab, Zoltan/Kumhof, Michael (2018): »Banks are not intermediaries of loanable funds – facts, theory and evidence«. In: Bank of England: Staff Working Paper No. 761.

Jackson, Tim (2009): *Prosperity Without Growth*. London: Earthscan.
Katz, David (2019): »Plastic Bank: Launching Social Plastic revolution«. In: *Field Actions Science Reports* 19, pp. 96–99.
Katz, David (2017a): »Social Plastic is a new currency«. TEDx Talk. https://www.youtube.com/watch?v=tnndie-ijKs (last access: 16.03.2026)
Katz, David (2017b): The surprising solution to ocean plastic. TED Talk. https://www.youtube.com/watch?v=mT4Qbp89nIQ (last access: 16.03.2026).
Keen, Steve (2022): *The New Economics: A Manifesto*. Cambridge: Polity Press.
Kennedy, Margrit (1995): *Interest and Inflation Free Money: Creating an Exchange Medium That Works for Everybody and Protects the Earth*. Inbook.
Korhonen, Journi / Honkasalo, Antero / Seppälä, Jyri (2018): »Circular Economy: The Concept and its Limitations«. In: *Ecological Economics* 143, pp. 37–46.
Lietaer, Bernard / Arnsperger, Christian / Goerner, Sally / Brunnhuber, Stefan (2012): *Money and Sustainability: The Missing Link*. Axminster: Triarchy Press.
McNeill, John Robert / Engelke, Peter (2016): *The Great Acceleration: An Environmental History of the Anthropocene Since 1945*. Cambridge: Harvard University Press.
Malm, Andreas (2016): *Fossil capital: The rise of steam power and the roots of global warming*. London: Verso.
Martin, Felix (2014): *Money: The Unauthorised biography*. London: Vintage Books.
Masood, Ehsan / Tollefsen, Jeff (2021): »›COP26 hasn't solved the problem‹: Scientists react to UN climate deal«. In: *Nature* 599, pp. 355–356.
McLeay, Michael / Radia, Amar / Thomas, Ryland (2014): »Money creation in the modern economy«. In: *Quarterly Bulletin*, Bank of England.
Mehrling, Perry (2011): *The New Lombard Street, How the Fed Became the Dealer of Last Resort*. Princeton: Princeton Press.
Minsky, Hyman (1986): *Stabilizing an Unstable Economy*. New Haven: Washington University Press.
Moore, Jason W. (2016): *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*. Oakland: Kairos.
Nurse, Angus (2022): *Cleaning Up Greenwash: Corporate Environmental Crime and the Crisis of Capitalism*. Lanham: Lexington Books.
Pettifor, Ann (2017): *The Production of Money: How to break the power of bankers*. London: Verso Books.
Porter, Theodore M. (2020): »Democracy counts: On sacred and debased numbers«. In: *Princeton University Press Ideas*. https://press.princeton.edu/ideas/democracy-counts-on-sacred-and-debased-numbers (last access: 16.03.2026).
Redclift, Michael (2020): *Wasted: counting the costs of global consumption*. Abingdon: Routledge.
Simmel, Georg (2004/[1900]): *The Philosophy of Money*. Abingdon: Routledge.
Simone, AbdouMaliq (2004): »People as infrastructure: Intersecting fragments in Johannesburg«. In: *Public Culture* 16(3), pp. 407–429.
Souleles, Daniel (2019): »Another Workplace is Possible: Learning to own and changing subjectivities in American employee owned companies«. In: *Critique of Anthropology* 40(1), pp. 28–48.
UIA Vilawatt project. https://uia.urban-initiative.eu/en/uia-cities/viladecans (last access: 16.03.2026)
UNEP (2022): *The Heat is On: A World of Climate Promises Not Yet Delivered*. Emissions Gap Report 2021.
UN Global Compact (2016): »Banking what the sea spits back«. In: *Break Through News*. http://breakthrough.unglobalcompact.org/briefs/plastic-bank-sea-spits-back-david-katz-shaun-frankson/ (last access:16.03.2026)
URBACT (2024): »Cities powering up to fight climate change«. https://urbact.eu/networks/vilawatt/innovative-governance-energy#:~:text=Jordi%20Maz%C3%B3n%2C%20Deputy%20Mayor%20for%20ecological%20transition,the%20path%20to%20be%20carbon%2Dneutral%20by%202050 %22. (last access: 16.03.2026)

Werner, Richard A. (2014): »How do banks create money, and why can other firms not do the same? An explanation for the coexistence of lending and deposit-taking«. In: *International Review of Financial Analysis 36*, pp.71-77.

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Designing monetary infrastructures for the common good: Reciprocity and sustainability in parallel currencies

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Abstract. This article examines the hybrid nature of money as an institutional arrangement co-produced by public and private actors, focusing on how monetary design shapes the organisation of value, labour and access to income. It situates monetary reform within a relational and regenerative conception of sustainability, understood as an institutional property of how societies organise economic coordination over time within biophysical constraints.

The article critically assesses the limitations of existing proposals for monetary change, their conceptual foundations and the analytical gaps that limit their capacity to fulfil the economic and institutional functions conventionally attributed to money. It then advances the design of a complementary currency, Twin Money (TMy), intended to monetise socially recognised forms of voluntary and care-based labour through state-certified contributions.

Drawing on reciprocity as a principle of economic integration, the proposal redefines money's core functions by linking monetary issuance to socially valuable activity rather than to market exchange or financial debt. In doing so, it conceptualises monetary design as a sustainability-relevant institutional choice. TMy is presented as a complementary mechanism capable of expanding access to income, strengthening social inclusion and contributing to more sustainable forms of economic coordination.

Keywords: money; complementary currencies; reciprocity; economic sociology; social inclusion

1 Introduction. A monetary infrastructure for labour inclusion

This article examines the potential of innovative monetary institutional designs to foster economic and social inclusion. It advances a proposal for a parallel currency system, Twin Money (TMy), designed to operate alongside legal tender while following a distinct institutional logic. Unlike conventional money, TMy links monetary issuance to socially recognised forms of labour rather than to market exchange or financial credit. By enabling the recognition and remuneration of essential yet unpaid activities, such as care, community work and environmental stewardship which sustain collective well-being and socio-ecological systems, the model addresses labour market exclusion and economic insecurity through monetary design rather than through ex post redistribution. The proposal is grounded in a critical examination of current debates on monetary governance and control, incorporating insights from justice theory (White 2000, 2003) and income policy debates, particularly within the European context.

To support this proposal, the article examines key theoretical foundations and challenges embedded in mainstream monetary theory and contemporary reform initiatives. It analyses the principal debates on the nature of money, contrasting commodity-based approaches and their economistic legacy with institutional perspectives that conceptualise money as a social relation of credit and debt, with particular reference to Ingham (2004, 2018, 2020, 2025). It also considers how monetary value is constituted and stabilised in contemporary market economies. These debates are presented concisely due to space constraints.

The article then develops a section on money and sustainability. Drawing on environmental sociology and socio-ecological systems research (Catton / Dunlap 1980; Folke 2006; Tàbara 2023), sustainability is understood from a relational and regenerative perspective, as an institutional property of how societies organise value, production and livelihoods over time within biophysical constraints. From this perspective, monetary institutions are not external to sustainability concerns; they structure how economic value is created, how access to income is organised and how long-term socio-ecological viability is enabled or constrained.

In addition, the article examines emerging monetary models and reform proposals that remain under-analysed in socio-economic scholarship. The objective is to assess their conceptual foundations and to identify the analytical gaps and structural constraints that limit their capacity to fulfil the economic and institutional functions conventionally attributed to money.

Methodologically, the article advances a theoretical-conceptual contribution grounded in an integrative review of the literature on money's nature, monetary governance and reform proposals. This conceptual analysis is complemented by qualitative fieldwork consisting of nine semi-structured interviews conducted in the United Kingdom between 2018 and 2019 with representatives of alternative finance initiatives. The interviews, which lasted approximately one hour, and were conducted both face to face and remotely, served an exploratory and informational purpose. They were not designed to provide a systematic mapping of the universe of alternative monetary arrangements, nor to ensure representativeness, but to access key informants selected on pragmatic grounds, namely their direct involvement in monetary innovation and their privileged knowledge of existing reform initiatives.

The empirical material is therefore used in an illustrative and heuristic manner, helping to identify recurrent design principles, practical constraints and shared problem framings within the field of monetary reform. It situates the proposed Twin Money model within the broader landscape of monetary innovation, rather than empirically testing or validating the model itself.

2 Money as a Contested Institution

This section presents the main socio-economic perspectives on money, highlighting the persistent reductionism in academic literature, where the dominant conception treats money as a »commodity«, whether physical or virtual, used for economic exchange. Building on the limitations of this view, the discussion develops the concept of money as a social relation of credit / debt, thereby incorporating social and political dimensions into its definition and operation (Ingham 2025). On this basis, money can be analysed as a hierarchical system of monetary relations in which different forms of money occupy distinct positions of authority and legitimacy, from state-issued currency at the top, to informal private credit relations at the bottom.

Conceptualising money as a debt relation provides the analytical foundation for the arguments developed in the following sections. It allows the article to critically examine the limits of existing alternative monetary paradigms and to situate the institutional design of the proposed complementary currency within a broader understanding of money as a socially organised system of monetary relations.

2.1 Monetary paradigms: Analysing money's role in socioeconomic thought

The recent history of money reveals a paradox: the coexistence of two fundamentally contrasting paradigms (Ingham 2004, 2020; Schumpeter 1994/[1954]; Smithin 2003). One is rooted in the classical commodity-money approach, while the other is based on the social construction of value and the concept of fiat money.

The commodity view sees money as a medium of payment backed by something intrinsically valuable, for instance, gold, a cryptographic algorithm, or a private debt contract. This view remains dominant in mainstream economics and is frequently echoed in public discourse by ministers of finance and central bankers, who often portray money as a quantifiable object under technical control (Braun 2016). Ironically, this same notion underlies many dystopian narratives about the future of money, particularly those involving private cryptocurrencies (Dodd 2014). In such cases, what appear to be cutting-edge monetary innovations are, in fact, rooted in outdated assumptions about money's essence, mechanisms, and potential for societal transformation.

In contrast, less dominant perspectives in economic theory conceive of money as a social institution embedded in networks of relationships and material exchanges that determine its function and value in an open credit economy (Ingham 2020, 2025). Influenced by Keynes and earlier thinkers such as Knapp and Innes, these views regard money as circulating debt, created primarily through the lending activities of central and commercial banks. These alternative paradigms often gain prominence during financial crises, when monetary issues challenge the foundations of orthodox economic thinking (Carruthers / Babb 1996)

Rather than reflecting a genuine academic or political controversy between commodity-money and debt-money paradigms, it would be more accurate to say that social science as a whole has overwhelmingly favoured the former. The prevailing conception casts money as a neutral commodity that efficiently performs a series of technical functions. This view erases any trace of the social practices and agreements that define money's nature as a social institution, reducing it to a mere object circulating at varying speeds and in fluctuating quantities.

This dominant paradigm, present in both classical and contemporary contributions to sociology and economics, has profoundly shaped understandings of economic action, particularly through the microfoundational assumptions of neoclassical economics that have been widely debated in recent monetary theory (see Sousa 2025). It can be traced back to foundational works such as Marx' analysis of value (1999/[1867]) and, in a different register, to influential strands of modern monetary economics (for a discussion, see Smithin 2003). At its core lies a conceptual reduction of money to an object of exchange.

2.2 Monetary functions and the governance of credit-debt relations

Money is often defined in strictly economic terms through the tautology »money is what money does.« Three core functions are usually highlighted: medium of exchange, store of value, and unit of account (Weber 2018). The first facilitates transactions, the second allows deferred payments and intertemporal flexibility (Dodd 2014), and the third provides a standardized measure for prices and debts (Ingham 1998, 2004, 2020). In much of the literature, the medium of exchange dominates, subordinating the other two to a commodity-like logic of tokens used in market exchange (Ingham 2004; Smithin 2003). Yet these functions are inseparable, and money must be understood as embedded in socially sustained relationships.

The reduction of money to a mere means of payment has naturalized its properties and obscured its institutional and relational foundations. This opacity, while contributing to perceived stability, also generates distrust, what Haldane (2016) called the »great divide« between finance and society. A clearer understanding of money as a social institution is essential for evaluating reform proposals and their implications for governance, rights, and inclusion.

In an open market economy, money is institutionalized through a complex network of credit-debt relations that include payment systems, accounting rules, and regulatory frameworks (Desan 2014). Trust in the common unit of account reflects wider social and political phenomena such as economic strength, fiscal sustainability, and geopolitical stability. From this perspective, money is circulating debt whose value derives from its use in acquiring goods and services.

A landmark clarification came from the Bank of England (McLeay et al. 2014a; McLeay et al. 2014b), which explained that commercial banks do not simply lend out deposits but create money in the act of lending. Likewise, the central bank does not fix the money supply through reserve ratios, but instead sets interest rates that influence banks' lending decisions. In short, most money in circulation is created through bank credit, with deposits recorded as liabilities and loans as assets on balance sheets. States also shape money creation indirectly through fiscal and monetary policy, including the issuance of public debt and the purchase of government bonds.

Understanding money as a balance-sheet process highlights that financial records are not neutral but reflect structural imbalances, risks, and power asymmetries. As Weber (2018) argues, balance sheets are the »mint house of the modern economy.« This perspective emphasizes the hybrid nature of money, simultaneously a public and private resource governed through overlapping institutions. Central banks, commercial banks, corporations, households, and states each play distinct yet interconnected roles in this process.

Contemporary transformations, driven by new technologies, actors, and financial products, are reshaping these dynamics and altering global monetary power structures. Reform initiatives, technical, political, and civic, have proliferated in response to concerns about financial stability and inclusion. Assessing these initiatives requires a clear understanding of money's institutional nature, its creation mechanisms, and its role in structuring rights, obligations, and opportunities.

3 Money and sustainability: a relational and regenerative perspective

Building on the previous discussion, this section examines money as a social institution whose design, functions, and modes of creation shape access to resources, forms of recognition, and patterns of inclusion and exclusion. These institutional properties have become historically naturalised, often appearing as technical features of economic coordination or even properties of the paying means used in economic exchanges, rather than as contingent social and political arrangements (Carruthers / Babb 1996).

Approaching money in this way, as an institutionalised social construction, brings sustainability into the core of economic analysis. Sustainability is thus understood as an institutional question about how monetary arrangements shape what counts as value, which forms of contribution are socially recognised, and how economic coordination is organised over time. To clarify the analytical meaning of sustainability adopted here, the following section develops this link by drawing on Simmel's analysis of money as an abstraction of value and as a form of sociation.

Sustainability is a deeply contested concept, mobilised across academic disciplines, policy arenas and social movements to denote heterogeneous and sometimes contradictory objectives. As Tàbara forcefully argues, »there is no such thing as one definition or one approach to sustainability« (Tàbara 2002: 64). This ambiguity should not be treated as a conceptual weakness as it shows how sustainability operates as a social and political concept. In this sense, sustainability can be understood as a meta-objective, comparable to ideals such as freedom or equality, whose concrete meaning is continuously negotiated through institutional arrangements and social practices rather than fixed once and for all.

In mainstream environmental economics, policy-oriented approaches and managerial discourses, sustainability is often conceived primarily as a matter of environmental efficiency, resource conservation or impact mitigation. By contrast, within environmental sociology and related critical traditions, sustainability refers to the capacity of societies to reproduce and transform the social, institutional and material conditions that make collective life possible over time. In line with the critique of human-exemptionalist worldviews developed by Catton and Dunlap (1980) and Dunlap and Catton (1979), sustainability thus emerges as a fundamentally relational problem, rooted in how social actors organize their relationships with one another and with the biophysical world.

This article adopts *a relational and regenerative conception of sustainability*, grounded in environmental sociology and socio-ecological systems research. Within these traditions, sustainability is understood as the capacity of societies to reproduce their social and institutional arrangements over time in ways that remain compatible with the biophysical conditions that sustain collective life (Catton / Dunlap 1980; Folke et al. 2010; Tàbara 2023). Sustainability, in this sense, is not limited to environmental protection, but concerns how economic and institutional systems organise social reproduction without eroding their material foundations.

Regenerative approaches shift the focus of sustainability from damage limitation to the capacity of social and institutional arrangements to sustain cooperation over time. Research on resilience and socio-ecological systems shows that when essential functions such as income provision, care or socially recognised contributions, are organised as if they were independent from their material and ecological foundations, social arrangements become increasingly fragile. Under these circumstances, social cohesion weakens and ecological degradation accelerates (Folke 2006; Ostrom 2009).

Within this framework, sustainability can be approached as a relational problem concerning how societies organise value, contribution and social coordination in ways that remain compatible with their biophysical conditions. This understanding connects directly with Simmel's analysis of money and consumption. In *The Philosophy of Money*, Simmel conceptualises money as a social representation of abstract value, famously described as »the value of things without the things themselves« (Simmel 2013/[1900]). Through money, concrete qualities, uses and relations are translated into a common unit of account, enabling comparison, calculation and exchange across otherwise incommensurable goods and activities. This abstraction constitutes the basis of money's plasticity and its central role in modern social life.

For Simmel, monetary abstraction is not merely a technical operation but a form of *sociation*. Money is constituted by social relations and functions as a claim upon society, becoming liquid and effective within a monetary space where a unit of account is collectively accepted. By mediating social interaction through impersonal equivalences, money replaces personal dependencies with monetary ones, thereby expanding individual autonomy and freedom of choice. At the same time, this shift reorganises the conditions under which social relations are reproduced, increasingly detaching economic coordination from concrete social ties and obligations.

Simmel extends this analysis to modern consumption, which he interprets as a primary means of individual distinction. Through consumption, individuals express autonomy and differentiation via material goods, while social relations become increasingly mediated by monetary value rather than by personal or communal bonds. This dynamic generates a structural paradox: the same monetary mechanisms that expand individual freedom also produce homogenisation and abstraction, weakening the social and moral foundations that sustain collective reproduction. Simmel conceptualised this tension as part of the »tragedy of culture« (Simmel 1968/[1911]), referring to the increasing autonomy of objective cultural forms and the declining capacity of individuals to appropriate and govern them.

This insight is central to the sustainability problem addressed in this article. By functioning as an abstract unit of account, money decouples the measurement of value from social contribution, care and environmental impact. Activities that sustain social reproduction or ecological integrity tend to remain undervalued or invisible, while monetised activities acquire legitimacy regardless of their social or environmental consequences. When access to income, recognition and participation is organised primarily through such abstract monetary mechanisms, economic coordination becomes detached from the social and material conditions under which value is generated. Over time, this mode of coordination weakens both the relational bases of social reproduction and the biophysical conditions required for socio-ecological viability, reinforcing what environmental sociology has described as the Human Exemptionalism Paradigm (Catton / Dunlap 1980).

Tàbara's work on regenerative sustainability provides a contemporary reformulation of this problem. By conceptualising sustainability as a relational and learning-based process within coupled social-ecological systems, he emphasises the need to redesign institutions that organise value and contribution in order to restore the conditions of long-term social and biophysical reproduction (Tàbara 2002, 2023). Sustainability transformations are therefore closely linked to the institutional rules through which value is defined and coordinated. Monetary arrangements are central in this regard, as they structure how contributions are recognised, how access to income is organised, and which forms of activity acquire social legitimacy. Under these conditions, the governance of money becomes a critical institutional site for sustainability-oriented reform.

4 New proposals for the design of monetary governance

Against this background, a growing number of initiatives have emerged that seek to rethink how money is created and governed in contemporary economies. To analyse their most innovative features in relation to legal tender, this section follows Weber's (2018) analytical framework, which distinguishes reform proposals along two dimensions: the form of monetary governance (centralised or decentralised) and the conception of money (as an asset or as credit).

Most of the initiatives discussed here focus on questions of monetary governance and on the agents involved in money creation and circulation. Each proposal identifies specific weaknesses of the current system and advances a reform aimed at transforming the governance of money in response to these perceived dysfunctions. Some emphasize restoring users' freedom, trust, and autonomy through robust systems of disintermediation grounded in cryptography, as in the case of Bitcoin. Others, such as Positive Money, advocate reinforcing the role of the state in controlling the money supply through central banks. Despite their disruptive ambitions, few of these initiatives substantially modify money's classical economic functions.

The initiatives briefly reviewed here include Bitcoin, the Sovereign Money Movement (Positive Money or *Vollgeld*), complementary and regional currencies, and Modern Money Theory (MMT). Despite their differences, they all tend to underestimate the hybrid, hierarchical, and institutionally mediated nature of money as a social institutional phenomenon (see Weber 2018). Yet, each questions the current monetary order in its own way, whether by proposing more centralized models of monetary governance, such as Sovereign Money or MMT, or more decentralized ones, such as Bitcoin and complementary currencies.

4.1 Bitcoin as virtual gold

Bitcoin, as one the most representative cryptocurrencies, introduces a decentralized governance model based on peer-to-peer networks and blockchain technology. Within the social sciences, it has sparked intense debate over whether it should be understood as a speculative asset or as a medium of exchange (see Vigna/Casey 2015; Weber 2016), as well as over the infrastructural implications of its production, particularly the energy-intensive nature of mining farms (Caliskan 2020, 2023; Krause/Tolaymat 2018; Weber 2016).

According to the European Central Bank (2015), a virtual currency is a digital representation of value that is not issued by a central bank, credit institution, or electronic money institution, and which, under certain conditions, can be used as an alternative to legal tender. From a legal standpoint, Bitcoin is not considered money. It is not issued by a central authority, does not fulfil the three core functions of money, and faces significant limitations: it is rarely accepted as a medium of exchange, is highly volatile and therefore unsuitable as a store of value, and is an unstable unit of account.

Despite its innovative approach, several factors limit its potential as a future currency. First, Bitcoin treats money as a virtual commodity, a neutral asset, primarily used for speculation or transactions in illicit markets. Second, its value is not backed by any legal authority, raising concerns over its stability and purchasing power. Its technical complexity and volatility create a digital divide and reduce its reliability as a stable store of value. Third, the enormous energy consumption required for mining poses serious environmental concerns. As such, Bitcoin's status as an alternative to legal tender, and its role as either a payment instrument or speculative asset remains highly contested (Dodd 2014; Vigna/Casey 2015; Weber 2018).

Beyond its technical and economic limitations, Beat Weber's (2018) analysis situates Bitcoin within a broader horizon of monetary reform proposals and their connections to different visions of society. In his view, each attempt to transform money reflects a particular conception of the relationship between economy, state, and citizens. Bitcoin, by treating money as »virtual gold« detached from state mediation, embodies a liberal-radical vision that seeks autonomy from centralized institutions. This orientation resonates with the aspiration for »monetary autonomy« (Weber 2016), where trust is shifted from political authority to technology and user communities.

From this perspective, Bitcoin is not merely a technical instrument but also a normative project of decentralization and social self-organization. Like earlier reformist traditions, from Proudhon's mutualism to Hayek's proposals for the denationalization of money, Bitcoin can be read as part of a lineage that conceives money as a space of emancipation from state power. However, as Massó et al. (2021) argue, this ideal coexists with a strong continuity with orthodox monetary thought, that is, the reduction of money to a »thing« or exchangeable commodity, overlooking its institutional and social dimension.

Weber (2018) also stresses the ambivalence of the search for monetary autonomy. On the one hand, it opens up imaginative possibilities for alternative systems of economic organization. On the other, it risks generating new forms of dependency: on technological capital, on exchange platforms, or on the asymmetries produced by the concentration of mining power. Thus, the promise of autonomy may reproduce exclusionary dynamics, especially if technological expertise and access become the main conditions for participation.

Finally, Bitcoin shows that monetary innovation cannot be reduced to its technical dimensions alone. The diffusion and adoption of any form of money ultimately rely on trust, regulation, and political legitimacy. In this sense, Bitcoin's »digital utopia« collides with a structural limit: the impossibility of fully detaching money from the sovereign frameworks and institutional arrangements that sustain it. Rather than inaugurating a radically new monetary order, Bitcoin functions as a laboratory where broader social tensions are projected, between centralization and decentralization, institutional trust and technological trust, inclusion and exclusion.

4.2 Sovereign Money: The state monopoly model

The Sovereign Money movement, also known as *Vollgeld* in Switzerland and Germany, or Positive Money in the UK, is an international initiative focused on the creation of bank money through the lending activities of commercial banks. It identifies the core issue of the global financial system as the endogenous cycle through which banks expand the money supply via credit creation.

Proponents of this movement advocate ending the fractional reserve system and transitioning to a sovereign monetary model where a central authority would be solely responsible for money issuance in the public interest. Despite drawing on diverse ideological currents, including green, libertarian and conservative strands, these movements converge on a shared theoretical position according to which money ought to be conceived as sovereign and asset-backed rather than as bank-created credit.

This proposal envisions a profound transformation of the financial system: central banks would become the sole issuers of both digital and physical money, relegating commercial banks to intermediaries between users and the central bank. This vision has sparked significant debate, especially in Switzerland, the

UK, and Japan. On June 10, 2018, Switzerland held a referendum on the *Vollgeld* initiative, which was rejected by 75 % of voters. The initiative proposed three core transformations:

- Eliminating commercial banks' ability to create money via credit. Banks would be allowed to lend only using pre-existing funds, such as term deposits or authorized capital.
- Granting the central bank exclusive control over money issuance, which would allow it to inject liquidity through various channels: direct transfers to the state, individual accounts for citizens, or structured lending to banks.
- Guaranteeing full deposit protection, even in the event of a bank failure, by converting demand deposits into central bank-issued money recorded off the commercial banks' balance sheets, thus removing insolvency risk.

While aiming to stabilize the financial system by separating money creation from lending, this model concentrates monetary sovereignty within the state. In doing so, it reduces money to a neutral payment instrument whose value is supposedly guaranteed by controlling its quantity, thereby reproducing a quantitative, commodity-based view of money. This approach neglects the dynamic and multifaceted role of money in the real economy, including its function as a store of value. Moreover, centralized issuance does not eliminate volatility entirely.

The Sovereign Money movement illustrates a very different vision of monetary reform than Bitcoin, yet one that also underscores the deep entanglement between money and social order. Whereas Bitcoin reflects a radical-liberal distrust of state authority, Sovereign Money embodies a call for democratic control over monetary issuance. For its proponents, the financial instability of the 2008 crisis underscored the dangers of private banks creating money endogenously through credit. As a representative of Positive Money UK explains, »the structure of the monetary system and where power rests within it is really influential on economic and social outcomes«. This diagnosis motivates the demand to reclaim money creation from private banks and re-anchor it within institutions accountable to the public. In Weber's terms, this reflects a societal vision where democracy and public authority are called upon to discipline and stabilize markets.

Sovereign Money presents money as a public good that must be consciously designed and governed. As the interviewee further highlights, restoring democratic control over money means recognizing that it is not a neutral background mechanism but »a fact of conscious design and collective design« through which societies decide »what we really should prioritize and what money means to us«. In Weber's terms, this reform reflects a societal vision where democracy and state authority are tasked with disciplining markets and ensuring stability. The Sovereign Money proposal therefore inherits a commodity-like conception of money, focusing on its issuance and circulation while overlooking its embeddedness in networks of credit, trust, and institutional arrangements. By reducing money to a state-managed asset, the approach risks neglecting its social dimension as a web of obligations and relationships.

Weber highlights the tension at the heart of this model. On the one hand, Sovereign Money reflects a democratic impulse, aiming to reclaim monetary power from opaque financial actors and reorient it toward the public interest. On the other hand, it risks creating new dependencies on centralized state authority, reinforcing hierarchies rather than decentralizing power. In this sense, the quest for monetary autonomy takes a paradoxical form: autonomy from private banks is purchased at the cost of deeper reliance on the state. As the representative concedes, much of the campaign is »more about abstract returning democratic control« than about solving concrete economic problems. This reflects Weber's insight that reforms often oscillate between utopian aspirations for autonomy and the practical limits of institutional structures.

Over time, however, Positive Money has broadened its agenda. While early proposals centered on the sovereign money model (Dyson et al. 2016; Positive Money 2012), the organization now positions itself more broadly as a platform for democratizing finance, focusing on accountability, transparency, and the legitimacy of central banks. Recent publications also engage with debates on Central Bank Digital Currencies (CBDCs), which they view as an opportunity to expand access to public money, provided that safeguards for inclusion and cash coexistence are ensured (Youel 2024).

Ultimately, the Sovereign Money vision underscores the ambivalence of monetary reform movements. Like Bitcoin, it demonstrates that proposals to redesign money are never merely technical, but carry normative assumptions about how society should be organized. If Bitcoin embodies a libertarian dream of disintermediated autonomy, Sovereign Money reflects a communitarian call for stability through collective oversight. Both reveal the political stakes of monetary innovation, namely, the struggle over who should control the production of money, in whose interest, and according to which vision of social order.

