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POLITICAL ECOLOGY OF ENERGY TRANSITIONS IN THE GLOBAL NORTH AND SOUTH

How to transition towards more sustainable and just energy systems has become a – if not the – major theme and question in social science energy research (Blondeel *et al.*, 2021). Political ecology and critical geography have contributed much to such research, both empirically and conceptually (Bridge, 2018; Bridge and Gailing, 2020; Valkulchuk *et al.*, 2020). This research into energy transitions, while diverse, shares some common characteristics and premises. In general terms, it seeks to explain the reproduction and change of energy systems. In so doing, it considers the interplay between their social (political, cultural) and natural (environmental, material) properties as well as the specific configurations of actors, discourses and forces that enable and frustrate transitions (Szabo, 2022). It shows that transitions do not occur naturally. Some actors drive while others resist transitions, based on visions of what is (un)desirable about (current) energy systems. Political ecologists pay particular attention to capitalist development trajectories, both major and minor, and playing out at different scales (Robbins, 2012; Newell, 2019). They investigate the volumes and types of energy these consume and require, the power relations and extractivist logics that sustain them and/or who gains and who loses in such trajectories.

Research does not so much assess the promises and pitfalls of different types of renewable energies or novel technologies in and of themselves, nor how these could be used *in* such trajectories. Rather, such trajectories are themselves subject to critical enquiry, because of their reliance on perpetual accumulation and an ever-expanding energy base to the benefit of a minority (Dunlap and Laratte, 2022). Political ecological research is thus critical in acknowledging that some energy sources and systems are more sustainable and just than others, and emancipative in that research should help bring about systems that open up rather than narrow down pathways for human and nonhuman flourishing (Sayer, 2009). This requires reflection on our normative departure points (Castree, 2003, pp. 289-294), on the way we produce knowledge and from which/whose lens we theorize such transitions (Tornel, 2022; Mbembe, 2021). This is all the more important if we factor in the spatial variegation and differentiation in energy systems and transitions across the global North and South (Bridge, 2018). While energy systems are often connected in time and space, their socio-material make-up in specific spatial configurations matter deeply for how actually existing transitions unfold.

The three contributions each engage one or more dimensions of this political ecology approach to energy transitions. First, de Vincenzo (2024) tackles among the most pressing themes when it comes to transitioning to alternative energy systems, namely the strategies, conduct and power play of global oil companies. He spells out the gap between what oil companies promise to do when it comes to investments in renewable or “green” energy and what they actually do. De Vincenzo makes clear that this gap still looms large. Oil companies are pushed by societal and regulatory forces – and feel they cannot neglect calls – to ramp up green investments. While they have committed to and realized some such green investments, their actual focus is still very much on oil exploration and production. They thus remain deeply wedded to the actually existing energy system based on fossil fuels and go a long way to defend its sustenance. The implicit message is that the energy transition is not so much about adopting renewables as it is about unsettling and disassembling this incumbent system (Bridge, 2018).

From a global view on the discursive and actual practices of replacing oil, Lipari (2024) takes us to a specific renewable in a particular region of Europe: biogas in East Germany. His contribution asks how biogas production here has taken such a flight in recent decades. He shows this to be the outcome of an accumulation strategy driven by a coalition of forces (including different class factions and actors) and supported and sustained by various mechanisms. One such mechanism are subsidy schemes. Another, more fundamental, mechanism is land ownership. A concentrated, large land property regime survived the DDR’s incorporation into West Germany’s (and the global) capitalist economic system. Big tracts of land were sold



cheaply, allowing capital to increasingly extract surplus-value from large-scale agriculture combined with bio-gas production subsidized under a renewable energy scheme. As such, Lipari's paper outlines how the energy transition cannot be understood without considering transitions in the regional and global political economy.

A similar message underlines the final contribution by Büscher *et al.* (2024). They tackle another renewable energy source, in the Global South this time, namely geothermal in East Africa. Whereas East African governments envy to use geothermal for large-scale electricity production that feeds the national grid, they suggest geothermal can also and especially be used for development for and by communities. This can thus be regarded a type of “community energy”, a topic that has gained much scholarly attention in the past decade. According to Büscher *et al.* (*ibidem*), this literature is characterized by a depoliticized view on the role of communities in forging (local/regional) energy transitions. In contrast, they emphasize the importance of taking power and politics more seriously in investigating community energy initiatives. Based on a geothermal community energy project in East Africa (and thus taking a Global South perspective to an otherwise Global North-dominated literature), they show how power and politics are inherent to the categories often mobilized in this literature, including scale, community, development and the very notion of energy itself. Above all, they urge to delocalize community energy and to situate it in broader political economic structures in which it is invariably nested.

In all, the three contributions underline the importance of taking a political ecology perspective, making clear that energy transitions – including the attempted manipulation of the energy form – should be studied and analyzed in relation to dominant and powerful political economic structures, imaginaries, forces and agents of our time. At whatever scale they unfold.

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