4.3 Complementary currencies

Complementary or regional currencies are community-driven monetary instruments, territorial, sectoral, or digital, designed to generate specific social or economic impacts. These non-profit initiatives do not compete with national currencies; instead, they aim to fill gaps in the official monetary system by strengthening community ties, promoting social inclusion, stimulating local economies, or encouraging ecological practices.

From this perspective, money ceases to be a neutral means of exchange and instead becomes an active builder of social and economic relationships. As Bazzani (2025) argues, complementary currencies reinforce positive freedoms such as cooperation and sustainability, while activating forms of local power by granting communities partial financial sovereignty. The Sardex[1] system, for example, shows how these instruments can internalize local interdependencies and strengthen communities' capacity to face global challenges. Beyond merely compensating for the shortcomings of capitalism, complementary currencies also open spaces for collective experimentation with new forms of justice and responsibility (Bazzani 2020).

These currencies are usually targeted toward specific user groups, local communities or mutual aid networks, seeking to compensate for the shortcomings of contemporary capitalism. Here, the form of money directly affects resource distribution and local development. A widely shared diagnosis among these initiatives is that the dominant monetary system artificially generates scarcity, concentrating money in centers of power and slowing its circulation in local communities. Complementary currencies offer practical responses to deindustrialization, regional unemployment, and financial exclusion. As one UK activist defending cash explains, local currencies such as the Brixton Pound[2] »get criticized because their scale is small, but their main purpose is symbolic: to show that money can be designed differently and to build a degree of economic localism«.

Despite their technological advances, these currencies are not viable substitutes for legal tender. Their acceptance remains limited, their capacity to store value is weak, and they face significant institutional barriers. As Isaacs (2016) notes, they rarely reach the most economically excluded segments of society. While they are valuable tools for fostering community bonds and testing new models of economic solidarity, their overall impact remains marginal.

Complementary currencies articulate yet another vision of monetary reform, one that diverges from both Bitcoin's radical-liberal autonomy and Sovereign Money's statist centralization. For Beat Weber (2018), such initiatives exemplify reform proposals that connect monetary design with specific societal aspirations: cooperation, solidarity, and local empowerment. Instead of conceiving money as a neutral medium, these projects embed it in community relations, turning monetary instruments into tools of social engineering and political imagination. In Weber's terms, they represent an attempt to reclaim »monetary autonomy« at the local scale, granting communities partial sovereignty in managing their economic flows.

1 Sardex is a mutual credit system launched in Sardinia in 2010, designed to facilitate trade among small and medium-sized enterprises by issuing credits that circulate within a closed network.

2 Brixton Pound is a local currency introduced in 2009 in the Brixton district of London, aimed at supporting local businesses and fostering economic localism by encouraging residents to spend within their community.

This orientation is consistent with Bazzani's argument that complementary currencies reinforce »positive freedoms« such as cooperation, ecological sustainability, and solidarity (Bazzani 2020, 2025). By circulating within limited networks, they create protected spaces of exchange where value is tied not only to purchasing power but also to collective belonging. The Sardex system illustrates this logic: it internalizes local interdependencies and allows small businesses to sustain trade and employment despite macroeconomic constraints. Echoing this view, the above mentioned interviewee stresses that systems like Sardex are »far more interesting from an economic perspective« because they can attract businesses and sustain trade, in contrast to small-scale time banks, which »tend to remain marginal because they are locked into very small communities«. Here, money becomes not just a medium of exchange, but a vehicle for expanding communities' agency in the face of globalization.

Nevertheless, Weber would remind us that these initiatives also reflect tensions between autonomy and dependence. While they seek to democratize economic relations and challenge the scarcity produced by capitalist money, their effectiveness depends on their interaction with the dominant monetary system. Their limited acceptance, weak capacity as stores of value, and vulnerability to institutional barriers make them reliant on national and global monetary infrastructures. In this sense, the autonomy they promise is always partial and fragile, conditioned by their subordinate position in the wider hierarchy of money.

Ultimately, complementary currencies highlight that monetary reforms are not merely about technical adjustments but about visions of society. They embody a communitarian utopia of embedded markets, where money circulates to strengthen reciprocity, inclusion, and sustainability. Although their systemic impact remains limited, these initiatives function as laboratories of social innovation, experimenting with alternative forms of value and exchange and projecting broader debates on the role of money in shaping democratic and sustainable futures.

4.4 Modern monetary theory: debt, money, and sovereignty

Modern Monetary Theory (MMT) offers a framework for fiscal and monetary policy applicable to countries with sovereign currencies, those that issue their own money, choose a unit of account for pricing and taxation, and do not peg their currency to external benchmarks (thus excluding, for instance, dollarized economies or the Eurozone members).

MMT is based on several key assumptions:

- A government that issues its own currency cannot run out of money. It controls the issuance of its currency and cannot become insolvent in that currency.
- Government deficits are not inherently problematic. Deficit spending injects money into the economy, stimulating growth and employment. Conversely, government surpluses withdraw money and can dampen economic activity.
- Inflation, not deficits, is the real constraint on public spending. As long as spending does not outstrip productive capacity, governments can sustain deficits without triggering inflation.
- Taxes and public debt serve specific purposes. Taxes are not needed to ›fund‹ government spending. Instead, they regulate inflation, redistribute wealth, and influence behaviour. Public debt, meanwhile, is a form of safe savings for investors, not a prerequisite for public expenditure.

From this perspective, MMT asserts that »taxes drive money« by creating demand for the state's unit of account, since citizens must use it to settle tax obligations. This conception positions money as a state promise backed by its acceptance in tax payments. Money is thus conceived as a state liability and public debt that simultaneously represents a financial asset for its holders. It is thus both an asset for its holders and a liability for its issuer. This conception underpins MMT's policy proposals, such as the Job Guarantee[3] program, designed as an automatic stabilizer to ensure full employment and to mitigate downturns by anchoring the economy to the state's capacity to spend

At the same time, Weber (2018) highlights that such state-centered frameworks carry broader societal implications. By grounding money in public debt and taxation, MMT projects a vision of society in which the state acts as guarantor of both economic stability and social rights. In contrast to Bitcoin's radical-liberal aspiration for autonomy and Sovereign Money's quest for state monopoly over issuance, MMT advances a model of monetary governance in which the coordinating role of the state is significantly expanded. While MMT challenges traditional views on budgeting, taxation, and debt, advocating a more centralized governance model in which the state plays a leading role, Weber cautions that this approach may understate the complexity of monetary hierarchies and the interplay between different issuers and states in a globalized financial system.

Ultimately, MMT reframes money as a political instrument rather than a neutral medium of exchange. It situates monetary reform within a communitarian vision of society, where collective welfare is prioritized over market self-regula-

3 Job Guarantee is a state-funded program that offers employment at a living wage to all individuals willing and able to work, functioning as an automatic stabilizer during economic downturns and ensuring full employment.

tion. By reinterpreting public debt as both liability and promise, MMT reopens the debate on the nature of sovereignty, legitimacy, and the social purposes of money.

4.5 What do these initiatives contribute to the redesign of monetary governance and to our understanding of money?

Redesigning monetary governance involves confronting significant technical, institutional, and political challenges. For money to function effectively as a social institution, it requires broad legitimacy and coordinated participation from both public and private actors. This process, however, unfolds in a context of conflicting interests, where divergent priorities and power asymmetries shape both the possibilities and the limits of institutional change. Yet reforming the monetary system alone cannot eliminate structural scarcity or resolve poverty. Economic inequality in market economies is closely tied to productive structures and to persistent credit-debt relationships that shape monetary flows.

Institutional redesign must therefore be approached with caution. While not a panacea, the nature of money is far from irrelevant. Understanding what money is helps set more realistic expectations about its potential to support economic and social well-being.

The initiatives examined (Bitcoin, MMT, Sovereign Money, and complementary currencies) present different strategies for reforming monetary creation and distribution. While some explicitly challenge the centralized and hierarchical monetary order, others seek to reshape it from within, reinforcing or reinterpreting existing structures. Collectively, they contribute to crucial debates around monetary power, democratic legitimacy, and the social functions of money.

However, democratizing money cannot be reduced to its use as a tool of fiscal or monetary policy. The current context, marked by decades of monetary standardization, innovation, and technological disruption, offers fertile ground for institutional experimentation. Bitcoin, for example, has prompted governments to explore sovereign digital currencies, while MMT, complementary currencies, and *Vollgeld* open debates on the state's role in value creation.

Despite these advances, the institutional design of money remains underdeveloped in socio-economic literature. Mainstream responses to social problems tend to focus on redistributive measures, such as basic income (Van Parijs/Vanderborght 2017; Van Parijs 1995), job guarantees (Mitchell/Watts 2005; Tcherneva 2020), or classical social protection systems, without addressing the foundations of the monetary regime. Yet today's rapidly evolving landscape presents opportunities for institutional innovation targeting the structural roots of economic exclusion.

In this direction, the following section does not present a fully-fledged alternative paradigm but rather sketches some fundamental ideas for the future development of institutional design. The emphasis lies on integrating the main actors – state, community, and business – into a shared framework that ensures voluntary and universal access to monetary resources, decoupled from labour market participation or inherited wealth, and anchored in the recognition of the right to dignified work. This could be facilitated through the introduction of a parallel currency, whose issuance and value attribution would follow principles distinct from the current system and would be supported by a framework of mutual rights and responsibilities between individuals and the public institutions involved in money creation (see White 2000, 2003).

5 Parallel Money: A proposal to monetize work based on social utility

Parallel currencies are monetary instruments issued outside the conventional legal tender circuit, but which coexist with it. Their main goal is not to replace official currency, but to complement it in contexts where the dominant monetary system proves insufficient to ensure inclusion, economic dynamism, or adequate social protection. These currencies are often designed for specific territorial areas (cities or regions) or functional domains (such as sectors of activity or particular types of transactions), and are usually channelled through public institutions or community networks.

As Andresen (2019) notes, in times of fiscal or financial crisis, states may issue electronic parallel currencies to sustain domestic demand, pay public wages, or fund social programs without increasing official debt. These currencies maintain parity with the national currency for specific transactions, such as tax payments, and circulate digitally, allowing for controlled issuance and traceability. In such models, the state acts as both issuer and guarantor, providing a regulatory framework of trust without relying primarily on the traditional banking system as an intermediary.

From this perspective, parallel currencies can be understood as institutional experiments. They create room to rethink the functions of money and to test new governance mechanisms that complement, rather than displace, legal tender. It is precisely in this spirit that the present article puts forward a proposal. By drawing on the idea of parallel money, the aim is not to envision a utopian alternative monetary order, but to outline a set of institutional design principles capable of integrating state, community, and labour in the joint creation of monetary value.

The proposal developed here is motivated by persistent limitations in how contemporary economies measure and recognise value creation. Conventional models, largely measured by GDP, have long prioritized mass production and consumption, while neglecting activities that generate significant social and environmental benefits, such as care, environmental protection and regeneration, or the defence of human rights, that remain undervalued by markets despite their central role in sustaining society. Redesigning the institutional functions of money offers the potential to make these contributions visible and to integrate them more explicitly into economic governance. Through innovative combinations of fiscal, monetary, and social policies, it becomes possible to recognize the value of the non-monetary economy while respecting individual economic freedoms, thereby creating a more balanced framework that aligns economic activity with social welfare and environmental sustainability.

5.1 Foundations of the proposal

It is widely acknowledged today that capitalism inherently produces structural inequalities. While this article does not delve into the mechanisms of inequality, it is important to note that in the Eurozone, labour income, wages and self-employment combined, represent roughly two-thirds of total household income, while the remainder comes from capital income (dividends, interest) and social transfers (unemployment benefits, pensions, etc.) (Eurostat 2024).

The proposal presented here aims to reduce income inequality by linking money creation directly to the right to work and individual contributions to social well-being. It introduces a complementary form of money designed to address some of Europe's most pressing social challenges. This initiative is based on the connection between money and labour. Unlike models such as Local Exchange Trading Systems (LETS) or Andresen's (2019) electronic parallel money, where units of account circulate within networks of mutual exchange for goods and services, this proposal centres on recognizing the social utility of non-monetized work.

We posit that the future of money lies in a convergence of technological and political questions. Thus, through public policy and active citizen participation, a democratic complementary monetary alternative to legal tender can be designed. This ›parallel‹ currency can coexist within a monetary space structured around a primary unit of account, such as the euro. Unlike central bank instruments or technologies like CBDCs[4] or cryptocurrencies, this proposal reimagines classical monetary functions: unit of account, medium of exchange, and store of value. It introduces a non-neutral monetary unit of account, an intransferable payment

4 A Central Bank Digital Currency (CBDC) is a digital form of a country's fiat (sovereign) currency, issued by its central bank. It is a liability of the central bank, available to the public, and intended to function alongside traditional forms of money (cash and bank deposits), with the purpose of facilitating payments, increasing efficiency of the payment system, safeguarding monetary sovereignty, and adapting to declining use of physical cash.

method, and an alternative system for generating and storing monetary value. Its architecture is designed to produce measurable socio-environmental benefits while supporting individual well-being.

TMy is created by assigning monetary value to labour that contributes to the common good. This model is rooted in reciprocity and equivalence, not in the matching of objects, but in the balancing of rights and responsibilities. At its core is a renewed social contract between citizens and the state, based on mutual reciprocity and shared benefits. Individuals who seek income outside the formal labour market contribute socially productive services in exchange. This contribution validates their right to work, or to choose not to. TMy is not a form of forced labour but a voluntary pathway for obtaining monetary resources in recognition of social contribution.

Monetizing these activities using a parallel currency does not imply adopting market-based valuation methods. Nor does it reflect a redistributive model, as funding is not drawn from tax revenues but generated directly through certified social labour.

The concept of reciprocity developed in this proposal differs from the interpretations advanced by republican egalitarians (White 2003; Birnbaum 2015). For the latter, reciprocity is inspired by the idea of a contractualist welfare system in which access to social benefits is conditioned on the fulfilment of a set of responsibilities. Thus, recipients of welfare services would have an equivalent obligation, grounded in reciprocity, to contribute in some way to returning the benefits they have received. This obligation is expressed in the responsibility to work and to contribute to the production of social value within a cooperative framework that precisely enables the enjoyment of certain social benefits. From this perspective, the enjoyment of specific social provisions should be conditional upon reciprocal labour performance or contribution.

The most frequent objections to this approach are based on the argument that the principle of reciprocity does not produce egalitarian outcomes for all citizens (Noguera 2007; Segall 2005). In a welfare scheme conditioned on productive contribution, the obligation to work would only apply to those who need access to social resources, while exempting those who neither need to work (for example, because they live on rentier income) nor to benefit from such resources.

By contrast, the proposal developed here advocates adopting a notion of reciprocity compatible with an unconditional welfare policy. To this end, it suggests removing some of the barriers that prevent individuals from accessing the labour market, thereby enabling the realization of the social right to decent work. Monetizing, and at the same time decommodifying, labour implies that those already engaged in activities that contribute to the common good could receive a reciprocal monetary income.

This proposal is also grounded in the possibility that individuals may themselves create money by producing social utility. In this way, it broadens the modalities of access to monetary resources, which would no longer be limited to existing mechanisms such as employment, inheritance, income derived from capital assets, or social transfers. In this initiative, income would be conditioned on the production of social value. This process would be certified by the state, which would settle the monetary labour income generated by citizens in a new unit of account.

Market economies do not always provide reasonable access to employment and labour income. In this regard, exclusion from the labour market is not entirely the responsibility of the individual, but is largely explained by the structural characteristics of market mechanisms themselves.

Similarly, the state must guarantee reasonable access to certain vital resources, ensuring that individuals have the capacity to exercise their right to work and to a dignified monetary income. If citizens were given the opportunity to monetize the work they currently perform or wish to perform, it would advance the balance between rights, economic freedoms, and responsibilities in a way that transcends the scarcity imposed by the market and the constraints of public budgets.

This monetary paradigm could thus become an important component of the renewed social contract mentioned above, based on a redefined reciprocal relationship between citizens, public authorities, and the community.

5.2 The Twin Money model

This section outlines the essential features and operational mechanisms of the proposed parallel currency model (TMy) with particular attention to its institutional architecture and the innovations it introduces compared to official currency.

Firstly, the creation of TMy rests on three interrelated elements: the individual's preferences, the personal skills or competencies applied to socially valuable work, and the state's certification of that contribution. In this model, money is created through labour itself, more precisely, through the voluntary contribution of individuals to the common good, validated and guaranteed by public authorities.

Second, TMy is not treated as a scarce resource generated through market exchange. Instead, its supply is linked to the fulfilment of social needs, which, from an anthropological perspective, are not scarce but inherent to human life. The volume of TMy issued depends on citizens' voluntary contributions to public interest, certified by appropriate authorities.

Third, tying money creation to voluntary work, rather than formal employment, that generates social benefit fosters a more egalitarian framework. It recognizes the contributions of large segments of the population engaged in unpaid labour outside the market. This voluntary system empowers individuals to determine both the form and quantity of their income based on their definition of a ›good life‹. In this way, TMy promotes both freedom and autonomy while ensuring necessary social protection.

In this model, income is directly linked to one's social contribution, framing reciprocity through democratic processes rather than market forces.

As previously discussed, this model seeks to monetize work within the non-monetary economy, emphasizing the individual right to decent, voluntary, and compensated labour. At the same time, it affirms the right not to work, aligning the principle of reciprocity with individual freedom. The state's role is not to directly provide all resources, but to ensure fair access to them.

In the TMy model, the classical functions of money (unit of account, means of payment, medium of exchange, and store of value) are reformulated to align with a new economic logic rooted in reciprocity, social contribution, and public certification. Rather than serving only market-based coordination, these functions are redefined to support the recognition and monetization of those non-market labour activities that benefits the collective. This transformation creates a monetary infrastructure whose economic classic functions are reformulated as follows:

Unit of Account. In this model, the unit of account is redefined by linking money directly to socially valuable work. This departs from traditional abstract metrics of value and aligns with Karl Polanyi's (1957) concept of a substantive economy. Monetary value here is grounded in contributions to the common good, outside of market pricing mechanisms. This reframing supports negative liberty (Berlin 1997) by ensuring access to money and reducing deprivation.

Medium of exchange and means of payment. Twin Money (TMy) proposes a new mechanism for money creation and economic exchange. It is conceived as a parallel unit of account, digital and state-backed, issued by individuals whose labour has been officially recognized and certified. Its issuance is recorded as public debt: a liability for the state and an asset for the citizen who generates it. Thus, it represents an individual right against the state, whose obligation is not to redeem it in legal tender but to guarantee its liquidity within the market.

Prices in TMy are determined through regular market mechanisms, while maintaining parity with the official unit of account:

$$P \text{ (official currency)} = P_{tmy} \text{ (Twin Money unit)}$$

This ensures continuity of current price-setting logic for most goods and services. However, in the case of non-monetary labour, value is determined by social contribution rather than market demand. In this way, market principles are preserved for everyday consumption, while introducing an innovative monetary form to value and reward social labour.

TMy is non-transferable. It can only be spent by the individual who generates it to purchase goods and services. It cannot be accumulated or circulated among individuals. Its lifecycle ends at the point of spending, when the receiving company or institution settles it with the state. The economic flow can be described as:

SMV (Social Monetary Value) → Goods (M)

Unlike conventional transactions, money here does not pass from buyer to seller; it is extinguished upon use. Because it is non-transferable, it removes the incentive for speculative accumulation.

For businesses, TMy is recorded as an asset, while for the state it represents a liability. Companies report their TMy transactions in separate accounts and pay taxes in the official currency on all revenues – whether earned in legal tender or in TMy. The state then redeems the company's net TMy balance in official currency.

In sum, this system establishes an alternative monetary circuit:

- Citizens generate TMy income through socially recognized labour.
- This income functions as a digital deposit: an individual asset and a state liability.
- When citizens spend it, businesses receive TMy as a claim on the state.
- Finally, the state settles the liability by converting TMy into legal tender.

In this way, Twin Money fosters economic dynamism without encouraging speculative accumulation, aligning individual benefit with collective welfare.

Store of value and the role of the state. The coercive dimension of money, its legal and institutional enforcement, must be acknowledged for the system's viability. The dominance of a unit of account does not emerge spontaneously from economic interactions, nor solely through top-down imposition. It arises dialectically, through complex relations among socioeconomic actors, with the state playing a key coordinating role. To function, this new monetary system requires state certification of voluntary contributions and infrastructure support to ensure liquidity and value preservation.

For this new monetary framework to operate effectively, the state must certify voluntary contributions and provide the necessary infrastructure to guarantee both liquidity and the preservation of value. State backing secures TMy's function as a reliable store of value and ensures its convertibility into legal tender for businesses. This equivalence mitigates volatility and strengthens public confidence in the system.

This reconceptualization of money as an institutional fact may create new possibilities for policy innovation. The Twin Money (TMy) model suggests how technology, state institutions, and collective participation could converge to support a complementary monetary framework aimed at reducing labour income inequalities. Unlike traditional social policy instruments, typically centred on monetary transfers, TMy is conceived as a reciprocal system that balances rights and responsibilities, linking individual freedom with social solidarity. Entirely digital in form and grounded in public certification, TMy points to the potential of a democratic alternative to legal tender coexisting with the dominant unit of account, thereby opening the way toward a more inclusive and sustainable economic order.

6 Conclusions

Contemporary money is both a mirror and a constitutive element of the evolution of market economies, reflecting its dynamics while simultaneously shaping them. As a fundamental component of the complex market system, it operates not only as a medium of exchange but also as an institutional arrangement that embodies relations of power, trust, and social coordination. Yet its design, forms, and properties usually remain invisible, taken for granted and naturalized (Carruthers/Babb 1996). It is often portrayed as the purest expression of value standardization, the distilled essence of economic worth (Simmel 2013/[1900]) reduced to a perfectly divisible metric. In this way, the existing form of money is presented as if it were the only conceivable one. For many, particularly those younger generations socialised within a relatively stable and digital monetary regime, money appears as an ahistorical, asocial, and universal commodity.

The proposal developed in this article challenges this naturalisation by treating money as a core infrastructure of social reproduction. Building on this insight, the Twin Money (TMy) model advances an alternative institutional design that does not seek to replace legal tender, but to complement it through a parallel monetary instrument oriented towards social inclusion and sustainability. Rethinking the functions of money as unit of account, means of payment and store of value thus becomes a way of reconfiguring monetary governance, rather than a purely technical adjustment.

Drawing on Polanyi's concept of fictitious commodities, the article understands labour and money as institutional realities that predate market exchange and cannot be fully governed by self-regulating market mechanisms, without generating processes of degradation and social dislocation (Polanyi 1944). The expansion of market logic into domains such as care, education and social reproduction has intensified these tensions, extending commodification into spheres essential for collective wellbeing. Against this background, the Twin Money proposal articulates a triple institutional shift: the partial de-commodification of labour, the de-commodification of money itself, and the explicit monetisation of socially valuable work that remains structurally excluded from market remuneration.

This shift is achieved through the design of a monetary instrument in which the issuance of value is not linked to market exchange or opaque financial processes, but to certified forms of socially valuable labour. By linking an abstract unit of account to institutional criteria of collective welfare, the proposal defines monetary value in relation to socially recognised forms of labour that contribute to the common good, including care work, community activities and other non-market practices with social and environmental relevance. This design introduces a monetary mechanism capable of addressing interconnected challenges faced by European societies, such as demographic ageing and the care deficit, ecological sustainability and environmental protection, technological change, and persistent inequalities in access to education, income and livelihoods.

At the level of economic coordination, the model also departs from price-mediated exchange as the sole organising principle of monetary circulation. Following Polanyi's (1957) distinction between forms of integration, Twin Money introduces a mechanism grounded in reciprocity rather than profit maximisation. TMy does not circulate indefinitely within a commodified monetary space; its circulation is purpose-bound and institutionally delimited, with the possibility of conversion into legal tender. In this sense, the proposal contributes to ongoing debates on how monetary infrastructures themselves can function as instruments of public policy, shaping access to resources and enabling alternative forms of social inclusion.

Beyond the specific design of Twin Money, the article advances a relational and regenerative conception of sustainability by drawing on Simmel's analysis of money as a form of social mediation and abstraction. From this perspective, monetary institutions do not merely facilitate exchange but structure how economic activities are valued, how access to income is organised, and how livelihoods are sustained over time. Sustainability is thus conceptualised not as an external environmental objective or an efficiency problem, but as an institutional property of how value, labour and livelihoods are organised over time within biophysical constraints.

According to Simmel (2013/[1900]) the article shows how monetary systems can expand individual autonomy while simultaneously disconnecting economic coordination from its social and material foundations. The theoretical contribution to sustainability studies lies in demonstrating that monetary design is not neutral with respect to long-term social and ecological outcomes.

At the same time, the proposal raises important questions that require further theoretical and empirical exploration. Future research should examine the institutional requirements necessary for implementing a parallel currency such as Twin Money, including governance structures, certification procedures and mechanisms of democratic accountability. Experimental and comparative analyses could explore potential sources of resistance, unintended consequences and interaction effects with existing social transfer systems. Further work is also needed to clarify which activities would qualify as socially valuable labour, according to which criteria, and how ecological sustainability considerations could be incorporated into certification processes without reducing them to technocratic indicators.

By foregrounding monetary design as a sustainability-relevant institutional choice, this article seeks to open a research agenda at the intersection of monetary sociology and sustainability studies. In doing so, it argues that rethinking money is not only a matter of economic reform, but a necessary step towards understanding how societies can reorganise social reproduction, value and inclusion in the face of deep socio-ecological transformations.

References

Andresen, Trond (2019). Initiating a parallel currency in a euro crisis country. Why it would work. Modern Monetary Theory and its critics, 89:23–31.

Bazzani, Giacomo (2020). When Money Changes Society. Wiesbaden: Springer

Bazzani, Giacomo (2025): Dinero diverso, libertades diversas: infraestructuras monetarias para la solidaridad y la sostenibilidad medioambiental. Revista Española de Sociología 34(2). Doi: 10.22325/fes/res.2025.259

Berlin, Isaiah (1997): *Dos conceptos de libertad y otros escritos.* Madrid: Alianza Editorial.

Birnbaum, Simon (2015): *Basic income reconsidered: Social justice, liberalism, and the demands of equality.* Palgrave Macmillan.

Braun, Benjamin (2016). Speaking to the people? Money, trust, and central bank legitimacy in the age of quantitative easing. Review of International Political Economy 23(6): 1064–1092. Doi: 10.1080/09692290.2016.1252415

Caliskan, Koray (2020). »Data money: The socio-technical infrastructure of cryptocurrency blockchains«. In: Economy and Society 49(4), pp. 540–561. Doi: 10.1080/03085147.2020.1774258

Caliskan, Koray (2023): *Data Money: Inside Cryptocurrencies, Their Communities, Markets, and Blockchains.* Columbia University Press.

Carruthers, Bruce/Babb, Sahra (1996). »The colour of money and the nature of value: Greenbacks and Gold in Postbellum America«. In: American Journal of Sociology 101(6), pp. 1556–1591.

Catton, William/Dunlap Riley (1980). »A new ecological paradigm for post-exuberant sociology«. In: American Behavioral Scientist 24(1), pp. 15–47.

Desan, Christine (2014): *Making money. Coin, currency and the coming of capitalism.* Oxford University Press.

Dodd, Nigel (2014): *The social life of money*. Princeton University Press.

Dunlap, Riley/Catton William (1979). »Environmental Sociology«. In: Annual Review of Sociology 5 (1), pp. 243–273. Doi: 10.1146/annurev.so.05.080179.001331 .

Dyson, Ben/Hodgson, Geoffrey/van Lerven, Frank (2016): *Sovereign money: An introduction*. London: Positive Money.

European Central Bank. (2015). »Virtual currency schemes – a further analysis«. https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemesen.pdf (last access on 06.03.2025)

Eurostat. (2024). »Households – statistics on income, saving and investment«. https://ec.europa.eu/eurostat/statistics-explained/index.php/Households_-_statistics_on_income%2C_saving_and_investment (last access on 06.03.2025)

Folke, Carl (2006). »Resilience: The emergence of a perspective for social–ecological systems analyses«. In: Global Environmental Change 16(3), pp. 253–267. Doi: 10.1016/j.gloenvcha.2006.04.002

Folke, Carl/Carpenter, Stephen/Walker, Brian/Scheffer, Marten/Chapin, F. Stuart/Rockström, Johan (2010). »Resilience thinking: Integrating resilience, adaptability and transformability«. In: Ecology and Society 15(4), pp. 20.

Krause, Max J. / Tolaymat, Thabet (2018). »Quantification of energy and carbon costs for mining cryptocurrencies«. In: Nature Sustainability 1(11), pp. 711–718. Doi: 10.1038 / s41893-018-0152-7
Haldane, Andrew (2016). »The great divide. Speech, Bank of England«. https://www.bankofengland.co.uk/-/media/boe/files/speech/2016/the-great-divide.pdf (last access on 14.03.2025)
Ingham, Geoffrey (2004): *The nature of money.* Polity Press.
Ingham, Geoffrey (2018). »A critique on Lawson's social positioning and the nature of money«. In: Cambridge Journal of Economics 42, pp. 837–850.
Ingham, Geoffrey (2020): *Money.* Polity Press.
Ingham, Geoffrey (2025). »Is all money credit and is all credit money? Lawson revisited«. In: Cambridge Journal of Economics 50(1), pp. 1–14. Doi: 10.1093 / cje / beaf016
Isaacs, Gilad (2016). »Alternative forms of finance: A literature review«. In: FESSUD-Financialisation, Economy, Society and Sustainable Development Working Paper Series, No. 170.
Marx, Karl (1999/[1867]): *El Capital Vol.1.* Fondo de Cultura Económica.
Massó Matilde / Shevchenko Anastasiya / Abalde Bastero, Nazaret (2021). »Technological and socio-institutional dimensions of cryptocurrencies. An incremental or disruptive innovation?«. In: International Review of Sociology 31:3, pp. 453–469. Doi: 10.1080/03906701.2021.2015981
McLeay, Michael / Radia, Amar / Thomas, Ryland (2014a). »Money in the modern economy: An introduction«. In: Bank of England Quarterly Bulletin, Q1.
McLeay, Michael / Radia, Amar / Thomas, Ryland (2014b). »Money creation in the modern economy«. In: Bank of England Quarterly Bulletin.
Mitchell, William / Watts, Matin (2005). »A comparison of the macroeconomic consequences of basic income and job guarantee schemes«. In: Rutgers Journal of Law & Urban Policy 2(1), pp. 64–94.
Noguera, José Antonio (2007). »Why left reciprocity theories are inconsistent«. In: Basic Income Studies, 2(1). Doi: 10.2202/1932-0183.1056
Ostrom, Elinor (2009). »A general framework for analyzing sustainability of social–ecological systems«. In: Science, 325(5939), pp. 419–422. Doi: 10.1126 / science.1172133
Polanyi, Karl (1944): *The Great Transformation: The Political and Economic Origins of Our Time.* New York: Farrar & Rinehart.
Polanyi, Karl / Arensberg, Conrad / Pearson, Harry (Eds.). (1957): *Trade and market in the early empires: Economies in history and theory.* Glencoe, IL: Free Press
Positive Money (2012). Sovereign money: Paving the way for a sustainable recovery. London: Positive Money. https://www.datocms-assets.com/132494/1717793629-sovereign-money-final-web.pdf (last access on 14.03.2025)
Schumpeter, Joseph (1994/[1954]) History of economic analysis, London, Routledge.
Segall, Shlomi (2005). »Unconditional welfare benefits and the principle of reciprocity«. In: Politics, Philosophy & Economics, 4(3), pp. 331–354. Doi: 10.1177/1470594X05056607
Simmel, Georg (2013/[1900]): *Filosofía del dinero.* Capitán Swing Libros.
Simmel Georg (1968/[1911]): *The conflict in modern culture and other essays.* New York: Teachers College Press.
Smithin, John (2003): *Controversies in monetary economics*. Edward Elgar.
Sousa, Felipe (2025). »Monetary Theory of Production: Revolutionary or Not Microfounded?« In: Review of Political Economy, pp. 1–30. DOI: 10.1080/09538259.2025.2596079
Tàbara, J. D. (2002). »Sustainability culture«. In: *Papers de Sostenibilitat, Institut Internacional de Governabilitat. Barcelona: Institut Internacional de Governabilitat de Catalunya (IIGC)*
Tàbara, Joan David (2023). »Regenerative sustainability: A relational model of possibilities for the emergence of positive tipping points«. In: Environmental Sociology, 9(4), pp. 366–385. Doi: 10.1080/23251042.2023.2239538
Tcherneva, Pavlina (2020): *The case for a job guarantee*. Polity Press.
Van Parijs, Philippe / Vanderborght, (2017): *Basic income: A radical proposal for a free society and a sane economy.* Harvard University Press.

Van Parijs, Philippe (1995): *Real freedom for all*. Clarendon Press.

Vigna, P., & Casey, M. (2015): *The age of cryptocurrency.* Picador.

Weber, Beat (2016). »Bitcoin and the legitimacy crisis of money«. In: Cambridge Journal of Economics, 40(1), pp. 17–41.

Weber, Beat (2018): *Democratizing money: Debating legitimacy in monetary reform proposals.* Cambridge University Press.

White, Stuart (2000). »Social rights and the social contract: Political theory and the new welfare politics«. In: British Journal of Political Science, 30, pp. 507–532.

White, Stuart (2003): *The civic minimum.* Oxford University Press.

Youel Simon (2024): *The fiscal benefits of a digital pound.* London: Positive Money. https://www.datocms-assets.com/132494/1717791494-positive-money-the-fiscal-benefits-of-a-digital-pound-3.pdf (last access on 14.03.2025)

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Innovative Solidarities in Europe's Sustainability Transitions: A Mechanism-Based Account

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Abstract. Across Europe, practices such as climate mutual aid, community energy cooperatives, refugee support networks, and just transition alliances signal a reconfiguration of solidarity under ecological crisis. Building on recent work on altruistic solidarity, we conceptualize solidarity as patterned prosocial practice and use ›innovative solidarity‹ as a flexible label for heterogeneous forms that reach beyond bounded identities and reciprocity. Developing a mechanism-based framework, we specify how shared ethical commitments, recognition of interdependence, and deliberate cooperation across difference generate solidarities that operate across translocal, transnational, and cross-generational scales. To illustrate the framework, we draw on four well-documented European cases – youth climate strikes, community energy cooperatives, just transition coalitions, and disaster mutual aid networks – to show how these mechanisms are enacted, stabilized, and sometimes undermined in practice. The case illustrations suggest how innovative solidarities can support sustainability transitions by expanding who is included in the ›we‹ of solidarity to distant others and future generations.

Keywords: solidarity; sustainability transitions; prosocial behavior; moral economy; climate change; energy cooperatives; just transition; Europe.

1 Introduction

Solidarity has long been a foundational concept in sociology (Durkheim 1984/[1893]; Stjernø 2005), but its character is evolving under the pressures of globalization and ecological crisis in the twenty-first century. Classical forms of solidarity – built through shared class interests, national citizenship, or institutionalized welfare states – were bounded by a clearly defined ›us‹, rooted in common group identities (Stjernø 2005; Banting/Kymlicka 2017; Wimmer 2008). By contrast, contemporary global challenges such as climate change, transnational inequality, and pandemics spill across traditional boundaries and demand cooperation beyond any single community or nation, benefiting distant ›them‹ as much as the immediate ›us‹ (Bazzani 2025a). Recent scholarship suggests that global risks are not eroding solidarity but catalyzing a cosmopolitan reimagining of it. For instance, Beck (2015) argues that worldwide hazards impose an »involuntary cosmopolitanization« of solidarity as people recognize shared threats and obligations across borders. Rather than signaling the end of social bonds, crises from climate disasters to public health emergencies have prompted new forms of solidarity that transcend established group loyalties. These responses are fueled by a sense of planetary interdependence and ecological urgency, which drives people to seek support beyond the familiar confines of nation, class, or creed (Chakrabarty 2021; Beck 2016).

Three intellectual streams set the stage for our inquiry. First, moral economy and solidarity economy perspectives show that sustainability transitions hinge on ethical values and communal relations (Bazzani 2022a), not just on technology or markets (Laville et al. 2015; Polanyi 1944). These scholars argue that moving toward sustainability requires re-embedding economic practices in principles of reciprocity, care, and social justice. This approach challenges the dominant logic of competition by insisting that transitions like shifting to low-carbon energy or circular production will succeed only if grounded in collective norms of fairness and mutual aid (Utting 2015).

Second, research on prosocial behavior asks why individuals incur costs to benefit others, especially strangers. Studies find that altruistic acts (e.g. charitable giving or helping behavior) differ fundamentally from self-interested exchanges (Simpson / Willer 2015). Solidarity builds on these prosocial impulses by elevating them from isolated acts into coordinated collective action (Prainsack / Buyx 2017). In a solidaristic arrangement, individual altruism is coordinated and affirmed as a shared project. For example, neighbors not only help each other during a crisis but also organize a community relief fund. Likewise, climate activists not only reduce their own carbon footprint but mobilize others to do the same (Bazzani 2025a).

Third, reflexive modernization and risk society theories (Beck 1992/[1986]; Giddens 1991) suggest that global risks undermine traditional securities and prompt societies to reflect and reinvent social bonds. Beck posits that transboundary dangers like nuclear accidents or global warming compel cooperation beyond the nation-state in the absence of a world government (Beck 2006; Beck 2015). The solidarity that emerges is fragile and reflexive – a conscious recognition of shared fate rather than the automatic cohesion of homogeneous communities (Habermas 2013). Indeed, even as nation-states fail to coordinate responses to issues like climate change – hobbled by free-rider problems (Olson 1965) and conflicting interests – citizens and civil society have begun forging alternative support networks across borders (Featherstone 2012). These converging debates underscore the need to reconceptualize solidarity. It should no longer be viewed as a nostalgic vestige of close-knit groups or as a mere synonym for cooperation, but rather as a dynamic phenomenon shaped by new structural conditions and normative aspirations (Scholz 2008).

Despite these advances, a theoretical gap remains. Some contemporary scholarship still tends to read current forms of solidarity mainly through the lenses of classical categories, or else replaces ›solidarity‹ with broader notions such as collaboration, cooperation, social capital or social cohesion. In parallel, research in sustainability science and global governance frequently invokes generic cooperation mechanisms – collective action, multi-level governance, polycentric coordination – without clearly distinguishing solidaristic commitments from more instrumental, interest-based forms of collaboration. In what follows, we treat solidarity as analytically distinct from tactical cooperation or negotiated alliances and ground this distinction in a practice-oriented, prosocial definition.

We define solidarity as coordinated prosocial practices that involve some cost to actors and benefit others (Simpson/Willer 2015; Prainsack/Buyx 2017). This practice criterion makes solidarity observable in concrete behaviors, while allowing for variation in how solidaristic practices are normatively framed and institutionally organized. For example, tax-funded redistribution or just-transition schemes illustrate solidarity at the institutional level. In such cases, individual altruistic intent is not required, since solidaristic practices may also be institutionally mediated and organized through formal schemes of redistribution or protection (Morena et al. 2019). Cooperation, by contrast, often remains thin and expedient – a temporary alignment of interests that dissolves once conditions change (Bennett/Segerberg 2013). Conflating cooperation with solidarity thus risks obscuring what is novel about the emerging manifestations of solidarity. Yet we currently lack a framework to capture how contemporary forms of solidarity differ from those of the past. This article addresses that gap by asking: What makes emerging forms of solidarity qualitatively different from earlier ones, and how can we theorize those differences? Our aim is to develop a conceptual lens that recognizes the new mechanisms and scales at play in these innovations.

An array of recent developments suggests that solidarity is being reconfigured in ways not easily captured by established categories. Across Europe and beyond, communities and networks are improvising solidaristic responses to crises in ways that are neither wholly self-interested nor rooted in traditional identities (Feischmidt et al. 2019). Grassroots climate mutual aid initiatives, for instance, have proliferated in response to intensifying climate disasters (Bazzani 2023; 2024). Strangers often mobilize to support one another – opening their homes to evacuees and organizing informal supply chains after disasters – not due to expectations of reciprocity, but driven by a shared sense of vulnerability and moral duty in a warming world.

Similarly, citizens are forming renewable energy cooperatives to democratize the shift to clean power. These cooperatives reject profit maximization in favor of community benefit, reinvesting surpluses into local sustainability projects and social equity measures. In doing so, they transform what would otherwise be a market transaction (buying electricity) into a relationship of trust, mutual aid, and collective decision-making. Tellingly, such energy communities explicitly frame their mission in terms of solidarity – providing affordable clean power and community development rather than just selling kilowatt-hours (Wade et al. 2025).

Emergent ›eco-solidarity‹ alliances likewise link diverse groups around shared ecological and justice goals. For example, the organization *EcoPeace Middle East* unites Jordanians, Palestinians, and Israelis to jointly manage water resources and climate adaptation, bridging political divides for a common good (Peters et al. 2025). During Europe's recent refugee crisis, volunteer networks similarly rallied under the slogan #RefugeesWelcome, using digital platforms to coordinate assistance for asylum seekers (della Porta 2018). These grassroots efforts forged transnational ties of support – an emerging European solidarity from below (Koos / Seibel 2019).

Cases such as climate mutual aid, community energy cooperatives, disaster mutual aid networks, and just-transition alliances reveal solidarities that are not well captured by the dominant categories of earlier eras. Earlier socialist, communist, and feminist movements already forged powerful transnational and intergenerational solidarities, but the forms examined here differ in their explicit orientation toward distant others, future generations, and ecological limits. They are not anchored in any single identity category, nor are they purely transactional. Instead, these forms of solidarity hinge on distinct configurations of relational mechanisms (such as shared ethical commitments, recognition of interdependence, and deliberate cooperation across difference) and operate through densely interconnected scales (translocal, transnational, and explicitly cross-generational) that link local practices, transnational networks, and future-oriented publics around ecological limits and the protection of distant others. Such phenomena underscore the need for an updated theoretical framework to explain how and why solidarity is being reimagined in the context of sustainability challenges.

In response to these gaps, we use the term »innovative solidarity« as a flexible descriptive label for heterogeneous contemporary forms of solidarity emerging under conditions of ecological crisis and global risk, rather than as a rigid typology or a normative ideal. Building on recent work on »altruistic solidarity« (Bazzani 2025a), our approach shifts attention from solidarity as an abstract value or cultural idiom to solidarity as patterned prosocial action. This practice-oriented, consequentialist lens treats solidarity as collective action that provides benefits to others at some cost to actors, while allowing such practices to take different normative and institutional forms. Defining solidarity in terms of observable prosocial behavior (Simpson / Willer 2015) offers a concrete criterion for identifying when genuine solidarity is at work (as opposed to mere rhetoric or coincidental cooperation). It also allows us to distinguish forms of solidarity based on whom they benefit – whether in-group members, distant strangers, or future generations – and on the motivations and norms that sustain them.

Adopting this perspective, the remainder of the paper develops our argument in several steps. In this article, by ›theory‹ we mean an explanatory account that identifies generative mechanisms linking conditions to observable solidaristic practices. By ›theorizing‹, we mean the iterative process of formulating, refining, and delimiting such mechanism-based explanations (Abend 2008; Swedberg 2012). In the next section, we elaborate a mechanism-based theoretical framework of solidarity, drawing on classical theory as well as contemporary debates on prosociality, moral economies, digital activism, and risk. We then propose a set of analytical propositions to explain how new solidarities form and why they depart from classical patterns. Finally, we discuss a set of case illustrations to assess the plausibility of these mechanisms in practice, before concluding with implications for theory and policy. These cases serve as empirical illustrations for assessing the plausibility of the proposed mechanisms.

Our aim is to clarify how emergent forms of solidarity shape the prospects for collective action under conditions of ecological crisis.

2 Theoretical Framework

This section develops the conceptual and explanatory framework for analysing emerging forms of solidarity in sustainability transitions.

2.1 Conceptualizing Solidarity as Prosocial Practice

Solidarity refers to coordinated prosocial practices that involve some cost to actors and benefit others (Bazzani 2025a). This behavioral criterion sharpens the concept: solidarity manifests when people tangibly support one another at a cost to themselves, not merely when they feel empathy or declare loyalty (Prainsack 2020). Notably, solidarity does not require purely selfless intent; even strategic or duty-driven acts can count, provided they generate prosocial outcomes for others (Prainsack/Buyx 2017; Simpson/Willer 2015). In other words, reciprocity and enlightened self-interest can still yield solidaristic outcomes under the right normative conditions (Molm et al. 2007). Defining solidarity in terms of observable prosocial practice distinguishes it from generic cooperation or social capital, which may involve coordination or reciprocity without the same distribution of costs and benefits toward others (Portes 1998). Crucially, this practice-based view asks who benefits from a solidaristic act, leading to a distinction between mutualistic and altruistic solidarity (Bazzani 2025a). In mutualistic solidarity, helping others also benefits the actor (via reciprocity or shared payoffs) – for example, a labor strike for higher wages aids one's coworkers *and* oneself. In altruistic solidarity, by contrast, actors incur costs with minimal expectation of return, primarily to benefit others. Many emerging sustainability solidarities tilt toward this altruistic form. For example, climate mitigation in wealthy societies often requires present costs (lifestyle changes, transition costs) whose benefits largely accrue to poorer communities and future generations – a one-sided cost (Markowitz/Shariff 2012). Defining solidarity through prosocial practice and distinguishing its mutualistic vs. altruistic forms gives us an analytic handle on the concept. It anchors our framework in concrete actions and highlights a qualitative shift: from the inward-looking, reciprocal solidarity prevalent in the twentieth century to more outward-looking, unilateral forms of solidarity oriented toward ›distant others‹ in the twenty-first century.

2.2 Classical Theories of Solidarity

Classical social theorists provide a baseline for understanding how today's solidarities differ. In *The Division of Labor in Society*, Durkheim (1984/[1893]) contrasted mechanical solidarity, the cohesion of individuals in a homogeneous, tradition-bound community, with organic solidarity, the interdependence binding people in a complex, differentiated society. As societies modernized, Durkheim argued that solidarity shifted from mechanical to organic forms. Organic solidarity was thought to emerge from mutual dependence: since each person's livelihood depends on others, a shared interest should arise. Around the same time, Tönnies (1887) described a similar transition from *Gemeinschaft* (community) to *Gesellschaft* (society). *Gemeinschaft* entails intimate, affect-laden ties in familiar groups (family, village) – solidarity grounded in loyalty. *Gesellschaft* denotes the looser, impersonal associations of urban-market life, where bonds are more contractual. Both Durkheim and Tönnies were concerned with how solidarity could extend beyond particularistic, tight-knit groups to larger, more abstract collectivities. They assumed that even in large modern societies, solidarity remained bounded by a sense of ›we-ness‹, often defined by national citizenship, class, or other group identities and buttressed by institutions like the state, church, or unions (Anderson 1983).

Mid-twentieth-century theorist Polanyi (1944) introduced the concept of the »double movement« and the need to re-embed markets in social relations. He observed in *The Great Transformation* that unfettered market expansion disembedded economic activity from social constraints, eroding communal supports and creating insecurity. Society pushes back with a protective counter-movement: through social policies, cooperatives, and other mutual aid mechanisms, communities reassert social solidarity and moral principles in economic life. Early labor movements and welfare states exemplified this: they institutionalized solidarity (e.g. pensions, public assistance, union funds) to protect people from market instabilities. Polanyi's analysis anticipated the notion of a moral economy guided by norms of fairness, duty, and communal well-being (Thompson 1971; Bolton/Laaser 2013). Later scholars likewise stressed that market behavior is embedded in social relationships and norms (Granovetter 1985). Importantly, historical solidarity movements were usually bounded at the local or national level, assuming a delineated community of solidarity (citizens protecting each other via social insurance, workers supporting one another through unions). Thus, classical solidarities were predominantly inward-looking – confined to in-group members – and often reciprocal (grounded in mutual self-interest or shared identity) (Wimmer 2008).

2.3 Beyond Boundaries: New Perspectives in Late Modernity

Developments in late-modern society have stretched and challenged these classical views of solidarity. Research shows that even when structural interdependence or a shared identity exists, people will not automatically act in solidarity; certain conditions must be met (Lindenberg et al. 2006). Factors such as trust, perceived fairness, effective leadership, cultural framing, and emotional cues all influence whether group members actually help one another. For example, individuals are more likely to aid in-group members if they feel a moral obligation and see peers setting an example (van Zomeren et al. 2008). Moreover, the question of who is included in the moral circle of ›we‹ has become central. Berman's (2006) history of European social democracy shows that expanding solidarity from class to nation was contentious but did broaden the community of obligation (though greater internal diversity can complicate broad solidarity (Putnam 2007)). Today, a similar question is posed on a global scale: can solidarity extend to all humanity, to non-citizens, or even to future generations? Some theorists invoke the idea of *cosmopolitan solidarity*, an ethic of solidarity that looks outward to include strangers and distant others (Beck 2006; Giddens 1991). Empirical evidence suggests this is possible: individuals who strongly identify as global citizens are more willing to make personal sacrifices to address global problems (Buchan et al. 2011). This resonates with research on transnational activism: in causes like migrant rights or climate change, activists deliberately frame issues in terms of commonality that bridges national and ethnic divides, enlarging the perceived ›we‹ (della Porta 2018; della Porta/Steinhilper 2022). Public attitudes during Europe's 2015 refugee influx showed both the limits and possibilities of extending solidarity to outsiders: while some reacted with hostility, others demonstrated a willingness to help, especially when humanitarian appeals struck a chord (Koos/Seibel 2019). Similarly, storytelling and participatory practices can foster solidarity among people who initially have little in common by cultivating shared identities and moral commitments (Polletta 2002; Polletta 2016).

Historical experiences of solidarity anchored in labour and feminist movements have long relied on ›thick‹ ties, durable organizations (e.g. unions, strike funds, mutual-aid committees, consciousness-raising groups), and predominantly redistributive claims within bounded constituencies (Fantasia 1988; Silver 2003). By contrast, contemporary solidarities responding to global challenges are more outward-oriented: they mobilize for beneficiaries beyond the in-group (distant others and future generations), coordinate through networked and digitally mediated action, and often hinge on prosocial practices that do not presume reciprocity from recipients (Bennett/Segerberg 2013; Tufekci 2017; Simpson/Willer 2015). This contrast is analytical rather than dichotomous: labour-environment coalitions and feminist care infrastructures show how legacy solidarities can be reconfigured toward cosmopolitan aims, combining classic power resources with expanded moral communities (Schmalz et al. 2018; Htun/Weldon 2012).

Digital-era transformations further enable solidarity to transcend boundaries. New communication technologies allow *networked solidarity* to form rapidly across vast distances: a hashtag, viral video, or online campaign can ignite collective concern and coordinated action among people who have never met – a phenomenon of ›connective‹ action (Bennett/Segerberg 2013; Tufekci 2017). These digital solidarities can be remarkably powerful, but they also face challenges: lacking the formal organizations and enduring structures of old social movements, their persistence is uncertain (Tufekci 2017; Loader et al. 2014). Another important shift has been a revival of *moral economy* principles in response to crises. Economic life is always underpinned by moral values, and times of crisis can make this fact visible (Sayer 2015; Beckert 2020). The 2008 financial collapse and ensuing austerity, for example, sparked protests and grassroots initiatives in Europe that explicitly appealed to solidarity – from community kitchens in Greece to Spain's *indignados* movement for social justice (della Porta 2015; Arampatzi 2017). Such instances suggest a return of solidarity-infused moral economies, where citizens collectively affirm values of equity and care in opposition to impersonal market forces (Rakopoulos 2016). In Polanyian terms, efforts to re-embed markets in social relations have taken on transnational dimensions under neoliberal globalization (Banting/Kymlicka 2017; Lahusen/Grasso 2018): civil society networks now span across countries to demand that global markets be tempered by solidarity and fairness. This trend was anticipated by earlier studies of transnational advocacy showing how NGOs and activist coalitions build cross-border ties to pursue moral goals (Keck/Sikkink 1998).

At the micro level, contemporary research sheds light on what drives individuals to contribute to the common good. Social norms and network dynamics critically shape altruistic behavior. If generous norms are publicly honored, or if helping others boosts one's reputation, prosocial actions proliferate (Hardy/

van Vugt 2006). Likewise, experiments show that witnessing others behave generously can trigger cascades of solidarity through emotional contagion and normative influence (Fowler/Christakis 2010). These findings challenge any assumption that shared interests or identities alone will automatically produce solidarity. Instead, they point to the importance of activating mechanisms – social influence, interpretive framing, institutional incentives – that prompt individuals to contribute to collective welfare (Simpson/Willer 2015). In the context of sustainability challenges, this means that even though all of humanity faces a risky global problem like climate change, solidaristic action does not simply materialize; it must be consciously cultivated through the kinds of processes discussed above.

Emerging forms of solidarity diverge from classical patterns in several ways. First, the scope of solidarity is expanding beyond traditional boundaries. Twentieth-century solidarity was often circumscribed by nation or class; by contrast, many contemporary cases involve solidarity with out-groups (e.g. refugees or distant strangers), with future generations (Bazzani 2022b), and with projected life chances not yet realized (Bazzani/Vignoli 2022), and, in some cases, with non-human nature. Classical theory assumed solidarity would emerge almost automatically from social structure or habit, whereas today it often must be actively constructed and continually maintained. Third, new solidarities are more reflexive and value-explicit: participants consciously invoke ethical justifications for their actions, rather than simply following tradition or self-interest. This reflexivity makes solidarity more inclusive (open to all who share the values) but also more dependent on sustained commitment (since it is not cemented by unchangeable ties like kinship or place). Fourth, many recent examples blur the line between community and society. For instance, an urban renewable energy cooperative can create a quasi-*Gemeinschaft* of neighbors within the impersonal *Gesellschaft* of the market, and online activist networks form intentional ›families‹ of support within global social media systems. This kind of hybridity – small communities of solidarity nested within complex modern systems – is a hallmark of innovative forms.

2.4 Mechanisms of Solidarity in Sustainability Transitions

To analyze how these new forms of solidarity take shape, we adopt a multi-level, mechanism-based framework. Following broad mechanism-based approaches in explanatory sociology (Hedström/Swedberg 1998; Hedström/Ylikoski 2010), and drawing on Maurer's systematization of sociological mechanisms (Maurer 2016), we treat mechanisms as recurring generative social processes that specify how identifiable conditions give rise to solidaristic practices through situational, action-formation, and transformational pathways. In this paper, these general pathways are specified primarily as meso-level social processes – such as deliberation, moral economy, shared risk framing, institutional embedding, and boundary bridging – through which solidaristic practices are generated, stabilized, and, under adverse conditions, undermined.

Solidarity operates across three levels (Bazzani 2025a): individual, collective, and institutional. At the individual level, it appears in personal sacrifices for others (riding a bike to cut emissions, volunteering at a community garden); at the collective level, in coordinated group efforts (youth climate strikes, neighborhood mutual-aid networks); and at the institutional level, in formal policies (a city fund for climate refugees or the EU's *Just Transition Fund* supporting regions and workers in decarbonization). These levels interact dynamically: individual altruistic acts can aggregate into social movements; successful collective actions can spur supportive policy changes; and robust institutions in turn encourage more individuals to participate by lowering the risks and costs of acting in solidarity. A multi-level perspective reminds us that solidarity is not a one-off event or a mere sentiment —it is an evolving process that can scale up and stabilize. To endure over time, solidarity typically needs alignment across levels (for instance, personal commitments reinforced by organizations and public policies) (Prainsack 2020).

Within this multi-level picture, we focus on five key mechanisms that appear crucial for the emergence and persistence of solidarity under novel conditions. Our contribution to mechanism-based approaches is to specify a mid-range set of mechanisms tailored to solidarity in sustainability transitions, and to outline their observable implications for comparative assessment across cases and scales. These mechanisms often intersect across micro, meso, and macro contexts, but examining each one highlights how solidarity is enabled in new circumstances. The five mechanisms are: (1) communicative deliberation, (2) moral economy, (3) shared risk framing, (4) supportive institutionalization, and (5) boundary-bridging networks, each elaborated below with examples.

Communicative deliberation. Open and inclusive dialogue can forge solidarity by allowing people to reason through differences and discover common ground. Habermas (1984/[1981]) argues that egalitarian communication can build consensus on shared norms and goals. In practice, when diverse individuals jointly deliberate about a problem, they often develop a felt sense of ›we‹. Such interaction rituals can generate collective effervescence and feelings of unity (Collins 2004), helping transform separate individuals into a community. For example, citizens' assemblies on climate policy in countries such as France, the UK, and Ireland have convened people from different walks of life to discuss climate risks. Through facilitated discussion, participants frequently report a greater appreciation of others' perspectives and a realization of shared purpose, even when they begin from divergent positions. The outcome is not only better-informed policy proposals but also a reflexive solidarity: people support collective action because they have reasoned together and agreed on its necessity. Deliberation thus legitimates solidarity by grounding it in reasoned agreement rather than in mere sentiment or tradition. It also builds interpersonal trust and empathy, as hearing one another's experiences can humanize those who were initially ›others‹. Empirical studies of community renewable energy cooperatives find that regular meetings and participatory decision-making increase members' commitment to the group's solidaristic goals (Hicks / Ison 2018). In social movements, likewise, spaces for dialogue – from online forums to local general assemblies – help activists forge collective identity and morale. Polletta's research shows that horizontal, participatory practices (for instance, the general assemblies in the Occupy movement) deepened solidarity because participants felt heard and saw their values reflected in group decisions (Polletta 2016). In today's diverse societies, communicative deliberation has become a key glue for solidarity: rather than being assumed, solidarity often must be ›talked into existence‹. Especially with abstract or unevenly distributed risks like climate change, only through inclusive dialogue can people recognize their interdependence and build the trust needed to act together.

Moral economy. A second mechanism is the deliberate embedding of moral values into economic life through practices of moral economy, including alternative monetary and exchange arrangements explicitly oriented toward collective benefit and ecological goals (Bazzani 2019; Bazzani 2020; Bazzani 2022a). Many sustainability initiatives explicitly prioritize ethics and community welfare over profit, creating alternative models such as cooperatives, community-supported agriculture, time banks, and sharing platforms (Bazzani 2021). These moral economies foster solidarity in at least two ways. First, by asserting shared principles of fairness, mutual aid, and stewardship, they form a normative community among participants (Laville et al. 2015). For example, members of a food cooperative who commit to affordable prices and volunteer labor are united by an ethic of solidarity with low-income consumers and local farmers; they treat economic exchange not as a cold transaction but as a collective effort to support each other and uphold common ideals (Jaklin et al. 2015). Second, these initiatives generate concrete mutual support through their practices. The spread of time-banking systems –where people exchange services based on hours of work rather than money – illustrates this dynamic: participants regularly help neighbors with tasks like childcare or home repairs outside the cash economy, fostering reciprocity and trust (Naughton-Doe et al. 2021). In the broader sustainability transition, a prominent example is the rise of renewable energy cooperatives. By the mid-2020s, thousands of renewable energy co-ops had spread across Europe, engaging millions of citizen-members (REScoop.eu 2025). These co-ops operate on solidarity principles: members pool resources to invest in clean energy, share the benefits within the community, and often implement ›solidarity tariffs‹ to make electricity affordable for lower-income households (Caramizaru / Uihlein 2020). Such practices reinvest surpluses into social or green projects instead of maximizing private profit, echoing Polanyi's counter-movement on a decentralized scale. They demonstrate that communities can successfully govern shared resources through cooperation and trust – findings consistent with Ostrom's studies of self-organized resource management (Ostrom 1990). The cumulative effect is to normalize solidarity as an economic logic. As people witness these models succeeding, it challenges the notion that self-interest must dominate markets. It shows that economic arenas can be governed by collective norms and mutual aid (Laville et al. 2015), which in turn inspires further solidarity initiatives and pressures larger institutions to accommodate values beyond profit.

Shared risk framing. A distinctive catalyst for contemporary solidarity is the recognition of shared global risks and actively framing those risks in moral terms. Modern hazards like climate change or pandemics create objective interdependencies – everyone is vulnerable, albeit in unequal ways (Beck 1992/[1986]). But translating shared risk into solidarity often requires conscious narrative work by movement leaders, media, or institutions. Activists and policymakers who cast a crisis as a common challenge can spark a sense of united purpose. For instance, climate justice movements frame global warming not only as an environmental or technical problem but as a matter of collective survival and fairness. Slogans such as ›we are all in the same boat‹ convey that people around the world share a fate and therefore should support one another to avert catastrophe. The 2019 Global Climate Strike vividly demonstrated this dynamic: millions of young people across continents marched in unison – one of the largest climate protests in history (Wahlström et al. 2019) – with many explicitly invoking solidarity across generations and with harder-hit regions of the world (IPCC 2022). By highlighting the universality of the threat and the injustice of who suffers most, such framing helps construct a cosmopolitan ›we‹: participants feel solidarity not only with their local peers but also with distant others who bear the brunt of the problem. Shared-risk framing thus converts awareness of danger into a moral impetus for solidarity. That said, this mechanism is fragile – competing narratives can undermine it. If people interpret risks in zero-sum, exclusionary terms (›protect our own, exclude others‹), solidarity will fracture along national or ethnic lines. During the COVID-19 pandemic, inclusive appeals like the maxim ›no one is safe until everyone is safe‹ (urging equitable vaccine distribution) competed with nationalist responses; where the inclusive frame prevailed through global cooperation and grassroots mutual aid, cross-border solidarity emerged (Mould et al. 2022). Beck described this potential as »emancipatory catastrophism« – the idea that confronting a catastrophe can liberate society from parochialism and generate new cooperative bonds (Beck 2015). In essence, when people come to view a looming disaster as a shared fate, their circle of moral concern can expand dramatically. Solidarity grounded in shared risk is not about direct reciprocity or similarity; it is about recognizing common vulnerability and a moral responsibility to others in the same peril, even if they are distant or will never reciprocate. It aligns ethical motivation with our collective risk horizon, prompting present sacrifices to safeguard others and the future.

Supportive institutionalization. Grassroots solidarity efforts often begin informally, but their long-term durability may hinge on support from formal institutions, including legal and administrative arrangements that secure recognition and access for vulnerable groups (Pasqualini / Bazzani 2021). This mechanism involves incorporating solidarity into laws, policies, and organizational structures to amplify and stabilize nascent prosocial practices. It can occur bottom-up, when organic community initiatives gain recognition or resources from authorities, or top-down, when institutions proactively design programs to foster solidarity. A bottom-up example occurred during Europe's 2015–2016 refugee influx: across many cities, local volunteers spontaneously organized to assist arriving refugees with food, shelter, and integration. In cities like Barcelona and Berlin, officials set up liaison offices to assist citizen refugee-aid groups with meeting spaces, logistics, and funding (García / Jørgensen 2018; Cantat 2020). This official support enabled local solidarity networks to persist beyond the initial crisis and expand their reach, while also conferring legitimacy – helping strangers became not just a private charitable act but a recognized part of public policy. Institutionalization also allows solidarity to scale up. When state or international bodies get involved, they can connect and standardize isolated efforts into broader programs (Hopman / Knijn 2022). At the European Union level, the *Just Transition Mechanism* explicitly embeds solidarity principles: wealthier member states are expected to help finance decarbonization in coal-dependent regions, and policies aim to protect workers and vulnerable communities during the green transition. By creating dedicated funds and inclusive planning processes, the EU is institutionalizing solidarity across countries and social groups. More generally, formal mechanisms – legal mandates, funding streams, organizational infrastructure – help ›lock in‹ solidaristic behaviors, making them less contingent on fleeting goodwill. History suggests that many solidarities became truly powerful only after they gained institutional footing: for instance, postwar welfare states transformed informal worker mutual aid into nationwide social insurance, vastly increasing the scale and stability of solidarity. Likewise today, innovative local experiments (renewable energy co-ops, youth climate groups, neighborhood aid networks) can spread and endure when buttressed by supportive policies – such as subsidies for community energy projects, legal recognition of citizen initiatives, or public funding to coordinate volunteers. To be sure, institutionalization can introduce bureaucracy or require compromises, potentially dampening grassroots energy. But without some formal integration, many solidarity initiatives would remain isolated sparks vulnerable to burnout or shifting political winds. A mechanism-focused view therefore pays attention to feedback loops between civil society and institutions: when civic solidarities are recognized, resourced, and embedded in governance arrangements, solidarity becomes an expected norm of collective life. For example, if a city routinely mobilizes volunteers for community gardens or disaster relief through an official program, residents may come to see such participation as a normal civic duty. In these ways, embedding solidarity into institutions helps transform episodic acts of mutual aid into a stable social infrastructure.

Boundary-bridging networks. The final mechanism involves building networks and cultivating brokers that link different social groups, enabling solidarity to leap across divides that traditionally kept people apart. Many of the most novel solidarities today are *bridging* in character; they connect individuals and groups across cleavages of ethnicity, class, nationality, or even species. Such bridging seldom happens automatically; it often relies on intentional brokerage or organizational forms that span boundaries. Consider the emergence of ›just transition‹ alliances that bring environmental activists together with labour unions – constituencies that have often been uneasy partners. In Europe, such coalitions have frequently depended on institutionalized social dialogue, mediating organizations, and cross-sector forums that enabled actors to negotiate common goals across environmental and employment agendas (Molina 2022; Eurofound 2025). Through these interactions, labour and climate actors increasingly articulated shared claims around fairness, worker protection, and green employment pathways. Public slogans such as ›There are no jobs on a dead planet‹ condensed this convergence into a widely communicable solidarity frame (ILO 2014).

Another example comes from the humanitarian response to the refugee crisis. Pan-European volunteer networks emerged to aid refugees, with activists from multiple countries coordinating via social media and relying on a few multilingual hubs to channel information and resources between local groups and international supporters, thereby greatly reducing barriers to cooperation (Keck/Sikkink 1998). Research shows that when bridging ties exist, cooperative norms and resources diffuse much more widely (Granovetter 1973; Centola 2018). Boundary-spanning actors today include international NGOs, transnational advocacy networks, epistemic communities linking experts with activists, diaspora groups connecting their homelands and host countries, and digital influencers rallying global audiences. Digital connectivity in particular has spawned new ad hoc brokers: for example, Twitter hashtags like #FridaysForFuture and #ClimateStrike acted as hubs linking climate-concerned youth worldwide. This way, a single teenager's school strike in Sweden (Greta Thunberg) was amplified into a coordinated movement of millions (Tufekci 2017), generating an unprecedented transnational youth solidarity for climate action. Similarly, Indigenous communities partnering with environmental NGOs against deforestation, and food-delivery couriers in China using company chat apps to organize collective action, show how disparate actors can unite against shared threats (Lei 2021). In general, bridging ties overcome mistrust and unfamiliarity, weaving different communities into a broader fabric of mutual support. As globalization renders some traditional boundaries more permeable while new divides (digital or informational) persist, intentionally cultivating cross-cutting networks is crucial for spreading solidarity to more diverse constituencies.

Together, these five mechanisms form a framework for understanding innovative solidarity. The next section outlines the research design used to illustrate and assess the plausibility of these mechanisms across a set of well-documented cases.

3 Research Design and Methodology

This article develops a theory-informed comparative synthesis of four well-documented cases to examine how innovative solidarities manifest across diverse contexts in Europe's sustainability transition. The cases were selected as illustrative and theoretically relevant examples that allow us to probe the plausibility, scope conditions, and comparative relevance of the proposed mechanisms (Yin 2018). Four empirical cases were selected as critical exemplars of emergent solidarity: the Fridays for Future youth climate strikes (Kowasch et al. 2021), community-led renewable energy cooperatives (Končalović et al. 2023), ›Just Transition‹ coalitions bridging labor and environmental groups (Velicu/Barca 2020), and grassroots mutual aid in disaster response (Mould et al. 2022). These cases represent different domains – social movements, economic cooperation, policy coalition, and crisis relief – providing variation in conditions under which solidarity is mobilized. Taken together, the cases illuminate the five theorized mechanisms (communicative deliberation, moral economy, shared risk framing, institutionalization, boundary-bridging) in practice.

The discussion of each case draws on published case studies, policy documents, movement materials, media reports, and existing scholarly analyses produced mainly between 2015 and 2025. For example, the Fridays for Future discussion draws on published studies of movement communication and participation (Wahlström et al. 2019), while the energy cooperatives case draws on EU directives and existing case studies of local projects. A mechanism-based interpretive approach guides the discussion (Hedström/Ylikoski 2010). This means that rather than treating solidarity as a vague cultural trait, we use the case material to assess the plausibility of recurring meso-level generative social processes – such as deliberation, moral economy, shared risk framing, supportive institutionalization, and boundary bridging – through which solidaristic practices may be generated, stabilized, and sometimes undermined. The argument is grounded in a comparative reading of documentary and scholarly materials, but it should be read as theory-building and interpretive synthesis rather than as a report of original fieldwork or systematic comparative coding. The article is qualitative and interpretive in orientation, situating each case in its socio-political context and using existing documentary and scholarly materials to illustrate the mechanisms proposed in the theoretical framework. Importantly, the definition of solidarity guiding this inquiry is that of coordinated prosocial practices that involve some cost to actors and benefit others. Such practices may be direct or institutionally mediated, and may take mutualistic or altruistic forms depending on how costs and benefits are distributed. This definition (as developed in the theoretical framework) underscores that solidarity entails practical acts of mutual support rather than merely feelings of compassion and does not require purely altruistic motives (Prainsack/Buyx 2017; Bazzani 2025a). It also permits institutionalized forms of solidarity, recognizing that formal organizations and policies can channel solidaristic behavior. Adopting this conceptualization, the analysis treats solidarity as an observable pattern of action (e.g. resource-sharing, collective protest, aid-giving) rather than an inherent group property. Accordingly, the empirical sections should be read as theory-guided comparative illustrations based on existing materials, not as claims derived from original data collection or newly produced empirical analyses. In what follows, each case is discussed with attention to how these meso-level generative processes emerge, interact, and shape solidaristic practices in context.

4 Case Illustrations: Innovative Solidarities in Practice

To illustrate the theoretical framework, this section discusses four European cases – the youth climate movement *Fridays for Future*, citizen-run energy cooperatives, ›just transition‹ coalitions, and disaster mutual aid networks. Together, the cases illustrate how the proposed mechanisms of innovative solidarity (communicative deliberation, moral economy, shared risk framing, supportive institutionalization, and boundary-bridging) take shape in practice and how they link grassroots action with broader structural change.

4.1 Fridays for Future: Youth Climate Strikes and Intergenerational Solidarity

Fridays for Future (FFF) emerged in 2018 as a youth-driven wave of transnational climate protest, beginning with Greta Thunberg's lone school strike and quickly expanding into weekly demonstrations by millions of students across Europe (Wahlström et al. 2019; Han/Ahn 2020). The movement grew through horizontal, grassroots organizing: local FFF groups held open assemblies and online forums to voice grievances and co-create demands, even collaborating with scientists to draft detailed climate policy proposals (Wahlström et al. 2019). This inclusive, deliberative approach grounded the movement's solidarity in reasoned dialogue, helping diverse young activists forge a shared purpose rather than following any partisan line.

FFF's discourse also framed climate action as a moral obligation and a shared fate. By walking out of class, youth signaled personal sacrifice for the common good of both vulnerable communities today and future generations to come. Slogans like ›our future‹ and ›there is no planet B‹ captured norms of intergenerational justice and a sense of common vulnerability (IPCC 2022). This ethical and cosmopolitan framing broadened FFF's appeal beyond youth: parents, teachers, and other allies formed ›For Future‹ groups in solidarity with the strikers, united by the idea that everyone has a responsibility to ensure a livable planet (Parents For Future UK 2019; della Porta 2018). By challenging market-centric values with calls for fairness and duty, the school strikers built a moral community that legitimized their cause and pressured authorities to respond (Fisher / Nasrin 2021).

Although FFF began outside formal institutions, it soon made inroads into policy arenas. Dozens of city councils across Europe endorsed the strikes or declared climate emergencies in line with the students' demands, and movement representatives gained audiences with national and EU leaders, contributing to stronger climate pledges (such as the EU's 2050 net-zero goal) and just-transition funds that echoed FFF's calls for solidarity (European Commission 2019a). At the same time, the movement cultivated broad coalitions across social divides. ›Parents for Future UK‹, ›Scientists for Future‹, and trade union partners joined forces with the youth, demonstrating an unusual cross-generational and cross-sector alliance for climate justice (della Porta 2018). By welcoming anyone who shared their goals, the youth strikers helped transform climate activism from a niche concern into a broad societal cause. FFF thus exemplified how innovative solidarity can be actively constructed – through inclusive dialogue, normative appeals, shared-risk narratives, and strategic engagement with institutions – to mobilize support well beyond a single group (Tufekci 2017).

4.2 Energy Cooperatives: Local Solidarity Economies in the Energy Transition

Thousands of local renewable energy cooperatives have sprung up across Europe, enabling communities to jointly invest in clean energy and share its benefits (Bauwens et al. 2016; Wierling et al. 2018; Caramizaru / Uihlein 2020). These citizen-led initiatives operate on principles of solidarity and equity: members each have an equal vote regardless of investment size, and profits are reinvested in local projects or used to lower costs for vulnerable households rather than maximizing private dividends (Caramizaru / Uihlein 2020). Such practices embed moral values into economic life, cultivating a ›community energy‹ ethos of mutual aid and responsibility, while also showing how economic and monetary infrastructures can be institutionally designed to support solidarity and environmental sustainability (Bazzani 2022a; Bazzani 2025b). Cooperative decision-making further reinforces solidarity – regular member meetings and democratic control give residents a sense of ownership and trust in the venture, building broad support for renewables in the community (van der Schoor / Scholtens 2015; Walker / Devine-Wright 2008). Projects that locals co-design and co-own face less opposition and more enthusiasm, as neighbors view the energy transition as our collective endeavor rather than an external imposition (Walker / Devine-Wright 2008).

Energy co-ops also embody solidarity through risk-sharing and reciprocal support. By localizing energy generation, members insulate themselves from volatile fossil fuel markets and power outages, strengthening community resilience (Bauwens et al. 2016; Wierling et al. 2018). Many co-ops explicitly spread transition burdens fairly – for example, some set aside funds or energy credits to help members struggling with bills, treating energy security as a shared responsibility (Lowitzsch 2020). These grassroots efforts have been amplified by supportive policies. The EU's Clean Energy Package (2018) urged Member States to recognize and assist ›renewable energy communities‹, prompting national measures like feed-in tariffs and grants that helped co-ops flourish (Caramizaru / Uihlein 2020; Lowitzsch 2020). In countries that provided enabling frameworks, small volunteer-driven projects scaled up into a significant force for a just energy transition, whereas onerous regulations stifled co-ops elsewhere (Caramizaru / Uihlein 2020). By institutionalizing support for community power, governments effectively ›lock in‹ solidaristic models of energy provision (European Commission 2019b).

Finally, energy cooperatives bridge social and sectoral divides. A single co-op venture often brings together rural landowners, urban consumers, local officials, and engineers in a common enterprise, uniting stakeholders who rarely collaborate. Cooperative networks also link communities across regions and countries: through federations like REScoop.eu, veteran co-ops share knowledge and microfinance with newer groups, spreading the model transnationally (REScoop.eu 2025). Energy co-ops demonstrate how alternative economic institutions can align material interests with solidarity norms. By pooling resources democratically and distributing benefits broadly, these initiatives turn abstract principles of fairness and sustainability into concrete practices at the local level (Bauwens et al. 2016; Wierling et al. 2018).

4.3 Just Transition Coalitions: Bridging Labor and Climate Justice

As Europe phases out coal and other carbon-intensive industries, ›just transition‹ coalitions have formed to ensure the burdens and benefits of decarbonization are shared fairly (Morena et al. 2019). These alliances unite unlikely partners – labor unions, environmentalists, local communities, and policymakers – turning what could be a ›jobs vs. environment‹ clash into a common effort at solidarity. Inclusive dialogue has been key. In Germany, for example, a national Coal Commission in 2018 brought together union leaders, industry, environmental NGOs, and local officials to negotiate a coal exit; after months of deliberation, they reached consensus on phasing out coal by 2038 with a package of support for affected mining regions (Gürtler et al. 2021). This hard-won compromise demonstrated solidarity through reasoned consensus: former adversaries recognized each other's concerns and crafted a plan to protect both the climate and coal communities. Similar multi-stakeholder forums in Spain, Poland, and other countries have reframed ›jobs vs. climate‹ conflicts into joint problem-solving exercises, building trust and mutual understanding for the transition (Morena et al. 2019).

Just transition coalitions build on shared principles of justice and mutual care. Members insist that workers who fueled past prosperity should not be left behind, and that climate action must go hand-in-hand with economic fairness (Räthzel/Uzzell 2019). In practice, these coalitions demand concrete solidarity measures: income protection for displaced workers, retraining programs, and investments to revitalize hard-hit areas (Morena et al. 2019). By recognizing both the planetary risk of climate catastrophe and the socioeconomic risk of an unjust transition, activists and unions find common cause, identifying shared threats and pushing for solutions that create green jobs and cut emissions together (Räthzel/Uzzell 2019). This broad framing expands the constituency for climate policies and underpins measures like the EU's *Just Transition Mechanism and Fund* (European Commission 2019a; European Commission 2021). In one notable instance, German FFF youth coordinated with transport workers for joint mobilizations linking climate mitigation with better public transit – an emblematic example of boundary-spanning solidarity (Räthzel/Uzzell 2019; Tufekci 2017).

Institutional support has rapidly reinforced these solidaristic efforts. The European Green Deal established a Just Transition Mechanism to channel substantial funds and aid to coal-dependent regions, embedding the principle of solidarity into EU policy (European Commission 2019a; European Commission 2021). Many national governments have followed suit by creating just transition task forces and legal mandates that give workers and communities a voice in climate planning (Morena et al. 2019). This formal recognition provides resources and legitimacy to the coalitions, though activists remain watchful that ›just transition‹ rhetoric is matched by real inclusion and not co-opted for show. Such boundary-spanning partnerships give the movement greater power and credibility, countering divide-and-rule tactics (Räthzel/Uzzell 2019).

4.4 Mutual Aid in Disasters: Solidarity in Times of Crisis

When disasters strike, ordinary people often self-organize to support one another, displaying spontaneous solidarity even before official aid arrives. Recent crises in Europe – from extreme floods to the COVID-19 pandemic —have shown this grassroots resilience. During the catastrophic floods in Germany's Ahr Valley in July 2021, local residents and thousands of volunteers mobilized overnight to rescue neighbors and begin cleanup, forming ad hoc ›mud brigades‹ and field kitchens when state response was delayed (Connolly 2021a). Under such shared threat, social barriers quickly fell: strangers worked shoulder-to-shoulder in the mud, and everyone pitched in as first responders (Connolly 2021a). Many volunteers described a powerful feeling of common fate and unity that transcended their usual social differences, a phenomenon long noted in disaster sociology as the emergence of »therapeutic communities« (Fritz 1996; Tierney 2014).

Disaster mutual aid operates on a horizontal, reciprocity-based ethos summed up by the slogan ›solidarity, not charity‹. Rather than one-sided giving, assistance is exchanged among equals: everyone both gives and receives support as needed (Spade 2020). In the flood relief camps, for instance, local survivors and outside volunteers ate together and took care of one another – one moment a person shovels debris from a stranger's home, the next they rest and share a donated meal (Connolly 2021b). Similar neighbor-to-neighbor support networks sprang up during COVID-19 lockdowns, with community groups delivering groceries, medicines, and homemade masks to the vulnerable (Hall 2022; Aldrich 2012). These acts are driven by a shared sense of duty: in a crisis, ›we take care of us‹. Crucially, such bottom-up solidarity also highlights gaps in the formal system. It arises partly because neither state nor market fully met people's needs, compelling communities to step in; volunteers often improvise solutions faster than bureaucracy can, but they cannot shoulder the entire burden (Quarantelli 2008; Tierney 2014). Indeed, participants in the Ahr Valley effort later felt abandoned when authorities withdrew support even as huge rebuilding tasks remained (Connolly 2021b). The lesson is that civic solidarity works best as a supplement to – not a substitute for – robust public aid and infrastructure (European Commission 2021; Spade 2020).

Moments of crisis-driven solidarity also tend to bridge social divides – if only temporarily. In disaster response, people who might never interact in normal times find themselves working side by side as equals; in the 2021 floods, native Germans shoveled debris alongside Syrian refugees who volunteered to help their adopted community (Bier et al. 2023). Such inclusive solidarity can fade once the immediate emergency passes; as life returns to normal, pre-existing inequalities and tensions often resurface (Tierney 2014; Aldrich 2012). To sustain the initial spirit, deliberate efforts are needed during the recovery – open community meetings, inclusive planning, and continued mutual support – so that people remain united rather than drifting apart when attention wanes (Aldrich 2012). Another challenge is coordinating grassroots efforts with formal institutions: early on, volunteer teams typically act independently while official agencies are overwhelmed; over time, authorities may integrate citizen helpers into the broader response, but mismatches in communication and hierarchy can cause friction (Quarantelli 2008; Tierney 2014). At higher scales, solidarity is also institutionalized: the EU Solidarity Fund and cross-border civil protection agreements pool resources to help any member state hit by disaster (European Commission 2021). Taken together, these experiences show that in dire situations people have a remarkable capacity to unite across differences and care for each other; disasters reveal solidarity in its most visceral form and underline the importance of strengthening both community ties and public support systems before the next crisis (Aldrich 2012; Mould et al. 2022).

Taken together, the cases demonstrate how and why new solidarities emerge – insights we now synthesize to refine the broader theory of solidarity in sustainability transitions.

5 Discussion and Theoretical Implications

Across the cases studied, a unifying narrative emerges: Solidarity is critical for Europe's sustainable transition, but it does not arise spontaneously – it is actively generated by specific mechanisms under certain conditions. The comparative discussion suggests that communicative deliberation, moral economy, shared risk framing, institutionalization, and boundary bridging are recurring processes shaping when and how innovative solidarities take form. In this section, we synthesize insights from the cases to build a mechanism-based theory of contemporary solidarity, address potential criticisms, and draw out implications for both theory and policy.

Mechanisms in Interaction. A key finding is that the five proposed mechanisms are interlinked and mutually reinforcing rather than operating in isolation. For example, communicative deliberation often sets the stage for boundary bridging: in both the FFF youth climate movement and just-transition coalitions, inclusive dialogue helped different actors recognize common ground and forge broader alliances (Wahlström et al. 2019). Likewise, shared risk framing and moral economy frequently work in tandem: recognizing a common threat (e.g. climate catastrophe or community collapse) triggers ethical imperatives of shared responsibility (Chakrabarty 2021; Mould et al. 2022). In the energy cooperative case, for instance, awareness of collective energy insecurity (shared risk) coincided with the decision to adopt equitable principles of operation (moral economy) to address that risk (Caramizaru/Uihlein 2020). Institutionalization can amplify other mechanisms by providing stable forums for deliberation (e.g. Germany's Coal Commission as an institutionalized communicative process) and by codifying moral commitments (such as the principle of ›no one left behind‹ in EU just-transition policy) (Sarkki et al. 2022; European Commission 2020). Boundary-spanning brokerage, meanwhile, is often necessary to translate moral or risk-based appeals across social divides – for example, union organizers reframed climate science in terms of job security, and climate activists couched environmental demands in social justice terms, effectively aligning different moral registers (Fisher / Nasrin 2021).

Theoretically, these patterns show that solidarity emerges from a configuration of mechanisms: rarely will a single mechanism suffice. Instead, innovative solidarity is constructed through an ensemble of social processes that together reshape interests and identities. It echoes classic insights: Durkheim would recognize new forms of organic solidarity being forged between disparate groups (youth with elders, workers with environmentalists), while Tilly would highlight how social movements succeed by expanding repertoires and coalitions (i. e. boundary-spanning alliances) (Tilly 2004; Bennett / Segerberg 2013). Our cases validate these perspectives in updated form for contemporary challenges.

Reflexivity and Modernization. Another theoretical implication is the crucial role of reflexivity in late-modern forms of solidarity. Beck's »risk society« thesis predicted that global risks would spur new cosmopolitan solidarities by rendering traditional divisions less relevant (Urry 2011; Juris 2012). Our findings partially support this: shared climate risks and even pandemic threats did inspire solidaristic actions cutting across nations and social strata (e.g. transnational youth climate strikes and pan-European volunteering during COVID-19). However, risk awareness alone proved insufficient – reflexive processes, where actors actively interpret and debate these risks, were essential to translate awareness into collective action (Habermas 1987; Mould et al. 2022). The FFF movement is a prime example of reflexive solidarity: young activists engaged in critical dialogue about the failures of older generations and the need to redefine values, essentially a grassroots exercise in reflexive modernization (Beck 2015). Just transition coalitions likewise demonstrated reflexivity within institutions: stakeholders revisited entrenched assumptions (such as ›coal mining = jobs forever‹) and negotiated new social contracts in light of ecological imperatives (Beck 1992/[1986]).

These cases refine Beck's thesis: global risks provide an objective basis for solidarity, but communicative and interpretive work by social actors is what actualizes that solidarity. Habermas's theory of communicative action complements this view – solidarity is strengthened in the lifeworld when people deliberate on norms and achieve mutual understanding, which can then influence system-level change (Habermas 1984/[1981]; Habermas 1987). In practice, the European Green Deal's use of public consultations and just transition dialogues illustrates an institutional effort to inject such communicative rationality into policy, acknowledging that legitimacy and solidarity are co-produced through inclusive discourse.

Institutionalization vs. Autonomy. Our cases highlight a tension between grassroots solidarity and formal institutions. On one hand, institutional support has clearly been vital: EU funds for energy co-ops and coal regions, legal recognition of community energy projects, and government involvement in climate-transition planning have provided resources and stability that purely bottom-up efforts might lack (Caramizaru / Uihlein 2020; Sarkki et al. 2022). Institutionalization can consolidate gains and scale up solidaristic practices (for example, enshrining volunteer protections or creating funding mechanisms ensures solidarity initiatives do not rely solely on fleeting goodwill). On the other hand, too much institutional control can risk co-optation or bureaucratic inertia that blunts solidarity's transformative edge (Sarkki et al. 2022; Mould et al. 2022). Within FFF, for instance, activists debated whether engaging with government initiatives (like youth climate councils) would lead to genuine influence or just tokenism (Sarkki et al. 2022). Many mutual aid organizers likewise prefer to remain outside formal structures to preserve their agility and ethical integrity (Mould et al. 2022).

The emerging view is that solidarity thrives with a balance of autonomy and institutional embeddedness. Too little institutionalization and efforts may fizzle or remain niche; too much and they may lose public trust or radical vision. Successful examples like Spain's negotiated coal miners' transition or Germany's institutionalized energy co-ops suggest that institutions can empower grassroots initiatives without fully subsuming them (Morena et al. 2019; Bauwens et al. 2016). This balance has implications for policy design: effective ›solidarity policy‹ should be participatory and resource-supportive, yet still protect space for civil society initiative and dissent. For sociological theory, it reinforces the importance of multi-scalar analysis: solidarity is co-constructed at the micro (interpersonal), meso (organizational), and macro (institutional) levels simultaneously. Local cultures of solidarity (e.g. regional traditions of cooperativism or activism) intersect with national and European institutional frameworks, underscoring the need for contextual and institutional sensitivity in theorizing solidarity.

Culture and Identity. The cases also underscore the cultural dimension of building solidarity. While we focused on mechanisms, these processes operate within cultural contexts that make solidarity more or less likely. Europe's history of labor movements, welfare states, and community organizations provides a rich reservoir of solidarity norms and narratives that contemporary movements can draw upon (notably, the term »just transition« itself has roots in late-twentieth-century trade union discourse). We observed cultural framing at work in each case: youth activists evoked the moral force of past civil-rights struggles (Greta Thunberg's speeches echo themes from historical justice movements); unions embraced environmental slogans; and community disaster responses invoked a wartime spirit of unity (›we stand together‹ rhetoric was common in pandemic mutual aid). These examples show how cultural repertoires act as both resources and constraints for new solidarities (Tilly 2004; Bennett / Segerberg 2013).

The performance of solidarity – whether a strike, a cooperative meeting, or a volunteer brigade – often taps into familiar collective narratives like brotherhood, unity-in-diversity, or stewardship of the commons to motivate participation (Polletta 2006; Jasper 2018). This implies that mechanism-based explanations must account for meaning-making: processes like moral economy or deliberation inherently involve cultural content, since what is considered ›moral‹ or who is included in the collective ›we‹ is culturally defined. Interestingly, we see a revival of ›solidarity‹ as a public value in European sustainability discourse. EU officials and national leaders now routinely invoke solidarity in discussions of climate action and crisis response (Lahusen/Grasso 2018), marking a notable discursive shift. Some may dismiss this as mere rhetoric, but language matters – such discourse helps legitimize certain actions and sets expectations.

A critical question, however, is whether these new invocations of solidarity are truly expansive and cosmopolitan, or if they also create new exclusions. European climate solidarity, for example, might still overlook voices from the Global South if definitions of ›us‹ are not sufficiently inclusive. Even within Europe, otherwise inclusive movements can inadvertently alienate certain groups (e.g. climate campaigns led primarily by urban, educated youth may alienate some working-class or rural communities unless deliberate boundary-bridging efforts are made). Future research should therefore examine how solidarity narratives draw boundaries of inclusion: who is embraced, who remains at the margins, and how such lines might be shifted toward greater inclusivity.

Positioning the Mechanism-Based Account in Current Debates. We address key alternative readings in the solidarity and sustainability literatures and clarify how our mechanism-based propositions contribute to ongoing debates about boundaries of ›we-ness‹, institutionalization, and the conditions under which solidaristic practices endure or fade. First, one might argue that some instances of ›solidarity‹ we observed are driven more by self-interest or necessity than by shared norms or altruism. For example, are renewable energy cooperatives simply collections of people trying to save on electricity bills? Our evidence suggests otherwise: While material incentives exist, co-op members' willingness to freely share surplus power and commit to community goals indicates a solidaristic orientation beyond pure self-interest (Caramizaru/Uihlein 2020). Our definition of solidarity does not require perfect altruism – enlightened self-interest may also contribute to prosocial practices that benefit others.

A second critique is that state-led mechanisms like the EU's *Just Transition Fund* are top-down and thus not ›real‹ solidarity in a sociological sense (since individuals are not voluntarily sacrificing). We counter that political decisions to redistribute resources to vulnerable regions represent a form of institutionalized solidarity: taxpayers collectively bear costs for others under a normative commitment to fairness. This impersonal, policy-mediated solidarity aligns with Durkheim's notion of organic solidarity in a complex society, where mutual interdependence is often managed through institutions rather than direct personal ties.

A third concern is the longevity of these solidaristic initiatives: are they merely short-lived responses to crisis that will fade once conditions normalize? Admittedly, sustaining solidarity over time is challenging. For instance, the initial surge of mutual aid during COVID-19 was followed by volunteer fatigue, and climate protest waves like FFF have ebbed and flowed (FFF's momentum dipped after 2019 and required new alliances to sustain it) (Fisher / Nasrin 2021). Nevertheless, some solidaristic outcomes have been institutionalized (e.g. new climate policies, organizations, or funding streams), meaning each wave leaves a residue that can rekindle collective action later. Social movement theory (Tarrow's »cycles of contention«, Melucci's »submerged networks«) suggests that solidarity networks often go dormant but do not disappear, instead remaining latent and ready to reactivate in new forms. Our mechanism-based approach points to factors that help solidarity endure: Repeated deliberative interactions, formalized networks, and resource support tend to prolong commitments, whereas one-off mobilizations without follow-up structures quickly dissipate. The implication is that concerns about impermanence can be mitigated by consciously investing in mechanisms that maintain engagement (such as ongoing forums, civic education, and network-building) so that solidarity becomes a sustained practice rather than a one-off event.

Finally, some may question the Eurocentric scope of our study – are these mechanisms particular to Europe, or do they hold more generally? We argue that the fundamental mechanisms (deliberation, moral framing, shared risk recognition, etc.) are not unique to Europe; they are basic social processes. However, their successful activation is context-dependent. Europe's relatively high social capital, robust civil society, and supportive institutions likely facilitated the solidarities we documented. In settings with repressive governments or low interpersonal trust, similar efforts might face greater obstacles or take different forms (perhaps relying more on kinship networks, religious communities, or even clandestine organizing). This points to a valuable direction for further research: applying our framework in different cultural and political contexts to identify which mechanisms are universal and which are contingent on local conditions.

Synthesis into Theory. In light of these findings, we propose a mechanism-based theory of contemporary solidarity in sustainability transitions. In essence, solidarity in the pursuit of sustainability arises through iterative social processes that align interests, identities, and norms among diverse actors, thereby enabling costly collective actions for the common good. Five processes in particular–communicative deliberation, moral (re)framing of social and economic relations, shared risk recognition, supportive institutional embedding, and boundary-spanning network building – consistently generate and stabilize such solidarity. The outcome, when these mechanisms coalesce, is the construction of a broadened collective identity (for example, ›we the climate generation‹, ›we the energy citizens‹, or ›we the community of fate‹) that motivates coordinated prosocial practices ranging from protest and volunteering to cooperative enterprise and resource redistribution.

This perspective moves beyond classical views of solidarity as either a given (mechanical solidarity based on sameness) or an abstract civic virtue. Instead, it sees solidarity as actively made and remade in response to structural challenges – in our case, the intertwined ecological and social crises of the twenty-first century. It also recognizes a plurality of ›innovative solidarities‹ at different scales – local, national, transnational, issue-specific, institutional, interpersonal – that nevertheless share underlying generative mechanisms. Emphasizing mechanisms helps to explain variations in outcomes: for instance, why youth climate strikes coalesced into a widespread transnational movement (thanks to the confluence of shared risk awareness, digital networks, and a resonant moral narrative), whereas efforts to build EU-wide solidarity for refugee resettlement have been more uneven (perhaps due to weaker deliberative engagement and insufficient boundary spanning to counter xenophobic frames). A mechanism lens encourages us to dissect cases of both success and failure by pinpointing which processes were present or absent. In the refugee case, for example, strong nationalist counternarratives actively undermined solidarity framing. Our theory thus not only explains how solidarity is built when it succeeds, but also why it sometimes fails to materialize when expected.

6 Implications and Conclusion

A strength of mechanism-based theorizing is that it identifies actionable levers – communication arenas, moral-economic arrangements, institutional supports, and boundary-bridging infrastructures – that can be targeted to cultivate solidaristic practices under ecological risk. Understanding these solidarity-generating mechanisms offers concrete guidance for policymakers, activists, and community leaders seeking to foster solidarity in sustainability transitions:

- *Communicative deliberation*: Create inclusive forums (e.g. citizens' assemblies on climate policy, as piloted in countries like France and the UK) to enable open dialogue. Such deliberation builds shared understanding and trust among diverse participants, which can then radiate outward and strengthen broader solidarity.
- *Moral economy*: Promote economic models and policies that embed solidarity principles. For example, support cooperative enterprises, fair-trade and ethical-labelling initiatives, or community-supported agriculture. These ap-

proaches normalize the expectation that economic activities align with social justice and environmental stewardship values.

- *Shared risk framing*: Invest in public education and dialogues that highlight interdependence and common threats. By helping different groups (urban and rural, young and old, etc.) see how issues like climate change or pandemic risk affect everyone's well-being, leaders can cultivate a shared ›community of fate‹. For instance, some European cities have formed solidarity purchasing groups linking urban consumers with local sustainable farmers, fostering urban – rural solidarity around food security.
- *Institutional embedding*: Incorporate participatory and distributive-justice mechanisms into formal policy processes. The EU's inclusion of labor unions and other stakeholders in Green Deal planning is a start, but more can be done. Governments could institutionalize citizen panels or co-management boards (modeled on successful local energy co-ops) to ensure that affected communities have a voice and stake in sustainability initiatives. Such institutionalization provides stability and resources while keeping policies accountable to solidaristic values.
- *Boundary spanning*: Encourage and fund cross-sector collaborations that bring together unlikely allies. Grant programs, for example, could require partnerships between environmental NGOs, labor unions, businesses, and researchers to jointly design transition projects. By forcing interaction and cooperation across social divides, these initiatives build bridging networks and mutual understanding crucial for broad-based solidarity.

Taken together, these mechanisms suggest that broad alliances, inclusive deliberation, moralized economic practices, shared risk framings, supportive institutions, and boundary-bridging networks can generate and stabilize solidaristic practices under conditions of ecological disruption. More broadly, the analysis points to a historical paradox: rather than being displaced by modern individualization or globalization, solidarity is reconfigured through the very pressures of global risk and systemic transformation. Our mechanism-based account thus revisits a classical sociological problem – how forms of we-ness are generated and stabilized – by showing how ecological risk and sustainability transitions reshape boundaries of belonging, obligations toward others, and the institutional conditions under which solidarity can endure. In the European context, the solidarities emerging around sustainability transitions are therefore not epiphenomenal to technical change; they are integral to the transition process itself. The contribution of this article is to theorize these developments in mechanism-based and practice-oriented terms: solidaristic practices are generated, stabilized, and sometimes undermined across scales through recurring social processes under conditions of ecological risk.

References

Abend, Gabriel (2008): »The meaning of ›theory‹«. In: Sociological Theory 26(2), pp. 173–199.

Aldrich, Daniel (2012): *Building Resilience: Social Capital in Post-Disaster Recovery*. Chicago: University of Chicago Press.

Anderson, Benedict (1983): *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. London: Verso.

Arampatzi, Athina (2017): »The spatiality of counter-austerity politics in Athens, Greece: Emergent ›urban solidarity spaces‹«. In: Urban Studies 54(9), pp. 2155–2171.

Banting, Keith / Kymlicka, Will (2017): *The Strains of Commitment: The Political Sources of Solidarity in Diverse Societies*. Oxford: Oxford University Press.

Bauwens, Thomas / Gotchev, Boris / Holstenkamp, Lars (2016): »What drives the development of community energy in Europe? The case of wind power cooperatives«. In: Energy Research & Social Science 13, pp. 136–147.

Bazzani, Giacomo (2019): »Teorie del denaro e carbon trading. Il frame dell'azione sociale per fronteggiare il riscaldamento globale«. In: Jura Gentium 16, pp. 74–96.

Bazzani, Giacomo (2020): »Money as a tool for collective action«. In: Partecipazione e conflitto 13(1), pp. 438–461.

Bazzani, Giacomo (2021): »Digital money for sustainable communities: The Sardex case«. In: Maurer, Andrea (ed.): *Handbook of Economic Sociology for the 21st Century: New Theoretical Approaches, Empirical Studies and Developments*. Cham: Springer International Publishing, pp. 237–251.

Bazzani, Giacomo (2022a): »Money infrastructure for solidarity and sustainability«. In: Historical Social Research / Historische Sozialforschung 47(4), pp. 114–138.

Bazzani, Giacomo (2022b): »The agency of the futures«. In: Cambio. Rivista sulle trasformazioni sociali 24(1), pp. 167–179.

Bazzani, Giacomo (2023): »Climate solidarity: A framework and research agenda for low-carbon behavior«. In: Sociological Forum 38(2), pp. 352–374.

Bazzani, Giacomo (2024): »From organic to climate solidarity: Challenges for climate change mitigation«. In: Globalizations 21(8), pp. 1632–1641.

Bazzani, Giacomo (2025a): »Solidarity reimagined in the face of global challenges: The emergence of altruistic solidarity«. In: European Journal of Social Theory, n.p. https://doi.org/10.1177/13684310251360994

Bazzani, Giacomo (2025b): »Diverse money, diverse freedoms: Monetary infrastructures for solidarity and environmental sustainability«. In: RES. Revista Española de Sociología 34(2), pp. 1–19. https://doi.org/10.22325/fes/res.2025.259

Bazzani, Giacomo / Vignoli, Daniele (2022): »The agency of fertility plans«. In: Frontiers in Sociology 7: 923756, n.p.

Beck, Ulrich (1992/[1986]): *Risk Society: Towards a New Modernity*. London: Sage.

Beck, Ulrich (2006): *The Cosmopolitan Vision*. Cambridge: Polity Press.

Beck, Ulrich (2015): »Emancipatory catastrophism: What does it mean to climate change and risk society?«. In: Current Sociology 63(1), pp. 75–88.

Beck, Ulrich (2016): *The Metamorphosis of the World: How Climate Change Is Transforming Our Concept of the World*. Cambridge: Polity Press.

Beckert, Jens (2020): »The exhausted futures of neoliberalism: From promissory legitimacy to social anomy«. In: Journal of Cultural Economy 13(3), pp. 318–330.

Bennett, W. Lance / Segerberg, Alexandra (2013): *The Logic of Connective Action: Digital Media and the Personalization of Contentious Politics*. Cambridge: Cambridge University Press.

Berman, Sheri (2006): *The Primacy of Politics: Social Democracy and the Making of Europe's Twentieth Century*. Cambridge: Cambridge University Press.

Bier, Michael / Fathi, Ramona / Stephan, Christian / Kahl, Alexander / Fiedrich, Frank / Fekete, Alexander (2023): »Spontaneous volunteers and the flood disaster 2021 in Germany: Development of so-

cial innovations in flood risk management«. In: Journal of Flood Risk Management 16(4): e12933, n.p.
Bolton, Sharon C./Laaser, Knut (2013): »Work, employment and society through the lens of moral economy«. In: Work, Employment and Society 27(3), pp. 508–525.
Buchan, Nancy R./Brewer, Marilynn B./Grimalda, Gianluca/Wilson, Rick K./Fatas, Enrique/Foddy, Margaret (2011): »Global social identity and global cooperation«. In: Psychological Science 22(6), pp. 821–828.
Cantat, Céline (2020): »The rise and fall of migration solidarity in Belgrade: A critical tale of hollow solidarity«. In: Feischmidt, Margit/Pries, Ludger/Cantat, Céline (eds): *Refugee Protection and Civil Society in Europe*. Basingstoke: Palgrave Macmillan, pp. 281–305.
Caramizaru, Alexandra/Uihlein, Andreas (2020): *Energy Communities: An Overview of Energy and Social Innovation*. Luxembourg: Publications Office of the European Union.
Centola, Damon (2018): *How Behavior Spreads: The Science of Complex Contagions*. Princeton, NJ: Princeton University Press.
Chakrabarty, Dipesh (2021): *The Climate of History in a Planetary Age*. Chicago: University of Chicago Press.
Collins, Randall (2004): *Interaction Ritual Chains*. Princeton, NJ: Princeton University Press.
Connolly, Kate (2021a): »›We had little choice‹: Volunteers clear up after German floods«. In: The Guardian, 10 September.
Connolly, Kate (2021b): »›Wine is our livelihood‹: Locals still recovering from German floods«. In: The Guardian, 15 September.
della Porta, Donatella (2015): *Social Movements in Times of Austerity: Bringing Capitalism Back into Protest Analysis*. Cambridge: Polity Press.
della Porta, Donatella (2018): *Solidarity Mobilizations in the »Refugee Crisis«: Contentious Moves*. London: Palgrave Macmillan.
della Porta, Donatella/Steinhilper, Elias (2022): »The pandemic as a portal: Movement innovations and the COVID-19 crisis«. In: American Behavioral Scientist 65(10), pp. 1321–1342.
Durkheim, Émile (1984/[1893]): *The Division of Labor in Society*. New York: Free Press.
Eurofound (2025): *Aligning efforts: How the social partners are driving a green and just transition.* Luxembourg: Publications Office of the European Union. https://www.eurofound.europa.eu/en/publications/all/aligning-efforts-how-the-social-partners-are-driving-a-green-and-just-transition (last access: 11 March 2026)
European Commission (2019a): *The European Green Deal. Communication from the Commission.* COM(2019) 640 final, 11 December 2019. Brussels: European Commission.
European Commission (2019b): *Clean Energy for All Europeans*. Luxembourg: Publications Office of the European Union.
European Commission (2020): *The Just Transition Mechanism: Making Sure No One Is Left Behind*. Factsheet FS_20_39, 13 January 2020. Brussels: European Commission.
European Commission (2021): *EU Solidarity Fund – Supporting Disaster Recovery Since 2002*. Brussels: European Commission. https://ec.europa.eu/regional_policy/funding/solidarity-fund_en (last access: 9 March 2026).
Fantasia, Rick (1988): *Cultures of Solidarity: Consciousness, Action, and Contemporary American Workers*. Berkeley, CA: University of California Press.
Featherstone, David (2012): Solidarity: Hidden Histories and Geographies of Internationalism. London: Zed Books.
Feischmidt, Margit/Pries, Ludger/Cantat, Céline (eds) (2019): *Refugee Protection and Civil Society in Europe*. Basingstoke: Palgrave Macmillan.
Fisher, Dana R./Nasrin, Sohana (2021): »Climate activism and its effects«. In: Wiley Interdisciplinary Reviews: Climate Change 12(1): e683, n.p.
Fowler, James H./Christakis, Nicholas A. (2010): »Cooperative behavior cascades in human social networks«. In: Proceedings of the National Academy of Sciences 107(12), pp. 5334–5338.

Fritz, Charles E. (1996): *Disasters and Mental Health: Therapeutic Principles Drawn from Disaster Studies*. Newark, DE: Disaster Research Center, University of Delaware.

García, Agustín Óscar/Jørgensen, Martin Bak (2018): *Solidarity and the »Refugee Crisis« in Europe*. Cham: Springer.

Giddens, Anthony (1991): *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford, CA: Stanford University Press.

Granovetter, Mark (1973): »The strength of weak ties«. In: American Journal of Sociology 78(6), pp. 1360–1380.

Granovetter, Mark (1985): »Economic action and social structure: The problem of embeddedness«. In: American Journal of Sociology 91(3), pp. 481–510.

Gürtler, Konrad/Beer, Daniel Louis/Herberg, Jeremias (2021): »Scaling just transitions: Legitimation strategies in coal phase-out commissions in Canada and Germany«. In: Political Geography 88: 102406, n.p.

Habermas, Jürgen (1984/[1981]): *The Theory of Communicative Action. Volume 1: Reason and the Rationalization of Society*. Boston: Beacon Press.

Habermas, Jürgen (1987): *The Theory of Communicative Action. Volume 2: Lifeworld and System: A Critique of Functionalist Reason.* Boston: Beacon Press.

Habermas, Jürgen (2013): »Democracy, solidarity and the European crisis«. In: Social Europe Journal 7(3), pp. 7–11.

Hall, Rachel (2022): »Four in 10 pandemic-era mutual aid groups still active, UK data suggests«. In: The Guardian, 12 June.

Han, Heejin/Ahn, Sojin W. (2020): »Youth mobilization to stop global climate change: Narratives and impact.« Sustainability 12(10): 4127, n.p.

Hardy, Charles L./van Vugt, Mark (2006): »Nice guys finish first: The competitive altruism hypothesis«. In: Personality and Social Psychology Bulletin 32(10), pp. 1402–1413.

Hedström, Peter/Swedberg, Richard (eds) (1998): *Social Mechanisms: An Analytical Approach to Social Theory*. Cambridge: Cambridge University Press.

Hedström, Peter/Ylikoski, Petri (2010): »Causal mechanisms in the social sciences«. In: Annual Review of Sociology 36, pp. 49–67.

Hicks, Jarra/Ison, Nicola (2018): »An exploration of the boundaries of ›community‹ in community renewable energy projects: Navigating between motivations and context«. In: Energy Policy 113, pp. 523–534.

Hopman, Marit/Knijn, Trudie (2022): »Understanding Solidarity in Society: Triggers and Barriers for In- and Outgroup Solidarity«. In: Yerkes, Mara A./Bal, Michèlle (eds): *Solidarity and Social Justice in Contemporary Societies: An Interdisciplinary Approach to Understanding Inequalities*. Cham: Palgrave Macmillan, pp. 29–40.

Htun, Mala/Weldon, Laurel S. (2012): »The civic origins of progressive policy change: Combating violence against women in global perspective, 1975–2005«. In: American Political Science Review 106(3), pp. 548–569.

ILO (2014): »There are no jobs on a dead planet«. In: *International Labour Organization News,* 8 October. https://www.ilo.org/es/resource/news/there-are-no-jobs-dead-planet? (last access: 16 March 2026).

IPCC (2022): *Climate Change 2022: Mitigation of Climate Change*. Geneva: Intergovernmental Panel on Climate Change.

Jaklin, Ulrike/Kummer, Susanne/Milestad, Rebecka (2015): »Why do farmers collaborate with a food cooperative? Reasons for participation in a civic food network in Vienna, Austria«. In: The International Journal of Sociology of Agriculture and Food 22(1), pp. 41–61.

Jasper, James M. (2018): *The Emotions of Protest*. Chicago: University of Chicago Press.

Juris, Jeffrey S. (2012): »Reflections on #Occupy Everywhere: Social media, public space, and emerging logics of aggregation«. In: American Ethnologist 39(2), pp. 259–279.

Keck, Margaret E. / Sikkink, Kathryn (1998): *Activists beyond Borders: Advocacy Networks in International Politics*. Ithaca, NY: Cornell University Press.

Končalović, Davor / Nikolić, Jelena / Džokić, Ana / Momčilović, Predrag / Živković, Dubravka (2023): »Energy cooperatives and just transition in Southeastern Europe«. In: Energy, Sustainability and Society 13: 21, n.p.

Koos, Sebastian / Seibel, Verena (2019): »Solidarity activism in Germany: Between democratic renewal and xenophobia«. In: American Behavioral Scientist 63(4), pp. 544–562.

Kowasch, Matthias / Cruz, Joana P. / Reis, Pedro / Gericke, Niklas / Kicker, Katharina (2021): »Climate youth activism initiatives: Motivations and aims, and the potential to integrate climate activism into ESD and transformative learning«. In: Sustainability 13(21): 11581, n.p.

Lahusen, Christian / Grasso, Maria (eds) (2018): *Solidarity in Europe: Citizens' Responses in Times of Crisis*. Cham: Palgrave Macmillan.

Laville, Jean-Louis / Young, Dennis R. / Eynaud, Philippe (2015): *Civil Society, the Third Sector and Social Enterprise: Governance and Democracy*. Abingdon: Routledge.

Lei, Ya-Wen (2021): »Delivering solidarity: Platform architecture and collective contention in China's platform economy«. In: American Sociological Review 86(2), pp. 279–309.

Lindenberg, Siegwart / Fetchenhauer, Detlef / Flache, Andreas / Buunk, Bram (eds) (2006): *Solidarity and Prosocial Behavior: An Integration of Sociological and Psychological Perspectives*. Dordrecht: Springer.

Loader, Brian D. / Vromen, Ariadne / Xenos, Michael A. (2014): *The Networked Young Citizen: Social Media, Political Participation and Civic Engagement*. New York: Routledge.

Lowitzsch, Jens (2020): »Investing in a renewable future – renewable energy communities, consumer (co-)ownership and energy sharing in the Clean Energy Package«. In: European Energy & Climate Journal 9(2–3), pp. 45–70.

Markowitz, Ezra M. / Shariff, Azim F. (2012): »Climate change and moral judgment«. In: Nature Climate Change 2(4), pp. 243–247.

Maurer, Andrea (2016): »Social mechanisms as special cases of explanatory sociology: Notes toward systemizing and expanding mechanism-based explanation within sociology«. In: Analyse & Kritik 38(1), pp. 31–52.

Molina, Romo Óscar (2022): *The role of tripartite social dialogue in facilitating a just transition: Experiences from selected countries.* ILO Working Paper 76. Geneva: International Labour Organization.

Molm, Linda D. / Collett, Jessica L. / Schaefer, David R. (2007): »Building solidarity through generalized exchange: A theory of reciprocity«. In: American Journal of Sociology 113(1), pp. 205–242.

Morena, Edouard / Krause, Dunja / Stevis, Dimitris (eds) (2019): *Just Transitions: Social Justice in the Shift Towards a Low-Carbon World*. London: Pluto Press.

Mould, Oli / Cole, Jennifer A. / Badger, Adam / Brown, Philip (2022): »Solidarity, not charity: Learning the lessons of the COVID-19 pandemic to reconceptualise the radicality of mutual aid«. In: Transactions of the Institute of British Geographers 47(4), pp. 866–879.

Naughton-Doe, Ruth / Cameron, Ailsa / Carpenter, John (2021): »Timebanking and the co-production of preventive social care with adults: What can we learn from the challenges of implementing person-to-person timebanks in England?«. In: Health & Social Care in the Community 29(5), pp. 1285–1295.

Olson, Mancur (1965): *The Logic of Collective Action: Public Goods and the Theory of Groups.* Cambridge, MA: Harvard University Press.

Ostrom, Elinor (1990): *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

Parents For Future UK (2019): »Who we are«. https://parentsforfuture.org.uk/about-us/who-we-are/ (last access: 9 March 2026).

Pasqualini, Marta / Bazzani, Giacomo (2021): »Residence registration to cope with homelessness: Evidence from a qualitative research study in Milan«. In: Genus 77(1): 37, n.p.

Peters, L. E. R. / Conca, Ken / Wolf, Aaron T. / Lippi, Andrea / Van Den Hoek, Jamon (2025): »The many voices of environmental cooperation: A relational analysis of 30 years of environmental peacebuilding over shared waters in Israel, Jordan, and Palestine«. In: Environment and Security 3(4), pp. 577–609.

Polanyi, Karl (1944): *The Great Transformation: The Political and Economic Origins of Our Time*. New York: Farrar & Rinehart.

Polletta, Francesca (2002): *Freedom Is an Endless Meeting: Democracy in American Social Movements.* Chicago: University of Chicago Press.

Polletta, Francesca (2006): *It Was Like a Fever: Storytelling in Protest and Politics*. Chicago: University of Chicago Press.

Polletta, Francesca (2016): »Social movements in an age of participation«. In: Mobilization 21(4), pp. 485–497.

Portes, Alejandro (1998): »Social capital: Its origins and applications in modern sociology«. In: Annual Review of Sociology 24, pp. 1–24.

Prainsack, Barbara (2020): »Solidarity in times of pandemics«. In: Democratic Theory 7(2), pp. 124–133.

Prainsack, Barbara / Buyx, Alena (2017): *Solidarity in Biomedicine and Beyond*. Cambridge: Cambridge University Press.

Putnam, Robert D. (2007): »E pluribus unum: Diversity and community in the twenty-first century«. In: Scandinavian Political Studies 30(2), pp. 137–174.

Quarantelli, Enrico L. (2008): »Conventional beliefs and counterintuitive realities«. In: Social Research 75(3), pp. 873–904.

Rakopoulos, Theodoros (2016): »Solidarity: The egalitarian tensions of a bridge-concept«. In: Social Anthropology 24(2), pp. 142–151.

Räthzel, Nora / Uzzell, David (2019): »The future of work defines the future of humanity and all living species«. In: International Journal of Labour Research 9(1–2): 145–171.

REScoop.eu (2025): *Annual Report 2024.* Brussels: REScoop.eu. https://www.rescoop.eu/uploads/REScoop-Annual-Report-2024-digital.pdf (last access: 11 March 2026).

Sarkki, Simo / Ludvig, Alice / Nijnik, Maria / Kopiy, Serhiy (2022): »Embracing policy paradoxes: EU's Just Transition Fund and the aim ›to leave no one behind‹«. In: International Environmental Agreements: Politics, Law and Economics 22(4), pp. 761–792.

Sayer, Andrew (2015): *Why We Can't Afford the Rich*. Bristol: Policy Press.

Schmalz, Stefan / Ludwig, Carmen / Webster, Edward (2018): »The Power Resources Approach: Developments and Challenges«. In: Global Labour Journal 9(2), pp. 113–134.

Scholz, Sally J. (2008): *Political Solidarity*. University Park, PA: Penn State Press.

Silver, Beverly J. (2003): *Forces of Labor: Workers' Movements and Globalization since 1870*. Cambridge: Cambridge University Press.

Simpson, Brent / Willer, Robb (2015): »Beyond altruism: Sociological foundations of cooperation and prosocial behavior«. In: Annual Review of Sociology 41, pp. 43–63.

Spade, Dean (2020): *Mutual Aid: Building Solidarity During This Crisis (and the Next).* London / New York: Verso.

Stjernø, Steinar (2005): *Solidarity in Europe: The History of an Idea. Cambridge*: Cambridge University Press.

Swedberg, Richard (2012): »Theorizing in sociology and social science: Turning to the context of discovery«. In: Theory and Society 41(1), pp. 1–40.

Thompson, Edward P. (1971): »The moral economy of the English crowd in the eighteenth century«. In: Past & Present 50, pp. 76–136.

Tierney, Kathleen (2014): *The Social Roots of Risk: Producing Disasters, Promoting Resilience*. Stanford, CA: Stanford University Press.

Tilly, Charles (2004): *Social Movements, 1768–2004*. Boulder, CO: Paradigm Publishers.

Tönnies, Ferdinand (1887): *Gemeinschaft und Gesellschaft*. Leipzig: Fues.

Tufekci, Zeynep (2017): *Twitter and Tear Gas: The Power and Fragility of Networked Protest*. New Haven, CT: Yale University Press.
Urry, John (2011): *Climate Change and Society*. Cambridge: Polity Press.
Utting, Peter (ed.) (2015): *Social and Solidarity Economy: Beyond the Fringe*. London: Zed Books.
van der Schoor, Tineke / Scholtens, Bert (2015): »Power to the people: Local community initiatives and the transition to sustainable energy«. In: Renewable and Sustainable Energy Reviews 43, pp. 666–675.
van Zomeren, Martijn / Postmes, Tom / Spears, Russell (2008): »Toward an integrative social identity model of collective action«. In: Psychological Bulletin 134(4), pp. 504–535.
Velicu, Irina / Barca, Stefania (2020): »The just transition and its work of inequality«. In: Sustainability: Science, Practice and Policy 16(1), pp. 263–273.
Wade, Robert / Pasimeni, Francesco / Loomans, Naud / Alkemade, Floor (2025): »Energy community surplus sharing: Solidarity strategies for energy commons governance«. In: International Journal of the Commons 19(1), pp. 226–246.
Wahlström, Mattias / Kocyba, Piotr / De Vydt, Michiel / Rucht, Dieter (eds) (2019): *Protest for a Future: Composition, Mobilization and Outcomes of the Climate Movement*. Frankfurt am Main: Campus Verlag.
Walker, Gordon / Devine-Wright, Patrick (2008): »Community renewable energy: What should it mean?«. In: Energy Policy 36(2), pp. 497–500.
Wierling, August / Schwanitz, Valeria Jana / Zeiß, Jan / Bout, Celine / Candelise, Chiara / Gilcrease, Winston / Sterling, Allison Jay (2018): »Statistical evidence on the role of energy cooperatives for the energy transition in European countries«. In: Sustainability 10(9): 3339, n.p.
Wimmer, Andreas (2008): »The making and unmaking of ethnic boundaries: A multilevel process theory«. In: American Journal of Sociology 113(4), pp. 970–1022.
Yin, Robert K. (2018): *Case Study Research and Applications: Design and Methods. 6th ed*. Thousand Oaks, CA: Sage.

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Envisioning Sustainable Futures of Localism: The Environmental Imagination of Local Currency Activists in Monnaie Léman and the Brixton Pound[1]

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Abstract: This article explores how local currency activists in Monnaie Léman and the Brixton Pound envision sustainable futures centered on localism. Based on 19 interviews and ethnographic fieldwork in Brixton and Geneva, it examines local currencies as payments limited to specific areas. In the short term, activists promote ethical consumption, short supply chains, environmental awareness, economic education, and strong local communities. Long-term visions focus on localized economies characterized by limited international trade, predominance of small businesses, and green, compact, community-oriented small towns with well-developed pedestrian and cycling infrastructure. Food is sourced from community gardens and nearby villages. These views stem from *eco-habitus* – mindset and practices of environmentally aware individuals with high cultural capital. Consumption through local currencies reflects the *hipster economy*, a term by Alessandro Gerosa describing consumption driven by nostalgia for local, family-like businesses. Since participation in local currency systems is linked to ethical consumption, this ecological strategy will be interpreted through Ulrich Beck's concept of *subpolitics* and Zygmunt Bauman's notion of *individual utopias*.

Keywords: localism, environmentalism, imagination, local currencies, ethical consumption, eco-habitus, hipster economy, class, individual utopia, subpolitics

1 Ecological Imagination – What Should a Sustainable World Look Like?

This article presents an ethnographic study of the ecological imagination of activists behind two local currencies – Brixton Pound (BP) in London and Monnaie

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Léman (ML) in Geneva. At the core of their environmental beliefs lies localism. Imagination is essential to envisioning a better future (Bauman 2017; Beckert 2019; Fisher 2009; Srnicek/Williams 2016; Wilder 2022; Žižek 2002), so this article explores how it takes shape within social movements that issue their own money, highlighting both its possibilities and limitations. Local currencies, as grassroots means of payment limited to specific geographic areas – usually cities, neighborhoods, or regions – embody the worldview of localism. This worldview holds that

> »when things grow too big, communities and collective values suffer. Concentrating economic and political power creates inequality. Owners of big factories who live far away don't care about workers and the environment« (Sharzer 2012: 8).

Local communities are marked by deep emotional value and a high level of engagement typical of informal, direct, and personal relationships (Wojciechowski 2008: 50), with the crux of localism being the enactment of these local communities.

This article therefore examines how localism is understood and imagined by the movements studied, which actively promote their values and seek to persuade broader social groups to embrace their ecological strategies. Since the form of ecological localism studied mostly manifests as ethical consumption supported by local currencies (though not exclusively), the article largely aims to understand localism through the lens of consumption changes and their imagined social impact. Ethical consumption appears here within the context of wider and more ambitious imaginaries, which the article also explores.

Among these movements, localism is inseparable from a particular interpretation of ecology. It must be strongly emphasized from the start that for both BP and ML, community – rather than direct pro-environmental attitudes – is the core aspect of localism. This stems partly from the belief that authentic interpersonal and civic bonds foster care for the natural environment, naturally arising from a sense of responsibility toward others. For these activists, the fight for the environment begins somewhat counterintuitively – with building a sense of belonging and the resulting meaning and solidarity. Thus, the struggle for short supply chains and localized economies, though vital elements of the localism described here, is not only about the environment but also about creating small-scale economies enabling direct human connections. While localism necessarily addresses not only environmental care but also the building of social networks, this article focuses narrowly on the ecological dimension, rather than on the broader, equally fascinating community philosophy among activists in London and Geneva.

2 Time of Imagination – Expectations and Imaginaries of Localism

The activists' imagination unfolds across various time horizons – both short and long – and encompasses different degrees of feasibility, ranging from pragmatic to fanciful and utopian. Drawing on the ideas of Giacomo Bazzani (2023), I distinguish between the short-term horizon, which concerns *expectations* – pragmatic plans aligned with institutional and cultural logic – and *imaginaries* – distant and radical visions of the future that differ from the current state[2]. Among the studied movements, *expectations* are rather present-minded; they are feasible and largely compatible with prevailing values. Nevertheless, as social movements oriented toward change, these initiatives strive to transcend the existing paradigm, albeit modestly and cautiously rather than through revolutionary or radical means. *Expectations* form the basis of the projects' communication with their audiences, as they can be adapted to existing social, organizational, and technological conditions. *Expectations* serve as a precursor and announcement of *imaginaries* – long-term visions resembling fantasies and idealized utopias. *Imaginaries* motivate action within the framework of *expectations*, setting a lofty goal whose time horizon often exceeds the activists' lifetimes but remains generally undefined. In the studied movements, *expectations* are tightly linked to present action and the realization of short-term imagination, whereas *imaginaries* – being utopian, impressionistic signposts and dreams – are less frequently communicated to the public due to their nebulous nature.

The local currencies examined rest upon several key *expectations*: building local identity and community, supporting short supply chains and ecological farming via ethical consumption, and promoting awareness of how the monetary system drives consumption and indirectly impacts environmental degradation (Kennedy 1995). The local currency is intended to support localism – through its geographically limited circulation, it acts as a voucher and behavioral incentive to consume from small local businesses. Using local currency largely involves ethical consumption – local and often ecological. Purchases are often accompanied by small talk about the local currency's idea. Additionally, currency users can participate in community-building events organized by activists.

The crucial question of the rationale for using local currency among those already practicing ethical consumption opens the door to activist education about money, the financial system, and its entanglement with oil extraction and the

2 The distinction between *expectations* and *imaginaries* is more nuanced than presented in this article – here, it is simplified for the purposes of a text centered on localism rather than theoretical reflection on future visions. I explore the topic of temporal horizons in more depth in a separate article addressing the *expectations* and *imaginaries* of the studied social movements concerning the future shaped by blockchain technology (Rycombel, forthcoming).

overconsumption embedded in the growth paradigm inseparable from credit and interest. The local currencies studied are available to anyone who exchanges national currency for local currency at a 1:1 rate at special exchange points[3] and, in the case of ML, through a blockchain app[4]. Deposited francs are held in Banque Alternative Genève, which invests in ecological projects, while pounds are held in the London Mutual Credit Union. Exchange through ML and BP opens awareness of alternative banking and the role of money. Hence, economic and environmental education is a significant aspect of these social movements; education that unfolds through the specific alternative exchange medium. It takes on the character of a performance art as the uniquely beautiful ML and BP banknotes circulate, disrupting established patterns of thinking about economic exchange and consumption. Since 2017, ML circulates not only physical banknotes but also virtual lemans, an innovative electronic record in a blockchain app. In 2023, BP tested a ready blockchain app for exchanges.

These *expectations* serve as a starting point to approach imaginaries in an undefined future. In the studied movements, *imaginaries* depict a world where international trade is maximally limited, small family businesses thrive, cities are green, community-oriented, small, with well-developed walking and cycling infrastructures, and food comes from community gardens and nearby villages. Distinguishing *expectations* from *imaginaries* in these movements helps grasp their paradoxical nature: dreams of an ideal future world clash with attempts to tame the material reality, which is limitedly malleable, unpredictable, and highly complex. The *expectations/imaginaries* divide also acts as a measure of the quality and creativity of our social imagination – it shows how far we can think about a better world, transcend our lifespans, and consider intergenerational solidarity (Urry 2016).

Hence, localism described here has two faces, two time horizons – today's localism mainly as ethical consumption, education, or even artistic performance involving local currency, and imaginative localism as fantasies of a world where local communities, not global power systems, play the central role.

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3 In Geneva, a mutual credit system exclusively for businesses has been additionally introduced, which does not require currency conversion. This system operates on the principle that every transaction is a bookkeeping entry, with the sum of all operations in the system equal to zero. For example, when entity A buys a bicycle from entity B for 300 lemans, A's account balance decreases by that amount while B's balance increases by 300 lemans. The value of the leman within the mutual credit system is pegged 1:1 to the national currency.

4 Green blockchain technology is intended to support ecological localism by enabling autonomous management of currency and voting. Activists have ensured that the blockchain they use fosters ecological innovations within the technology itself. Blockchain technology is integral to their vision: adapting to the digital age, they seek sustainable solutions that consume less energy. Thanks to ecological innovations in data validation and the growing trust in local currencies secured by this technology, blockchain is understood as a catalyst accelerating the realization of localism.

This article predominantly interprets local and ecological ethical consumption as the leading localist strategy of action among local currencies. After all, using a local currency ultimately relies on spending money – albeit a unique form of it. Analyzing ethical consumption is an important task in the face of its growing popularity (Gerosa 2024) and climate change. The activists' *imaginaries* of localism provide context and complement reflections on this distinctive form of ethical consumption supported by local currency.

The text begins by outlining the cultural context of the emergence of localism ideology, which acts as a counter-ideology to global industrial capitalism. Next, it introduces categories that illuminate localism in a specific way – through its entanglement with the nostalgic *hipster economy* based on post-Fordist consumption models and class distinction in the form of *eco-habitus* (Carfagna et al. 2014). Since local ethical consumption is the principal strategy of local currencies, the article largely attempts to understand this aspect of localism. The article then moves to identifying general premises that define the studied social movements as ecological movements and explores how the activists understand the relationship between environmentalism and localism. The next section critically examines one of the pillars of local currency movements and localism: concern for short supply chains. Following that, it presents the *imaginaries* of local currencies – distant visions where local and ecological consumption is the norm, not just the choice of especially motivated social groups. In conclusion, using the work of Ulrich Beck (1996) and Zygmunt Bauman (2017), the article examines the paradoxes of the studied visions, primarily concerning the tension between the individual and the collective in the promoted ecological strategies. The article aspires to contribute to and encourage exploration not only of the possibilities of ecological imagination but also its conditions, entanglements, and limitations.

3 Empirical research – Data collection

The research is based on 19 semi-structured in-depth interviews and ethnographic fieldwork conducted in Brixton, London (March–June 2022), and Geneva (April–May 2023).

My primary method involved lingering in the field – almost daily visits to the activists' office where I observed their work, meetings, and events, and engaged in informal conversations in the office, cafés, and during walks. This approach combined a sustained, informal presence with careful observation of social interactions without full participant immersion. Moreover, at least twice a week during the fieldwork, I held one-on-one informal conversations lasting between one and one and a half hours with each activist from the movement, without audio recording. Additionally, I analyzed materials provided by activists, mostly presentations and reports, and immersed myself in literature they regarded as key sources of inspiration for their activism. During my post-pandemic research in London, when the currency was not in circulation, I conducted small talks with businesses that had previously used the Brixton Pound. In Geneva, I used participant observation by spending 325 lemans and conversing with vendors about the currency.

Sampling Criteria

In my analysis, I included European movements from affluent countries that remain outside the eurozone. I was interested in examining the specificity of local currencies in economically stable states that have chosen not to join supranational monetary arrangements. I sought to understand whether such contexts foster particular forms of economic self-reliance, national pride, or a strong sense of distinct identity. By contrast, local currencies in countries such as Brazil or Argentina operate in a very different setting, where they continue to function as instruments of support during economic crises (Gómez 2019). In these cases, local currencies are used by communities with limited financial means and are sometimes promoted by local governments as part of anti-poverty measures. A notable example is the mumbuca, a currency used in Maricá, in the state of Rio de Janeiro, distributed as part of a basic income policy (Gonzales et al. 2020).

In the initiatives I analyze, the idea of ethical consumption is clearly articulated – an idea generally absent in contexts where consumption remains existential, oriented toward survival rather than shaped by health, moral, or aesthetic preferences (Bylok 2017). Another topic that drew my attention was blockchain technology. It is particularly noteworthy that, according to current knowledge, the first local currency in the world to employ blockchain as a transactional platform emerged in Geneva.

4 Local Social Economy versus Global Industrial Capitalism

Since its very inception – which, following Karl Polanyi (2001), we may locate in the nineteenth century, when land, money and labor became subject to commodification – capitalism has been haunted by a particular anxiety. This anxiety concerns the possibility that the expansion of large firms and competitive global corporations would drive small, local and family-run micro-enterprises off the streets. Not only they, but also the social formations that have grown around them would vanish – formations marked by business attachment to place and by engagement in the vicissitudes of their clients. Or rather, of the local community, which is treated not merely as clientele or a laboratory source of profit, but as a specific community. From this perspective, its flourishing, prosperity, and peace also depend on the careful conscientiousness of those who guarantee its material goods and services – comfort, satisfaction, and security. In this vision, companies operating under the watchful eye of neighbors strive for quality, assured by proximity, trust, and care for their good name.

Max Weber identified a distinctive feature of modernity and capitalism as the separation of the household from business, which gave rise to an economy conceived as a distinct realm of human activity – both institutionally and conceptually (Weber 2011). A similar transformation was described by Marx in the *Communist Manifesto*, portraying how the bourgeois mode of production dominates the landscape: ›The lower strata of the middle class – the small tradespeople, shopkeepers, and retired tradesmen generally, the handicraftsmen and peasants – all these sink gradually into the proletariat, partly because their diminutive capital does not suffice for the scale on which Modern Industry is carried on, and is swamped in the competition with the large capitalists, partly because their specialised skill is rendered worthless by new methods of production‹ (Marx/Engels 1848).

Capitalism has not ceased its expansion and keeps finding new areas for growth. The language of resistance to it still reproduces 19th-century models, which can also be seen among the social movements I studied. The motivation behind these local currency movements was to create neighborhoods, support local entrepreneurs struggling under pressure from global brands, and build an economy where care for the natural environment is a given, and where the logic of reciprocity dominates over the logic of service – resembling contemporary gift culture (Rycombel 2022). In the perspective of the studied local currency movements, the answer to capitalism dominated by the profit principle, opaque economic networks, and resource extraction are: the principle of reciprocity, local and thus transparent economic networks, and small-scale ecological and community farming.

5 Ecological and Social Consumption – From Counterculture to Hipster Economy

The source of local and ecological consumption practices, as well as the manual do-it-yourself culture important to the studied movements, remains counterculture (Turner 2006). Davina Cooper, a scholar of utopias and the Local Exchange Trading System, argues that local currencies are »cohered around an explicitly countercultural vision of the ›good society,‹ in which pro-ecological practice was linked to egalitarian, trust-based, and communal forms of work and trade‹ (2014: 133). The celebration of eco and organic food, strongly present in ML and BP, is a reformulation of the hippie *back-to-the-land/earth movement*. A vivid example is Nicholas Saunders, an aristocrat raised in a castle and one of the most famous hippies, who created the iconic British brand Neal's Yard Dairy. Their cheeses enjoy great popularity in both France and the United States. Saunders began selling homemade yogurt in what today is trendy Covent Garden, then just an ordinary fruit and vegetable market. In industrialized England, this was a novelty. The business peaked when Saunders' colleague Hodgson decided to offer a nostalgia for pre-industrial times by marketing traditionally made cheeses:

> »[Hodgson] set off round the country in a van, seeking out his own freaks: farmers who were committed to making their own cheeses with traditional methods that their grandparents might recognise. Like Saunders and his back-to-earthers before him, the search was demoralising. The number of farms that made cheese themselves had declined from more than 1,000 in 1939 to just 62 by 1974. But Hodgson found them, and created a new market by connecting these producers with consumers who had an appetite for weirdness« (Nunn 2024).

Contemporary *hipster economy*, to which the local currency markets in Geneva and London undoubtedly belong, finds its roots in counterculture. In a neoliberal manner, hipster economy has commercialized the ›hip‹ values important to hippies – autonomy, authenticity, alternative lifestyles, nonconformism, creativity, and coolness (Gerosa 2024: 12–15). The question remains whether neoliberalism co-opted these values or counterculture was from the start entangled in hedonistic capitalism. Fred Turner, who traced the significant influence of flower children on Silicon Valley culture (2006), would likely agree with the second view, while Alessandro Gerosa, the creator of the hipster economy concept, supports the first.

The lexeme ›hip‹ originates from African American vernacular language and the hipster subculture of 1940s America – African Americans distinguished by an eccentric musical and fashion style emphasizing their distinct and rich identity. In the 1960s, hippies adopted the term expressing distance from white Anglo-Saxon Protestant culture (Gerosa 2024: 6–7).

Contemporary hipsterism is a global and popular consumption style characteristic of post-Fordist society. It is steeped in progressive nostalgia for a mythical pre-industrial society (Gerosa 2024: 11) based on craftsmanship, manual labor, and traditional trades like bakers, tailors, shopkeepers, potters, etc. Simultaneously, it is filled with nostalgia for an idealized countryside (Gerosa 2024: 52), motivated by rebellion against urban atomization. This nostalgia manifests itself in urban markets that are designed to evoke an idealized village marketplace and are often even branded as »villages«, such as Brixton Village. It is also expressed through a longing for food imagined as having been grown on unspoiled rural farms – organic, »bio«, and untouched by industrial processes.

Post-Fordism is closely intertwined with the neoliberal turn: it denotes not only a transformation of labour markets, but also a profound reconfiguration of everyday norms and subjectivities. Under Fordism, the key reference points were industrial mass production, discipline, stable, predictable and routinised career trajectories, strong trade unions and comprehensive welfare arrangements, as well as clear hierarchies in the workplace. By contrast, post-Fordism is marked by the expansion of the service sector, the rise of consumption and mobility, and the growing centrality of values such as lifestyle, individual fulfilment, play, hedonism and self-expression (Binkley 2004). Sam Binkley argues that post-Fordism is inseparable from the popularisation of countercultural ideals associated with the 1960s and 1970s hippie movement. Michael Scott introduces the notion of *hipster capitalism* to describe a class formation of the new petite bourgeoisie operating under post-Fordist, neoliberal conditions (Scott 2017). This concept highlights how projects of self-realisation often take the form of precarious micro-entrepreneurship, while economic insecurity is reframed as non-conformist freedom, artistic vocation and bohemian autonomy. Scott outlines two ideal-typical trajectories within hipster capitalism: careers oriented towards cultural capital (for instance in the creative industries), and careers oriented towards economic capital, in which »old« petty-bourgeois occupations – barbering, craft production, tattooing – are restyled as fashionable, autonomous and ostensibly independent professions. While Scott foregrounds neoliberalism and austerity as the context within which such strategies emerge, Gerosa emphasises that this dimension of scarcity and insecurity coexists with the fact that some hipster actors become beneficiaries of a new regime of accumulation, in which authenticity and taste function as highly valued market resources, enabling participation in an ostensibly precarious yet potentially highly profitable logic of accumulation. Thus, as I argue, the hipster economy encompasses not only segments of the new petty bourgeoisie but also fractions of the creative class and the professional-managerial class, as will be demonstrated in the subsequent sections of this article.

One of the slogans of May 1968 was: »Talk to your neighbors!« (Gerosa 2024: 97). Critique of mass, assembly-line consumption and calls for authenticity by philosophers Henri Lefebvre, Herbert Marcuse, and David Riesman (Gerosa 2024: 28–32) inspired countercultural resistance to Fordism – a system of industrial production creating alienated individuals, mass unreflective consumption, standardization, and commodification. In the hipster economy, this rebellion takes the form of reflective consumption, running small family- or friend-based meaningful ethical businesses in a neighborhood atmosphere. This responds to urban and professional alienation and corporate work culture (Gerosa 2024: 77–78). The response to alienation from representative democracy is support for direct democracy, and to alienation from production and consumption – a drive toward localized economies.

A way to emphasize distinctiveness is to update identity through ethical shopping, while political engagement in this framework takes place in the market through creating responsible enterprises and making conscious consumer choices. Hipster economy assumes small local firms are the drivers of change, and consumption is political – Marx's separation of production and consumption spheres is seen as unjustified and patronizing toward individuals (Gerosa 2024: 48–49). Hipster entrepreneurs often identify their businesses with activism: creating community cafés, vegan restaurants, food trucks with freegan leanings (Gerosa 2024: 83). Notably, one activist closely linked to BP created an ecological cycling clothing brand, and the Brixton Pound café, a shabby chic club-café, was operated on a pay-what-you-can basis (in local currency) and offered vegan, often freegan food. Besides food and organic coffee, it served as a vibrant cultural animation space. BP activists took pride in this eatery as an atypical place in Brixton – its crowd was diverse rather than socially segregated, which is unfortunately a problem in Brixton's gentrification (Jackson/Butler 2015).

Nostalgic hipster consumption is more expensive than mundane consumption and often takes place in specially arranged post-industrial spaces, markets, or so-called urban villages[5], which frequently undergo gentrification due to hipsters. Paradoxically, this post-Fordist lifestyle partly connects to pauperization of a highly educated middle class – the element of distinction is no longer a fancy house or car, but an expensive eco-kebab in a stylish bar in a gentrified yet still relatively affordable neighborhood (Gerosa 2024: 65). Ethical consumption is thus linked to class relations in society (Carfagna et al. 2014; Domański 2015). But as I stated earlier, there is still room for affluence within the hipster economy: It encompasses not only actors undergoing processes of precarisation, but also affluent fractions of the new petty bourgeoisie, the creative class and the professional-managerial class, who are able to convert their cultural capital, networks and financial buffers into profitable participation in this ostensibly bohemian, yet highly marketable, lifestyle.

6 Eco-habitus – Ecology and Lifestyle

The concept of *eco-habitus* was coined by American consumption researchers (Carfagna et al. 2014), who observed that conscious and ecological consumption is primarily characteristic of Americans with high cultural capital. *Habitus* refers to acquired ways of thinking and acting typical for a given social class, which allow one to interpret a person's position within the social hierarchy (Bourdieu 1984). Eco-habitus is the habitus of an individual with ecological awareness. It functions as an element of social distinction – that is, practices that emphasize class differences through aesthetic and symbolic display of social position, often legitimizing hierarchy and solidifying one's dominance (Bourdieu 1984). Con-

5 Most of the businesses involved in the BP operated in Brixton Village.

sumption patterns, including food choices, are among the main indicators of class belonging, and the concept of class refers to socio-occupational categories (Domański et al. 2015).

The originators of the eco-habitus concept point out that contemporary ecological consumption relies on values of locality, manual work, and materiality – traditionally associated with persons of lower cultural capital. However, these values are appropriated and embedded in a new context. Locality appears cosmopolitan rather than provincial – just consider the international social networks of localists studied (including those I researched myself, which are truly impressive). Manual labor becomes an expression of autonomy, creativity, and care for the environment. Materiality, in turn, is connected with the earth and its sensuality.

The study noted an interesting difference between the eco-habitus of individuals with high versus low economic capital. The former embraced hybrid cars and organic product consumption, whereas the latter considered cycling and minimizing all consumption as ecological practices. Among four case studies, one group consisted of participants in a time bank – an activity related to local currencies – all members had high cultural capital and engaged in gardening, composting, and manual labor practices.

7 Socioeconomic Status of the Studied Eco-Activists

Undoubtedly, the activists I studied possess an eco-habitus. They are exceptionally erudite, often, though not always, with high economic capital. In Monnaie Léman (ML), all activists impress with their education. Two ML social activists hold doctorates in social sciences (sociology, economics), and another with a master's degree in agronomy lectures at a university. The activist leading the blockchain transformation professionally works as an ethical hacker. Graduates include those in social economy, sociology, management, accounting, and geography.

In London, the activist profile differed slightly toward artistic and humanities education. Two London activists were friends with David Graeber. One activist completed both mathematics and art studies. Among Brixton activists, only one individual lacked higher education but was charismatic with a philosophical bent, musical passion, and blockchain expertise.

Diana Finch, creator of the Bristol Pound, the most dynamic British currency within the Transition Towns movement, recalled in our conversation results of a 2014 survey among its users. The overwhelming majority, about 70 %, self-identified as members of the professional-managerial class, i. e., individuals with high expert or managerial positions. Even more people indicated that they have higher education, including 44 % with at least a doctoral degree. One BP user admitted in a recorded interview to belong to the world's richest 3 %.

When asked in English interviews to describe currency users, references were usually to the middle class. Three ML currency leaders acknowledged that the system is dominated by *les bobos*, members of a progressive social group with abundant cultural but generally less economic capital. The challenge is developing the initiative to attract diverse entrepreneurs and consumers across social strata (Ripess Europe 2023).[6] *Bobos* is a media label coined by American journalist David Brooks (2000), widely adopted in the Francophone world (Watrin/Legrand 2014; Authier et al. 2018) and often employed by conservatives in political struggles, describing progressive privileged professionals who blend contradictory bourgeois and bohemian ethics – monetary, individualistic, and bourgeois values with artistically idealistic, avant-garde social change aspirations and aesthetic sensitivity. Attributes of bobos include ecological shopping, cycling, and trendy cafés in gentrified neighborhoods. This description fits local currency users quite well, though the bobo category is broad and includes multiple social layers.

The class dimension of local currencies calls for separate in-depth systematic research as, until now, apart from Raphaël Didier's doctoral work (2022), this topic remains unexplored among local currency scholars. Didier studied the French Florain currency, inaugurated during the Alternatiba festival in Nancy in 2015, akin to ML. He identified four personas among users based on 57 valid surveys and 15 interviews:

- Politically engaged users – active in multiple social movements, highly committed to ecological and local causes.
- Gentrifiers – highly educated managerial staff; they spend the most Florains but perceive themselves as the least active members.
- Ordinary users – without special system belonging, ideological, or moral identification; do not consider themselves active users.
- Cultural users – spend little Florains but feel strong system belonging; individuals with high cultural but low economic capital, usually employees and technical class.

My observations and interviews suggest that the studied local currency movements unite three social classes – the creative class in the sense of Richard Florida (including artists, activists, IT specialists, and programmers; 2019), the petit bourgeoisie – small entrepreneurs with a distinct individualistic professional ethic – and the professional managerial class (PMC), recently excellently described by Catherine Liu (2021).[7]

6 Available on Youtube, see Ripess Europe 2023.

7 Liu defines PMC after John and Barbara Ehrenreich: »As a class, the PMC loves to talk about bias rather than inequity, racism rather than capitalism, visibility rather than exploitation [...]. The Right is well aware of liberal preening, and it has weaponized popular resentment against this class of alleged hypocrisies« (Liu 2021: 8); »The PMC as a proxy for today's ruling class is shame-

8 BP and ML – Ecological Movements?

Both ML and BP can be regarded as ecological movements, as indicated not only by their self-identification as environmental movements and the pronounced ecological concern evident in field interviews, but also by their embeddedness within broader social movement networks. Generally, there is an affinity between local currency movements and pro-environmental attitudes (Blanc et al. 2023; Blanc et al. 2025; Michel/Hudon 2015; Larue 2020; Larue et al. 2022). BP is strongly linked both personally and ideologically to ecological movements such as Extinction Rebellion, Community Energy England, and Brixton Energy. Furthermore, ML and BP are associated with the Transition Town movement, founded in 2006. Its primary aim was to address peak oil by initiating five local currencies across five UK towns: Bristol, Totnes, Lewes, Stroud, and Brixton in London (Ryan-Collins et al. 2011). Central to the Transition movement is Rob Hopkins's book The Transition Handbook: From Oil Dependency to Local Resilience (2008), which, after its French translation in 2010, inspired the creation of ML. Rob Hopkins personally supported and advised the launch of ML. Additionally, ML is part of the Après network, advocating for a shift in the economic model as a response to the environmental crisis. The creation of the Geneva currency was also announced at the first Alternatiba Genève festival – a social movement countering climate change. The festival was a direct reaction to the 2015 UN Climate Change Conference COP 29 in Paris, where the Paris Agreement was signed, committing 195 countries to achieve climate neutrality.

It is important to clarify that in the ML movement, environmentalism is associated with localism. In the case of BP, the relationship is more complex but nonetheless present. During the development of the London movement, the limitations of local currency as a pragmatic tool for shortening supply chains became apparent. Yet, this never diminished the environmental convictions of its leaders nor the belief that currencies can still evoke ecological sensitivity and imagination, even if they do not immediately reduce carbon footprints.

BP was managed by two distinct leadership groups – the first operated from 2008 to 2013, the second in subsequent years. Initially, leadership was held by a fraction of academic economists associated with the Transition Town initiative, who viewed the movement as a project to build a new sustainable economic model. These economists grew disillusioned when the project failed to achieve tangible economic outcomes, particularly regarding localization of production and consumption intended to support local businesses. This failure led to management being transferred to a group with artistic inclinations, who saw the

less about hoarding all forms of secularized virtue […]. PMC reworks political struggles for policy change and redistribution into individual passion plays, focusing its efforts on individual acts of giving back or reified forms of self-transformation« (Liu 2021: 1–2).

local currency not only as a payment instrument or supply chain tool but also as a space for imaginative performance. This latter faction launched the ecological and vegan BP café, where the menu was limited to a single phrase: ›Pay what you can.‹ This venture became the quintessence of the movement's transformation – reconfiguring it from a social enterprise into a place of community bonds, neighborliness, conversations, free workshops, and naturally, payment in BP.

9 Ecological Localism

Let us examine the foundations of the relationship between environmentalism and localism. Several assumptions underpin the belief that local currencies contribute to building an environmentally friendly future. Since these currencies can only be used within a defined geographic area, such as a city, they are assumed to encourage shortening supply chains and promote local consumption. Short supply chains are considered more sustainable than global ones because, according to activists, they leave a smaller carbon footprint. Another assumption holds that local currencies promote and stimulate the consumption of ecological, bio, and organic products, which are regarded as sustainable. In ML, for example, most offers are labeled as ecological: mainly restaurants and bars serving seasonal, local, and organic dishes; an ecological optician; an ecological doctor; eco-renovation services; a thing library; an ethical boutique; and two food cooperatives offering costly local ecological and bio products. Also notable is the presence of bicycle shops and repair services, related to promoting low-emission transport.

For most activists, localism is synonymous with environmentalism, and this connection is taken for granted without critical reflection. The underlying assumption is that globalization has not only created global supply chains but also replicated homogenized patterns of high-emission consumption and mass tourism, as well as practices of concealing waste dumps, refuse, and other pollution. In sum, globalization is equated with environmental crisis. This reasoning, however, contains a logical fallacy of reversed implication – if the problem is A, the solution is anti-A. Since global, opaque production is the main source of ecological problems and social alienation, the solution is to create local transparent production that, in the long run, fosters deep neighborhood ties and ecological economies. In other words, if the source of the problem is the socioeconomic relations of globalization, the answer is to create a counterbalance of local resources. The solution cannot be a mere reform of the global system and its flows but localism itself – a counterpoint to globalization. According to this vision, globalization inevitably involves creating hard-to-trace financial flows, tax havens, and outsourcing that undermine labor rights.

10 The Strength of Ecology Lies in a Caring Community

It is worth emphasizing once again: for activists, the idea of localism takes precedence over environmentalism – the primary goal becomes building close, enduring communal bonds, which constitute the foundation of any authentic ethic. Local relationships effectively counter moral indifference, which grows with geographic distance and leads to exploitation of anonymous, distant groups and their natural environments, to which one has no community ties. The best remedy for this growing indifference is a realistic focus on developing local resources and a civil society based on direct relationships and mutual responsibility.

In this perspective, the use of resources outside one's own community is acceptable only if it builds social proximity beyond the local or establishes institutions that effectively control the humanity and sustainability of production – topics I will elaborate on when discussing Audrey's[8] imaginaries of sustainable universities or international agricultural exchanges.

The primacy of the communal aspect of localism over its ecological aspect is well illustrated by the Swiss approach to local agricultural production. A conversation with Flora, an advocate of the Léman currency, a labor law lawyer, and promoter of ecological knowledge, reveals how much the localist approach emphasizes knowledge of realities and social responsibility. When asked about choosing between Geneva tomatoes and those imported from Spain (even if cheaper, tastier, and often less energy-intensive to produce[9]), Flora unhesitatingly said that a Swiss person should buy only Swiss tomatoes, regardless of their higher price or comparatively lower ecological status than Spanish tomatoes. As a Swiss citizen, she is confident that people growing and harvesting tomatoes in Geneva receive fair wages and are treated according to Geneva labor law[10]. During the interview, Flora spoke with great certainty and visible pride that Switzerland offers a fair minimum wage and has a small black market, whereas she is unfamiliar with the Spanish market, where exploitative employment of undocumented migrants for low pay and their poor treatment can be more frequent. This example excellently demonstrates how localism provides a sense of control, knowledge of realities, and cognitive transparency, becoming not an economic but an ethical choice.

8 All participants are anonymized.

9 A larger carbon footprint may be attributable to production methods rather than transportation (Neira et al. 2018, Ritchie 2024).

10 Switzerland ranks as the country with the smallest shadow economy in the world at 6.94 %: see The Global Economy 2015.

11 The Myth of Short Supply Chains

Short supply chains or ethical consumption are important slogans of many local currency movements, though they are rarely subjected to verification (Larue et al. 2022). Assumptions about the »greenness« of short supply chains or the ecological superiority of organic products can be questioned (Michel/Hudon 2015; Sharzer 2012). For example, a study of 428 short and long supply chains across six European countries indicates that, on average, long supply chains are better for the environment (Majewski et al. 2020). An example from another part of the world shows that rice production in California is 15 to 25 times more energy-intensive than in Bangladesh, including transport to California (Ferguson/Thompson 2021). Ecologists debate whether it is more justified to transition to organic farming, which generally yields 23 % less than intensive agriculture but supports biodiversity, or rather to improve intensive farming and allocate parts of farmland to forests, meadows, and other areas restored to nature (Gong et al. 2022). A meta-analysis shows no evidence of significant differences in nutrient content between organic and non-organic food, and if any, it may concern only meat favoring organic farming (Smith-Spangler et al. 2012). Overall, this is an extremely complex topic, dependent on context, type of crop and livestock, climatic and social conditions, and asserting a universal thesis that organic or conventional farming is inherently better disregards these factors and simplifies the problem.

Hannah Ritchie emphasizes that feeding 8 billion people using early and organic farming methods would require 8 to 80 million square kilometers of farmland, assuming the entire humanity adopted a vegan diet and cleared large forest areas for agriculture. In contrast, modern agriculture needs 4 to 8 million square kilometers of farmland, demonstrating its much greater spatial efficiency and productivity (Ritchie 2024). She also notes that organic farming might contribute more to river and lake pollution due to manure use – its excess nutrients, unusable by plants, flow into water bodies. She cites the example of Sri Lankan government banning synthetic fertilizers in 2021, leading to a five-fold increase in vegetable prices in the country. The author does not discourage organic farming at all and sees a place for it, but certainly not on a global scale. After all, pesticides, though responsible for crop yields (Cooper/Dobson 2007), negatively affect insects and bees, crucial for biological balance (Nicholson et al. 2024), albeit to a small degree affecting human diet[11]. The researcher simply highlights how the topic is trivialized in discussions. Ultimately, the problem is complicated, multifaceted, and cannot be reduced to promoting a single solution in all situations. This heated debate is largely a struggle over grand symbols – between those who revere closeness

11 The study by the European Food Safety Authority, conducted on 87,863 food samples, found that 96.1 % were below the maximum residue level of pesticides. 3.9 % exceeded this threshold, of which 2.5 % may be due to possible statistical error (Carrasco et al. 2023).

to nature and those who embrace progress; between what is natural and what is synthetic.

Ritchie also argues that a positive stance toward short supply chains only makes sense from the perspective of supporting the local community, but certainly not from the standpoint of protecting the natural environment. Most international food transport happens via water transport, which is relatively low-emission. Road transport accounts for a mere 4–5 % of emissions related to food (Ferguson/Thompson 2021; Ritchie 2024). Ritchie also debunks the myth that food packaging is highly emission-intensive – plastic allows longer food storage, thus reducing waste. She further points out that the slogan »eat local« can have disastrous ecological consequences – especially if one considers a Brazilian using this slogan to eat local beef bred on Amazon rainforest pastures or a Swiss frequently consuming alpine lamb and beef, which impose a much heavier environmental burden than imported poultry.

Limits of localism also concern regional differences and geographical-cultural inequalities – some world regions are poor in natural resources and would face food or technological insecurity without imports (Ferguson/Thompson 2021). Furthermore, individual countries or regions specialize in certain industries, thus possessing the corresponding know-how and intellectual-productive conditions, which are hard to achieve for others (Ricardo 2004; Szczepaniak 2018). Moreover, spending larger sums on organic or local food means that part of the budget cannot be spent on other local goods, or jobs are lost by people from poorer countries, for whom low-paid and difficult work is decidedly better than none (Ferguson/Thompson 2021; Larue et al. 2022).

However, in the studied movements, environmentalism is not considered solely from the perspective of short supply chains or ethical consumption, though these arguments certainly played a role – primarily in Geneva and more strongly in the first BP faction. The aim was also to build attitudes and educate in practice: promote pro-environmental values, create circles of people for whom ecology is important, cultivate new priorities in the form of mental and shopping habits, a kind of social contagion and mimicry. As Steve Westlake points out, the example comes from above and from others. His research found that among people who stopped flying for a year due to climate change, 74 % admitted being inspired by someone else who acted similarly. This percentage rose to 85 % if the example was a recognizable or highly respected person (2022).

12 Imaginaries of Localism

What else does localism mean beyond strong small-scale entrepreneurship, short supply chains, local currency, and neighborhood community? What will the localism of the future look like? In other words, what are the *imaginaries* of localism? To what dreamed-of future localism does today's modest localism aim? What better future is the local currency meant to herald and preview?

For Arthur (ML), the inspirations are two prominent concepts: the 15-minute city (Moreno 2024) and the doughnut post-growth economy considering planetary limits (Raworth 2018). He envisions a future where most daily-life matters can be handled quickly and efficiently – within 15 minutes on foot or by bike, one can reach the store, work, school, gym, library, or repair services. This implies a city full of greenery with minimal car traffic, instead attractive and inviting to pedestrians and cyclists. For Arthur, a city should have at most 4,000 to 10,000 inhabitants – not only for time savings but also to foster community, daily interactions, mutual responsibility, and support. In the future, production proximity would be obvious; for instance, food for city residents would be delivered directly by farmers practicing ecological permaculture on farms adjacent to the city. Its pillars include small farms, composting, soil covering with mulch, water storage in ponds or rain barrels, growing many plant species simultaneously, avoiding digging and plowing that cause soil erosion, and eschewing chemical plant protection (Kossakowska 2024). Every city would offer a *library of things* where equipment can be borrowed. According to Arthur, almost nobody needs to own a car, drill, tent, waffle iron, vacuum cleaner, or DSLR camera. Moreover, the city would feature a repair center for all kinds of items, since in the future very few new clothes, smartphones, cars, bicycles, washing machines, and refrigerators would be purchased – production has reached sufficient levels. Cities would have abundant shared spaces such as parks, cultural centers, coworking spaces, cafés, and fewer private areas. This spatial concept draws on Codha housing – a Geneva cooperative designing apartments with largen shared spaces (kitchen, living room, garden, internal courtyard) alongside minuscule individual rooms. This reduces overall usable floor area, saves building materials, and leaves more space for social squares and alleys. Aware that not everything can be decentralized, Arthur also considers regional hospitals and universities. Olivier would likely second his view: »What sense would there be in having a CT scanner in every village?«

Localization of production with ecological farmer-neighbors playing a leading role is a recurring vision in nearly every conversation about the future. Wren from BP even says:

> »Farmers should be celebrated like footballers, and maybe we should organize farming championships? (laughs) And there should be a TV show about farmers competing to have the best ideas and innovations? (laughs)«

While Wren acknowledges an important future role for local currencies, she believes staple food should not be subject to market exchange. Farmers should be compensated through social funds or sponsorships. This implies a revaluation of professions – a farmer would hold a special place in the new occupational hierarchy as the guarantor of survival and healthy, ecological, delicious food.

In a somewhat different future vision, almost everyone becomes a farmer, and community gardens intertwine through the city – this is the view of Audrey and Olivier:

> »In the future, everyone will have to become a farmer. What is wrong with growing your own garden, your own vegetables and food? We are so disconnected from nature, even from knowing what real food actually looks like!«

As someone from a small farming family background, I instinctively grimaced at this vision, saying it sounded dystopian and I would never want to return to strawberry picking, digging in the soil, and wormy plums. My confession was met with surprise, subtle disbelief, a long pause, and careful observation of my face.

Audrey referred to an even more radical vision by Alice Holloway, a Brixton artist who inspires her future thinking. Holloway designs ethical bespoke lingerie (£ 250 per bra with fitting), lectures on clothing design, and envisions a better future where everyone is not only a farmer with their own or shared vegetable garden but also a spinner:

> »Pre-industry, spinning wasn't very recognisable as work. The drop spindle is portable, goes with you, like knitting on the train, you can spin in groups whilst you all chat. You can spin with your baby crawling around nearby, you can spin at home in the evening by the fire. Industrial spinning is too loud to be heard over, it takes place in a designated factory where someone sees you clock in and clock out, it requires many less people to just one massive machine, and of course – it makes profit for the machine owner rather than clothes for the mill worker. Not to mention the fossil fuel power sources« (Holloway 2025).

Alice Holloway regards spinning as an excellent way to connect with care and relationship building. For her, fashion could finally become true fun – a manifestation of identity and creativity, as everyone would sew their own clothes. Nobody would wear cotton from faraway countries, but only local fabrics made from the wool of community-raised rabbits, sheep, goats, silkworms, flax, or hemp.

It is hard not to notice how ahistorical and idealized this vision of pre-industrial spinning is, disregarding how poor most of the largely self-sufficient society's wardrobes were – owning shoes was a challenge (Kuciel-Frydryszak 2023). Producing flax clothing was extremely time-consuming, mainly women's work. For example, a single peasant farm in Poland annually produced roughly four shirts, trousers, a coat, and a skirt (Janicki 2024).

However, Holloway's radical localism, wherein global economic exchange virtually does not exist, did not entirely appeal to Audrey. The BP leader emphasized the role of trade, which has the potential to build community and cultural exchange and expressed the need for global centers of knowledge production. She said many Brixton residents deeply value contact with ancestors or distant family, their culture and cuisine. She imagined Brixtonians connected not only to farmers near Brixton but also, for example, to African farmers. Relationships would be built based not only on goods transfer but on close cultural exchange. Brixtonians would undertake special trips to help on African farms, gaining respect for farming labor and establishing intercultural relations. The quality, safety, and good working conditions of agriculture would be ensured by sustainable universities located alongside farms, optimizing environmental impact and experimenting with better cultivation methods. Of course, African farmers and residents could travel to English farms for exchanges, and vice versa.

Across all these future visions, the striking features are scale: small towns, small farms and shops, short geographic and social distances between production and consumption, archaic and pre-industrial methods of clothing production. Even the grand scale of intercontinental exchange among farmers is mitigated by social proximity between them. Small is beautiful but also susceptible to cognitive, empathetic, and organizational control. Visions of a world before the steam engine come to mind – when thousands, not billions of tons of goods traveled oceans:

> »By the late 16th century, the capacity of the British fleet was estimated to be around 68,000 tons and required 16,000 sailors. Containerships built in 2022 had a capacity of 236,000 tons and a crew of 22« (Rodrigue 2024).

13 Ethical Consumption – Individual or Collective?

It is hard not to notice that, in practice, the primary strategy of local currency movements is the promotion of ethical consumption, which involves rather individual practices. While psychologist Westlake criticizes what he sees as a false dichotomy between individual and collective action (2022), Rebecca Solnit explains in her famous essay in *The Guardian* that the carbon footprint metric was invented by British Petroleum (BP) marketers to shift responsibility onto consumers (Solnit 2021). The main obstacle is not middle-class consumption but rather the production or consumption of the richest (Sharzer 2012). As energy and environmental engineering professor Marcelle McManus writes, encouraging the use of the carbon footprint concept primarily by businesses and governments rather than consumers:

> »Here lies the problem: it may no longer be in anyone's personal capacity to make changes great enough to reverse the damage already done. In a world where just 100

companies are responsible for 71% of global emissions, we need a total overhaul of the carbon-intensive systems around us instead« (McManus 2022).

Moreover, contrary to the belief that education is a universal solution, Alice Brock, Ian Williams, and Simon Kemp, studying 381 participants, show that awareness that certain individual choices could benefit the environment does not mean those choices are made (2023). Participants were asked about their environmental awareness and willingness to implement specific changes, such as switching to energy-saving light bulbs or adopting a vegan diet. Regardless of declared ecological opinions and beliefs, most people chose the simplest but least effective actions. This contradicts the often-stated view that simply explaining the seriousness of the situation will change people's behavior. All age groups opted for the easiest option. Some nuances appeared: higher-income individuals were more reluctant to limit foreign air travel, whereas those with lower incomes considered it less of a priority (Brock et al. 2023).

14 Subpolitical Consumption

Ulrich Beck, for his part, would argue that consumption and production within local currency frameworks bear the marks of subpolitical actions. The sociologist contended that in contemporary societies, centers of power are shifting, and the nineteenth-century public sphere need not resemble its twentieth- or twenty-first-century successor. Today's subpolitics involve actors operating outside party, political, or union systems, and even outside established collective forms – they emerge both bottom-up (international social movements, public opinion) and top-down (for example, through international institutions such as the World Bank or the UN). Beck includes among subpolitical domains medicine, technology, corporations, and the sphere of ethical consumption.

Key decisions once made in parliamentary halls are increasingly shaped today in private laboratories by experts, during corporate board meetings, or even … during everyday shopping. Beck regarded the decreasing democratic role of the state in favor of corporations in decision-making as a hallmark of the risk society, though he looked for hope in civil society:

> »The activity of world corporations and national governments is becoming subject to the pressure of a world public sphere. In this process, individual-collective participation in global action network is striking and decisive; citizens are discovering that the act of purchase can be a direct ballot which they can always use in a political way. Through the boycott, an active consumer society thus combines and allies with direct democracy – at a world level« (Beck 1996: 21).

The space of the shop compared to a pharmaceutical laboratory or a corporate decision office appears modest. It is quite a low-risk and safe strategy for change, especially for those with stable incomes. Even if ethical consumption is endorsed, it does not change the fact that what activists call ecological actions raise doubts and are not self-evident. Particularly since the main ML leader opposes nuclear energy, mainly due to its top-down nature and massive scale. Thus, the issue of local and ecological consumption is by no means indisputable.

15 Individual Utopias – The Longing for Agency

The belief that an individual holds real power to influence global carbon emissions borders on a nostalgia for individual agency. Perhaps this explains activists' expressed need for simplicity, small scale, transparency, a certain familial spirit, and closeness – in such a perspective, the individual voice appears more audible, distinct, and strong. In the complex world of modernity, isn't the idea that a fleeting purchase of organic coffee effects change a rather narcissistic trait of our times (Byung-Chul 2015; Lachs 2015)? Isn't it a narrowing of perspective to what is small and convenient, a renunciation of challenges in favor of easy gestures? It is not about eradicating individual virtues but about knowing their limitations – moral, class-related, economic, systemic, cultural, or simply statistical. There is a reason that criticizing authority – even in private conversations – is prohibited in authoritarian countries – the question is how much power words have and how much is manic fear of losing control over minds. Excessive faith in individual agency may, though need not, lead to overinvestment in the ego – especially if accompanied by moralistic zeal – rather than to sensible collective action.

Inspired by psychoanalysis, Zygmunt Bauman metaphorically called this intoxication with individual agency a nostalgia for the womb (*back to the womb*). This is a conviction typical for the ego in the pre-Oedipal phase, that there is no difference between the external and internal world (caretaker and child). The subject feels omnipotent because this is the moment when caretakers instantly respond to and fulfill the child's needs. Simultaneously, it is a period of complete – albeit largely unconscious – dependency. It is governed by the pleasure principle – the child cannot yet delay needs but seeks immediate gratification of biological drives, and any delay causes immense frustration. Comfort is regarded as the highest value.

According to Bauman, this developmental phase of the subject is a metonymy of contemporary individual utopias – a phenomenon of privatization of utopias, egocentric utopias of the self, which regard one's own body as the main tool of agency. Bauman bitterly points out:

> »Some others, disenchanted and exasperated by hopes addicted to frustration, invest their aspirations in turning back to the past. But it seems that a large majority among us don't care one way or the other (either about the future or about the past), busying themselves instead in finding ways to disarm the unendurable prospects with gadgets likely to deliver small—but day in, day out—satisfactions: cutting down on ambitions and expectations, having first retreated into deceptively safe shelter of self-concern and self-reference« (2017: 120–121).

The presentism of individual utopias promises immediate gratification. Purchasing certain products and services, frequenting certain places, or impeccably caring for one's body are supposed to bring fulfillment. Today, one of the most popular utopian thought spaces is, for example, the wellness industry, which in France is the third-largest market after IT and tourism (Teste 2023), or, of course, social media aestheticizing life and portraying it as a source of unrelenting smiles. Combining Bauman's language with that of philosopher Byung-Chul Han, the individual utopian tools' task paradoxically seems not so much satisfaction as a perpetuum mobile of dissatisfaction to be quelled by chasing the next mirage. ›The gap between the real ego and the ego ideal then brings forth auto-aggression‹, writes the German thinker in *The Burnout Society* (Byung-Chul 2015: 46). Individual utopias brim with excess positivity. They obey an exhausting logic based on the regime of success, the imperative of happiness, the absolutization of health, and an optimization frenzy. These utopias are not portrayed as illusions but as something attainable and close to reality – as positive possibilities. Their flip side and dark face is depression born of disappointment in oneself and the world, as Han says.

To some extent, local currencies engage this logic of individual utopia by supporting ethical businesses and ecological consumption, promising that purchases hold a significant agency. This is all the more surprising given that these are social movements strongly engaging rhetoric of collective social change. James S. Ormrod in his book *Fantasies of Social Movements* observes:

> »[Social] movements are now less concerned with challenging the external social and political structures they inhabit and more concerned with the inner lives of their participants. This is no doubt a correlate of the emergence of a ›post material politics‹« (2014: 8).

Ormrod points out that contemporary social movements have clearly become aestheticized and increasingly employ strategies of identity expression, play, and even commodities – in the form of t-shirts, mugs, or other gadgets – to manifest their presence, sometimes creating actual enclaves of hedonistic ›better living‹ beyond the noise of mainstream concerns. The researcher uses the concept of fantasy, emphasizing that participation in social movements increasingly satisfies the emotional and social needs of their members, rather than serving deep, strategic social change.

In my imagination, the image of hippies – the metropolitan youth fascinated with self-sufficiency – immediately emerges. The hippies bought rural land, gentrified it, built temporary shelters, and proclaimed that real political change is impossible, and revolution is born in the psyche of the individual intertwined inseparably with the body (Turner 2006).[12]

16 Consuming Anti-Consumption: A Paradox

It is rather paradoxical that among activists for local currencies, *imaginaries* design a future of communal localism, while *expectations* promote individualistic ethical consumption. It must be conceded that although in practice belonging to the local currency community means participation in trade with local and ecological goods, the process inviting it is full of small talks, lectures, meetings, activist conceptual and promotional work. They open a field for questions about the nexus of the financial system with the environment, about the best production methods, the importance of biodiversity, the aim and meaning of running a business, and provoke alternative thinking. Increasingly seldom do we observe authorities having the courage to make unpopular decisions; society should thus acquire the courage to articulate problems usually ignored. This is not ordinary ethical consumption but consumption involving quite an unusual currency, questioning the established order. It sparks a lively discussion beyond the realm of shops – including financial and public institutions such as Banque Alternative Suisse, London Mutual Credit Union, the BP Pay What You Can social café, the Geneva city office, and the Lambeth borough office, to which Brixton belongs. Nevertheless, this article encourages further research into eco-habitus and how ecological imagination is grounded in class beliefs, as well as reflection on ecological agency actors.

The tension between individual and collective strategies of change remains intrinsic to the movements under study. Their dynamics oscillate between these two levels of action. At times, they resemble Bauman's notion of individual utopias, grounded in the belief in the ego's omnipotence and the pursuit of immediate gratification through a somewhat hedonistic sense of agency. At other moments, they evoke Beck's idea of subpolitics, which reminds us that the spaces of the pub-

12 Fred Turner identified two main groups within the counterculture as ideal types. Hippies belong to the New Communalists, an escapist faction turning away from politics in favor of individual consciousness change, understood as the main driver of social change. The other faction is the New Left, which fought against the Vietnam War, political prisoners, and discrimination.

lic sphere are fluid; that consumer boycotts can serve as effective tools of influence; and that reflexive consumption can become a site of embodied public debate.

A useful umbrella term that helps to link and interpret the different phenomena making up the localism examined here is that of hipster economy. This concept refers to a post-hippie, post-Fordist vision of economic life beyond alienation – one that values individual creativity expressed through running socially grounded local businesses and sees the market, together with conscious consumption, as instruments of social change. BP and ML can be seen as hipster money – nostalgic, utopian, yet deeply entangled in class complexities. The eco-habitus, in turn, constitutes a mode of distinction grounded in values of land, cosmopolitan localism, and environmental care aimed at minimizing carbon footprints.

The hipster economy thus offers a framework for interpreting localism as a utopia formed within particular social parameters – envisioned by highly educated, predominantly well-off and white urban dwellers, for whom rurality is more easily idealized. Yet, a persistent problem with utopias is that they are often imagined by those who possess the temporal and material resources to do so (Neima 2021). Imagination, after all, always operates within structural constraints.

References

Authier, Jean-Yves / Collet, Anaïs / Giraud, Colin / Rivière, Jean / Tissot, Sylvie (Eds.) (2018): *Les bobos n'existent pas.* Lyon: Presses universitaires de Lyon.

Bauman, Zygmunt (2017): *Retrotopia*. Cambridge-Malden: Polity.

Bazzani, Giacomo (2023): »Futures in Action: Expectations, Imaginaries and Narratives of the Future«. In: *Sociology* 57(2), pp. 382–397.

Beck, Ulrich (1996): World risk society as cosmopolitan society? Ecological questions in a framework of manufactured uncertainties«. In: *Theory, Culture & Society* 13(4), pp. 1–32.

Beckert, Jens (2019): »The exhausted futures of neoliberalism. From promissory legitimacy to social anomy«. In: *Journal of Cultural Economy* 13(3), pp. 318–330.

Binkley, Sam (2004): »Everybody's Life is Like a Spiral: Narrating Post-Fordism in the Lifestyle Movement of the 1970«. In: *Cultural Studies: Critical Methodologies* 4(1), pp. 21–39.

Blanc, Jérôme / Fare, Marie / Lafuente-Sampietro, Oriane (2023): *Les monnaies locales en France en 2023. Résultats de la seconde enquête nationale*. Raport: Université Lumière Lyon 2, Sciences Po Lyon, Université de Rouen Normandie.

Blanc, Jérôme / Fare, Marie / Lafuente-Sampietro, Oriane (2025): »Local currencies for territorial development: lessons from a national survey in France«. In: *Regional Studies* 59(1), pp. 1–15.

Bourdieu, Pierre (1984): *Distinction. A Social Critique of the Judgement of Taste*. Cambridge / London: Harvard University Press.

Brock, Alice / Williams, Ian / Kemp, Simon (2023): »›I'll take the easiest option please‹. Carbon reduction preferences of the public«. In: *Journal of Cleaner Production* 429, pp. 1–27.

Brooks, David (2000): *Bobos in Paradise: The New Upper Class and How They Got There*. New York: Simon&Schuster.

Bylok, Felicjan (2017): »Moralność i konsumpcja etyczna: dyskusja nad wymiarami etycznymi w konsumpcji«. In: *Władza Sądzenia* 13, pp. 193–206.

Byung-Chul, Han (2015): *The Burnout Society*. Stanford: Stanford University Press.

Carfagna, Lindsey B./Dubois, Emilie A./Fitzmaurice, Connor/Ouimette, Monique Y./Schor, Juliet B./Willis, Margaret/Laidley, Thomas (2014): »An emerging eco-habitus. The reconfiguration of high cultural capital practices among ethical consumers«. In: *Journal of Consumer Culture* 14(2), pp. 158–178.

Carrasco, Cabrera L./Di Piazza, Giulio/Dujardin, Bruno/Medina Pastor, Paula (2023): »The 2021 European Union report on pesticide residues in food«. In: *EFSA Journal* 21(4), n.p.

Cooper, Davina (2014): *Everyday Utopias. The Conceptual Life of Promising Spaces*. Durham-London: Duke University Press.

Cooper, Jerry/Dobson, Harry (2017): »The benefits of pesticides to mankind and environment«. In: *Crop Protection* 26(9), pp. 1337–1348.

Didier, Raphaël (2022): *Monnaie: communauté ou institution? Un éclairage théorique et empirique à partir d'une monnaie locale*. Unpublished doctoral dissertation, Université de Lorraine.

Domański, Henryk/Karpiński, Zbigniew/Przybysz, Dariusz/Straczuk, Justyna (2015): *Wzory jedzenia a struktura społeczna*. Warsaw: Wydawnictwo Naukowe Scholar.

Ferguson, Benjamim/Thompson, Christopher (2021): »Why Buy Local«. In: *Journal of Applied Philosophy* 38(1), pp. 104–120.

Fisher, Mark (2009): *Capitalist Realism. Is There No Alternative?* Winchester-Washington: Zero Books.

Florida, Richard (2019): *The Rise of The Creative Class*. New York: Basic Books.

Gerosa, Alessandro (2024): *The Hipster Economy. Taste and Authenticity in Late Modern Capitalism*. London: UCL Press.

Gong, Shanxing/Hodgson, Jenny A./Tscharntke, Teja/Liu, Yunhui/van der Werf, Wopke/Batáry, Péter/Knops, Johannes M.H./Zou, Yi (2022): »Biodiversity and yield trade-offs for organic farming«. In: *Ecol Lett*. 25(7), pp. 1699–1710.

Gonzales, Lauro/Cernev, Adrian/Kemmer, Araujo/Marcelo, Henrique/Diniz, Eduardo H. (2020): »Digital complementary currencies and public policies during the COVID-19 pandemic«. In: *Brazilian Journal of Public Administration* 54(4), pp. 1146–1160.

Gómez, Georginia M. (Ed.) (2019): *Monetary Plurality in Local, Regional, and Global Economies.* London: Routledge.

Holloway, Alice Suzanne: »Care Home Farm 5 – Fibre and Clothes«. Care Home Farm: alicesuzanneholloway.substack.com (last access: 23 March 2026).

Hopkins, Rob (2010): *Manuel de Transition. De la Dépendance au Pétrole á la Résilience Locale*. Écosociété.

Hopkins, Rob (2008): *The Transition Handbook. From Oil Dependency to Local Resilience*. Vermont; Chelsea Green.

Jackson, Emma/Butler, Tim (2015): »Revisiting ›social tectonics‹. The missile classes and social mix in gentrifying neighbourhoods«. In: *Urban Studies* 52(13), pp. 2349–2365.

Janicki, Kamil (2024): *Życie w chłopskiej chacie*. Poznań: Wydawnictwo Poznańskie.

Kennedy, Margrit (1995): *Interest and Inflation Free Money. Creating an Exchange Medium that Works for Everybody and Protects the Earth*. Seva International.

Kossakowska, Martyna (2024): *Permakultura w rolnictwie*. Olsztyn: Warmińsko-Mazurski Ośrodek Doradztwa Rolniczego z siedzibą w Olsztynie.

Kuciel-Frydryszak, Joanna (2023): *Chłopki. Opowieść o naszych babkach*. Warsaw: Wydawnictwo Marginesy.

Lachs, Christopher (2015): *Kultura narcyzmu*. Warsaw: Wydawnictwo Akademickie SEDNO.

Larue, Louis (2020): »The ecology of money: a critical assessment«. In: *Ecological Economics* 178, pp. 1–9.

Larue, Louis/Meyer, Camille/Hudon, Marek/Sandberg, Joakim (2022): »The Ethics of Alternative Currencies«. In: *Business Ethics Quarterly* 32(2), pp. 299–321.

Liu, Catherine (2021): *Virtue Hoarders. The Case against the Professional Managerial Class*. Minneapolis-London: University of Minnesota Press.

Majewski, Edward/Komerska, Anna/Kwiatkowski, Jerzy/Malak-Rawlikowska, Agata/Wąs, Adam/Sulewski, Piotr/Gołaś, Marlena/Pogodzińska, Kinga/Lecoeur, Jean-Loup/Tocco, Barbara

(2020): »Are Short Food Supply Chains More Environmentally Sustainable than Long Chains? A Life Cycle Assessment (LCA) of the Eco-Efficiency of Food Chains in Selected EU Countries«. In: *Energies* 4853(13), pp. 1–26.

Marx, Karl/Engels, Friedrich: »Manifesto of the Communist Party«. Marxists Internet Archive: marxists.org (last access: 1 October 2025).

Neima, Anna (2021): *The Utopians. Six Attempts to Build the Perfect Society*. London: Picador.

Nunn, Jonathan: »Hippy, capitalist, guru, grocer: the forgotten genius who changed British food«. The Guardian: theguardian.com (last access: 14 September 2025).

McManus, Marcelle: »The ›carbon footprint‹ was co-opted by fossil fuel companies to shift climate blame – here's how it can serve us again«. The Conversation: theconversation.com (last access: 23 March 2026).

Michel, Arnaud/Hudon, Marek (2015): »Community currencies and sustainable development. A systematic review«. In: *Ecological Economics* 116, pp. 160–171.

Moreno, Carlos (2024): *The 15-Minute City: A Solution to Saving Our Time and Our Planet*. Hoboken: Wiley.

Nicholson, Charlie C./Knapp, Jessica/Kiljanek, Tomasz et al. (2024): »Pesticide use negatively affects bumble bees across European landscapes«. In: *Nature* 628, pp. 355–358.

Ormrod, James S. (2014): *Fantasy and Social Movements*. New York: Palgrave Macmillan.

Polanyi, Karl (2001): *The Great Transformation. The Political and Economic Origins of Our Time*, Boston: Beacon Press.

Raworth, Kate (2018): *Doughnut Economics: Seven Ways to Think Like a 21st Economist*. London: Chelsea Green.

Ricardo, David (2004): *The Principles of Political Economy and Taxation*. New York: Dover Publications.

Ripess Europe: »Social Solidarity Economy in Europe«. YouTube: https://youtu.be/f3mZnpCTow8?si=jM2KAp87p5unEZIj (last acces: 23 March 2026).

Ritchie, Hannah (2024): *Not the End of the World. How We Can Be the First Generation to Build a Sustainable Planet*. New York/London: Little Brown Spark.

Rodrigue, Jean-Paul (2024): *The Geography of Transport Systems*. New York: Routledge.

Rodrigue, Jean-Paul: »1.3 – The Emergence of Mechanized Transportation Systems«. The Geography of Transport Systems, transportgeography.org (last access: 23 March 2026).

Ryan-Collins, Josh/Greenham, Tony/Richard, Werner/Andrew, Jackson (2011): *Where does Money Come From? A Guide to the UK Monetary and Banking System*. London: New Economic Foundation.

Rycombel, Marlena (2022): »Alterka – money or gift? The social money project«. In: *International Journal of Community Currency Research* 27(2), pp. 52–62.

Rycombel, Marlena (forthcoming): »Exploring the expectations and imaginaries of the blockchain commons through local cryptocurrencies: the Brixton Pound and Monnaie Léman«. In: *Journal of Cultural Economy*.

Scott, Michael (2017): »›Hipster Capitalism‹ in the Age of Austerity? Polanyi Meets Bourdieu's New Petite Bourgeoisie«. In: *Cultural Sociology* 11(1), pp. 60–76.

Sharzer, Greg (2012): *No Local: Why Small-Scale Alternatives Won't Change the World*. Winchester-Washington: Zero Books.

Smith-Spangler, Crystal/Brandeau, Margaret L./Hunter, Grace E./Bavinger J., Clay/Peardon, Maren/Eschbach, Paul J./Sundaram, Vandana/Liu, Hau/Schirmer, Patricia/Stav, Christopher/Olkin, Ingram/Bravata, Dena M. (2012): »Are Organic Foods Safer or Healthier Than Conventional Alternatives?: A Systematic Review«. In: *Annals of Internal Medicine* 157(5), pp. 348–366.

Solnit, Rebecca: »Big oil coined ›carbon footprints‹ to blame us for their greed. Keep them on the hook«. The Guardian: theguardian.com (last access: 23 March 2026).

Srnicek, Nick/Williams, Alex (2016): *Inventing the Future (revised and updated edition): Postcapitalism and a World Without Work*. London-New York: Verso.

Szczepaniak, Iwona (2018): »Przewagi komparatywne w handlu zagranicznym Polski na przykładzie produktów rolno-spożywczych i pozostałych«. In: *Zeszyty Naukowe SGGW w Warszawie – Problemy Rolnictwa Światowego* 18(33)(1), pp. 263–274.

Teste, Camille (2023): *Politiser le bien-être*. Paris: La Collection sur la table.
TheGlobalEconomy.com: »Shadow economy by country, around the world«. TheGlobalEconomy.com: theglobaleconomy.com (last access: 23 March 2026).
Turner, Fred (2006): *From Counterculture to Cyberculture. Steward Brandt, the Whole Earth Network, and the Rise of Digital Utopianism*. Chicago / London: The University of Chicago Press.
Urry, John (2016): *What is the Future*. Cambridge: Polity Press.
Watrin, Laure / Legrand, Thomas (2014): *La république bobo*. Paris: Stock.
Weber, Max (2011): *Etyka protestancka i duch kapitalizmu*. Warsaw: Wydawnictwo Uniwersytetu Warszawskiego.
Westlake, Steve (2022): *The power of leading by example with high-impact low-carbon behaviour: emulation, trust, credibility, justice*. Unpublished doctoral dissertation, University of Cardiff.
Wilder, Gary (2022): *Concrete Utopianism. The Politics of Temporality and Solidarity*. New York: Fordham University Press.
Wojciechowski, Jacek (2008): »Lokalizm – dzisiaj«. In: *Rocznik Małopolska* 2008(10), pp. 50–63.
Žižek, Slavoj (2022): »Afterword: Lenin's Choice«. In: Lenin, Vladimir I., Žižek, Slavoj (Eds.): *Revolution at the Gates. A Selection of Writings from February to October 1917*. London / New York: Verso.

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How we sold our future

Interview with Jens Beckert

Conducted by Andrea Maurer[1]

Andrea Maurer: Thank you for taking time for this interview. The occasion is a special issue on the topic of ›Theorizing Sustainability in Sociology‹, which has emerged from several conferences of the European Network of Economic Sociology on Sustainability. Last year, you presented a much-acclaimed book on realistic climate policy. What was the reason for this book?

Jens Beckert: Two points are important. First, climate change is a social and a political issue, not only an ecological problem. Second, it is also a topic of keen sociological interest. This follows from a simple observation. We see dramatic consequences of climate change worldwide and know, in principle, what changes would be needed to counter it effectively, yet far too little is actually done. This opens up an interesting sociological question. Why are societies so hesitant to take action, despite knowing about the dangers? This question is also the starting point of my book.

Andrea Maurer: That's an exciting point. We are also observing intensified debates on sustainability are currently unfolding in sociology. In this context, the discussion centres on whether more sustainability requires a fundamental transformation of the economic system or whether capitalism can release immanent forces for this. So, is green capitalism possible?

Jens Beckert: In principle, the transformation of energy systems could take place within the capitalist economic order. We are talking about the introduction of new technologies and the transformation of large infrastructures, and the history of capitalism offers many examples of such transformations. To be sure, this would not be an easy task, neither technologically nor economically or politically. At present, the energy sector and downstream industries generate high profits from business models based on the emission of greenhouse gases. These industries defend such models and often resist transformation. Still, one can imagine a capitalist economy that runs on renewable energy in the future.

1 This interview was conducted in November 2025.

What makes me sceptical about the notion of green capitalism lies elsewhere. Protecting nature would require economic activities to generate far fewer negative externalities for ecological systems. If we assume that the ecological crisis can be resolved within the capitalist economic order, this presupposes that environmental costs that have been externalized so far, can be effectively internalized.

This, however, comes into tension with the growth logic inherent in capitalism. Global warming is only one dimension of a broader ecological crisis, which also includes environmental pollution, ocean acidification, and biodiversity loss. This broader constellation is captured by the concept of planetary boundaries, which points to natural limits in the use of the planet's resources. These limits imply ecological constraints on economic growth, at least as long as growth remains structurally linked to environmental degradation.

Historically, economic growth has been associated with increasing resource use, despite efficiency gains and ideas such as the circular economy. As long as this connection persists, the fundamental question arises of whether growth can be effectively limited within a capitalist economic order. Can capitalism function under conditions of stagnating or declining economic output? I am sceptical. If this assessment is correct, addressing the ecological crisis would require transforming key elements of the current economic system —most importantly, the regime of property rights. Unfortunately, there is no painless path toward a sustainable economy.

Andrea Maurer: Are there typical ideas within the capitalist economic system that shape the handling of natural resources? You have developed the concept of imagined futures in other works, and so, I ask you whether the currently dominant ideas about the economy, growth and prosperity, promote or hinder sustainability. Can such visions of the future be changed in the course of structural or institutional transformations?

Jens Beckert: The book I have written on climate change does not deal extensively with imagined futures. This is no coincidence. Imagination naturally plays an important role in current processes of economic transformation. For example, it matters greatly to producers and consumers, whether they imagine themselves still buying or selling cars with combustion engines ten years from now. If electric cars are seen as the future of mobility, very different decisions will be made. These are precisely the kinds of imagined futures I describe in *Imagined Futures*. We can also observe the effects of such imagined futures in the financial industry. Investments in energy infrastructures are long-term commitments. Does it still make sense for banks to finance fossil energy projects, or will these become stranded assets in twenty years? The answer to this question depends on what I have called *fictional expectations*.

In another respect, however, I believe the concept of imagined futures is less helpful for understanding the green transition. Sometimes it is used with the assumption that if we only developed better images of sustainable ways of living, we could accelerate the transition. According to this view, we are stuck because we lack convincing imaginaries of what a sustainable world could look like and how attractive it might be. This idea appears in books lamenting a "loss of the future" or in colourful visualizations of green cities.

I am sceptical of this use of the concept of imagined futures. If we want to understand the forces shaping the transition, we need to take into account the institutional and structural constraints faced by actors. Consider the power of energy companies, the automotive industry, or the chemical industry. Entire countries depend on these sectors. As long as no viable alternative business models exist, these industries will do everything they can to protect their sources of profitability and the state will often support them. We must also consider the path dependencies of large infrastructures and the lock-ins, familiar from many processes of organizational change.

Imaginaries can still play a role. Images of future environmental devastation may motivate people to engage in social movements fighting climate change, while positive images of sustainable lifestyles may reduce resistance to change. In this case, their influence operates through civil society and becomes relevant via attitudes and mobilization. But all of this must be understood in the context of powerful economic interests and the existing incentive structures that shape the behaviour of companies, politicians, and consumers.

Andrea Maurer: If I understand you correctly, your core argument is that institutional and structural changes should go hand in hand with ideas about what constitutes business and a good life, and that change can only occur through the interlocking of these processes?

Jens Beckert: Yes, but these two aspects do not operate on the same level. Sustainability depends on institutional change. Therefore, the first question concerns the prerequisites for such change. Above all, this depends on political decisions. Political decisions, in turn, require political power, and as is well known in sociology, political domination ultimately depends on legitimacy. This means that if an ecologically harmful economy is increasingly delegitimized by civil society, this would constitute an important prerequisite for political decisions that promote sustainability.

Andrea Maurer: We know in sociology that transformative social movements only occur from time to time. We have seen, since the beginning of the twenty-first century, movements that demand alternative forms of organizing the economy and explicitly speak out against the market and private enterprise as well as private property. In the context of the climate crisis, such movements have intensified in the last 20 years. This is how energy cooperatives but also newer forms of public-private-state cooperation have emerged, which combine sustainability goals with the concern of doing business differently. In your opinion, would these *be important pieces of the mosaic of the upcoming transformation process or are they rather fleeting and not really relevant phenomena? To put it another way, can such environmental and social movements promote and establish new business models and more sustainable economic institutions?*

Jens Beckert: I do think they are important because —this ties in with what I said earlier —they open up new perspectives that citizens may find attractive. One example is pilot projects supported by climate movements, such as models of the green city. If alternative ways of living can be experienced in practice, this creates learning fields with the potential to change attitudes. They can help open up new horizons. At the same time, such models and the experiences they offer are limited. They often provide few options for scaling up. They tend to remain confined to local contexts and frequently function only because they are embedded in an environment that is itself not sustainable.

With regard to the effectiveness of today's environmental social movements, I have another concern. Let us briefly consider the most successful social movement of the twentieth century: the labour movement. This movement was successful because it was highly organized. Trade unions and workers' parties structured everyday life and created stable social milieus. This facilitated solidarity and made it easier to overcome collective action problems. Such a stable organization of life-forms is largely absent in today's ecological movements. *Fridays for Future*, for example, is largely organized through smartphones and spontaneous actions. While these can be very effective in the short term, they lack a comparable organizational structure.

From a sociological perspective, comparing contemporary environmental movements with earlier social movements is highly instructive. Sociologists can ask about the social and organizational prerequisites for the success of environmental movements. Such analyses could also generate ideas about how climate movements might need to develop in order to increase their long-term impact.

Andrea Maurer: This is a very exciting and important parallel. The workers' movement was directly linked to material subsistence requirements, which is often not the case with social movements. You have already indicated that this is an interesting topic for sociology. A key word here would certainly be solidarity and its social foundations. In your earlier work, you also dealt with solidarity. In the context of a realistic climate policy and the challenges of our time, would it be an option to expand solidarity or to connect solidarity with sustainability? Do you think that sociology has the necessary theoretical-conceptual foundations to grasp solidarity-based forms of action as an option for a realistic climate policy?

Jens Beckert: I think so, and I also believe that the concept of solidarity is highly relevant here. A central sociological insight is that solidarity is a particularistic concept, that is, it cannot be extended at will, unlike, for example, the Christian concept of mercy. Solidarity is not universalist; it is particularistic in the sense that we are always in solidarity with others with whom we share social relationships. Ultimately, solidarity emerges within communities.

This is relevant because climate policy is, on the one hand, a global challenge that requires global action, while on the other hand it also has important local dimensions. Solidarity probably has limited influence at the global level. Climate change can be understood as a massive collective action problem, and solving such problems would require a moral economy that reduces free-riding. The absence of such a moral economy becomes evident when we look at climate damages in the Global South, regions that bear little responsibility for climate change and often lack the economic resources to protect themselves. Although there are calls to support poorer countries in coping with the consequences of climate change, actual support remains far too limited. This demonstrates the particularistic nature of solidarity: countries in the Global South are simply not part of the community of solidarity toward which countries in the Global North feel a strong moral obligation.

At the same time, solidarity can be a powerful concept when it comes to understanding responses to climate-related damages at the national or regional level. Consider, for example, the reaction to the flooding of the Ahr region in Germany in 2021, which caused damages of around 30 billion euros. There was an immediate and substantial response, both from the state and from civil society. It was the moral economy of the community that enabled this solidarity.

From this, we can draw more general lessons. If societies are to be better protected against the increasing damages caused by climate change in the future, it is crucial to strengthen social relationships that go beyond mere utility maximization. This aspect will become increasingly important as climate-related damages rise. Just consider the fires in California in 2025, or the floods in North Carolina and the region of Valencia, Spain, the year before. If societies fail to mobilize solidarity, the growing impact of climate change may lead to increasing social divisions. Those with sufficient resources may seek to evade exposure by moving away from high-risk areas, such as flood-prone regions, while others are left behind. This makes one question particularly urgent: how can solidarity within our societies be strengthened?

Andrea Maurer: I would like to follow up on this point. The special issue asks about the potential of sociological theories regarding sustainability. How would you assess the possibilities of sociological theories in dealing with sustainability in relation to solidarity?

Jens Beckert: I think sociology has strong theoretical foundations that are highly relevant for analysing issues of sustainability. Take sociological theories of action, for example, which emphasize that action cannot be reduced to individual utility maximization. This insight can be found in virtually all of the classical sociological traditions. It also appears, in ways that are particularly fruitful for understanding climate-related issues, in the work of Elinor Ostrom.

Ostrom asks how social groups are able to overcome free-rider problems and investigates the moral economies that sustain collective action. She shows that small groups can successfully address free-rider problems because they are able to enforce norms as well as sanction deviant behaviour. These are powerful insights with a strong and well-established theoretical foundation.

Andrea Maurer: At this point, I would like to address the global inequalities you mentioned. This is associated with new global conflicts, which may combine with old, local ones. Do you currently see new or special problems and counter-movements reacting to them, to use Karl Polanyi's term? Do you see specific counter-movements in our society that are expected to emerge in the context of climate change or sustainability policy?

Jens Beckert: I will begin by responding to the first part of the question. From a sociological perspective, the climate crisis is not simply an ecological crisis; it is a crisis of prevailing structures of social order. What I mean by this is that societies' inability to respond adequately to emerging ecological problems is a social issue, not a problem of nature itself. We can clearly see that current responses fall short, as we are on a trajectory that will lead to temperature increases with devastating consequences for the lives of billions of people. It would be naïve to assume that this will not have severe repercussions for the stability of societies.

One extreme example discussed in my book concerns the southern Sahel, Africa, where severe conflicts have emerged as a result of the Sahara spreading southwards. Pastoral communities are forced to migrate further south in search of grazing land for their herds. There, they come into conflict with farmers whose fields are trampled and destroyed. These tensions have escalated into armed clashes, resulting in several thousand deaths.

In less extreme forms, climate-related conflicts are also emerging in the Global North. Floods in the region of Valencia (Spain), for example, led to protests by citizens who felt insufficiently protected by public authorities. At the same time, conflicts also arise from climate protection measures themselves. Consider the reactions to the heating law in Germany, or the protests by farmers in many European countries against climate-related political measures.

Andrea Maurer: And do you see any counter-movements?

Jens Beckert: Yes, for instance, *Fridays for Future* or *The Last Generation*. These are certainly counter movements in the sense of Karl Polanyi, because they challenge the commodification of nature. At the same time, however, these movements are weak when compared to the profit interests of firms, the interest of states in maintaining strong economic growth, and the interests of consumers in sustaining high levels of consumption.

Often, attention focuses primarily on companies and their interests. I think we need to bring the role of consumers more strongly into the analysis, but not in a moralizing way. Overall, consumers are not willing to change their ways of life in the name of sustainability. When economists or psychologists demonstrate this, they often blame the individuals for moral weakness. I think this is misleading. From a sociological perspective, we can understand how deeply consumption is embedded in the organization of modern social orders. Class conflicts were largely pacified in the second half of the twentieth century through rising standards of living that reached unprecedented levels. An individual's position within the stratification order is now strongly defined by their capacity to consume.

If we want to understand the failure to adequately address climate change, we need to analyse how the interests of companies, states, and consumers work together. In this sense, we are dealing with a well-lubricated system. Business, consumers, citizens, the state, and politics act in concert, largely at the expense of nature. For a long time, this compromise worked remarkably well. But it reaches its limits when the ecological foundations of society begin to erode.

The German sociologist Uwe Schimank has described this development in a very insightful way by expanding the classical distinction between system integration and social integration. While social conflicts in the twentieth century were largely fought between these two dimensions, the requirement of ecological integration has now emerged as a third dimension. Nature can no longer be taken for granted; it enters the social world as an active constraint. This dramatically increases the complexity of societal organization and so far, we have not succeeded in dealing adequately with this added complexity.

Andrea Maurer: Finally, I would like to ask you whether you see the necessity or the possibility of a research program of sustainability within sociological theory and especially in economic sociology. Which topics would then be at the top of your to-do list?

Jens Beckert: Yes, absolutely. I think sociology should engage much more intensively with this topic. This is already evident from the existential importance of sustainability. I am also convinced that sociology possesses a set of analytical tools that can help illuminate many of the key questions involved.

There are several promising entry points within the sociological tradition. Economic sociology is certainly one of them. It analyses how markets operate and has produced substantial insights that can be productively transferred to research on climate change. In addition, sociology can contribute by examining questions of power and political decision-making, the role of institutions and incentive structures, and the social conditions under which collective action and legitimacy for sustainability policies can emerge. But other areas of sociology can also contribute to a better understanding of social responses to the climate crisis and help develop ideas for dealing more effectively with the challenges it creates.

References

Beckert, Jens (2016): *Imagined Futures: Fictional Expectations and Capitalist Dynamics*. Cambridge: Harvard University Press.

Beckert, Jens (2024): *How We Sold Our Future. The Failure to Fight Climate Change*. Cambridge: Polity.

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