

## Issue Proposal – Politics and Governance

Title of the Issue:

### Politics and (Self-)Organisation of Decentralised Electricity Transitions

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Description of the Issue:

Please provide a brief description of the thematic issue (maximum of 300 words).

Amory Lovin's seminal book *Soft Energy Paths* (1977) – and related works – inspired debates about decentralised electrification initiatives three decades ago particularly in the global north but the challenges of the 'Anthropocene' has revived these debates across the world. Centralised electricity provision – dominating the electricity regime in most countries – depends on fossil fuel-powered generation plants that rather increases carbon foot-prints, limits consumers' capacity to produce energy and proactively respond to power supply shortfalls and unreliable power supply. The flexibility and opportunity to integrate diverse renewable technologies to address the above highlighted challenges (see International Energy Agency, 2015; Zafar et al., 2018) add vitality to calls for radical transformation of the power system towards decentralised systems particularly in global north countries urgently seeking to mitigate their high carbon foot-prints.

The transition to self-organised decentralised electricity provision has gained much prominence in the global north (e.g. Germany, UK, Australia, Norway, Spain, and some areas in USA), primarily to drive the transition to low-carbon energy solutions in the context of strong regulatory frameworks defining incentives and limitations of the transition process (Inderberg et al., 2018; Schmid et al., 2017). Particularly prominent is the emerging phenomenon of electricity users becoming consumers and producers of electricity themselves simultaneously using small-scale solar Photo Voltaic Systems to power appliances or use solar energy systems to power electrical appliances – often referred to as 'prosumers' – usually with centralised grid connection. Decentralised technologies such as smart grid systems facilitate effective involvement of users in electricity provision by sharing excess power – produced from renewable sources – with the grid and other electricity users, support peak load demand management, energy system efficiency and plays a vital role in ensuring reliable and sustainable electricity supply in the future (Zafar et al., 2018; Razzaq et al., 2016; Inderberg et al., 2018). Different prosuming pathways can be, nonetheless, identified in the global north, particularly in Norway where growth rates are still low in a context characterised by low electricity prices, electricity sector fully based on renewable energy sources and thus there exists limited motivation to 'de-carbonise' the sector compared with the situation in Germany and UK, for example (Inderberg et al. 2018).

Prosuming is recently gaining prominence in the global south too, especially after the launch of global universal energy access initiatives (e.g. SDGs, UNSE4ALL) and a renewed interest of governments to incentivise decentralised electricity provision to address energy supply challenges. The transition to self-organised decentralised electrification systems in the global south is, however, driven by quite different motivations in rather ambiguous energy policy regulatory frameworks and public ambivalence. Major drivers of the transition include high electricity tariffs, inefficiencies in state-driven centralised electricity provision, unreliable and unavailable grid electricity supply particularly in Ghana, Kenya, Uganda, Tanzania, etc. (Boamah and Rothfuß, 2018; Boamah, forthcoming) or state-driven initiatives such as tax incentives and cost reductions especially in South Africa seeking to reduce its huge carbon foot-prints (Didiza et al., 2016, Melani, 2017). This form of self-organisation encapsulates embedded generation – in the form of net-metering systems –, power supply backups and complete stand-alone systems.

Self-Governance is seen as a way of institutionalising new social relationships deriving from (or establishing) a variety of local networks, which offers potentially new pathways for the emergence of 'alternative forms of governance'. It is achieved through encounters, perhaps of a serendipitous nature, that lead to the identification of mutual interests, positions and relations based on shared space, knowledge, values and norms (Atkinson, Dörfler & Rothfuß 2018, p. 2). In the energy transition literature, self-organisation encompasses active participation of the population and local ownership of projects by citizens and communities in local energy

initiatives and the resultant “transformative outcomes” in the transition to new energy systems or how they create promising avenues to facilitate energy transition towards a low-carbon future (Hasanov and Zuidema, 2018). Self-organisation therefore makes strong appeals to modernisation narratives, climate change discourses and rural/local development mantra currently dominating global, national and international policy interventions, and in this sense decidedly bears a positive connotation. Decentralized, self-organized models of electricity production have thus been perceived as an opportunity for countries in the global south to leapfrog directly into the future of electricity. That said, self-organisation – bearing a positive connotation – is a Northern/Western concept that produces supposedly positive outcomes in strong state contexts and where activities of actors involved in self-organised initiatives are well regulated by state institutions as the state is open to the entry of many competitors in electricity provision. Self-organisation of electricity seems like a promising approach to addressing energy poverty in the global south hosting a chunk of the world's population without electricity access and the state lacking the wherewithal for massive grid expansion to close spatial wide spatial disparities in access.

Despite interest in self-organised decentralised electrification, the state is still ambivalent due to potentially negative effects on its monopolistic tendencies, strong vested interests in power generation and the state's desire to retain substantial control in centralised electricity provision in order to directly drive its socio-economic development agenda throughout the country. This is particularly striking where centralised electricity distribution is structured around state monopoly primarily for “developmental state” models, to secure revenue flows or in response to a history of unsuccessful privately-sector-led development approaches (Melani, 2017; Boamah, forthcoming). Central governmental structures and parastatals strategically organise decentralised electricity provision in a way that keeps citizens perpetually within the frame of patronising public electricity service even in countries like South Africa that supports embedded electricity generation and similar ambivalence occurs in Ghana, Israel, Kenya. Self-organised decentralised electricity provision is decidedly re-configuring the role of civil society organisations and state actors in electricity regimes of particular countries in the global south. Further, self-organisation of decentralised electricity provision in this sense marks a revival of old ideas about the possibility of a so-called *Soft Energy* transition in different geographies and energy policy regulatory frameworks. The conflicting viewpoints about what a ‘desirable energy future’ should look like and the governance structures to realise these therefore resolve around a choice between self-organised decentralised systems – inclined towards renewable energy promotion, energy efficiency, autonomous and ‘democratic’ electricity provision by individuals/local entities – and traditional centralised systems (Schmid et al., 2017) or co-existence of both systems.

**Key questions begging answers include the following:**

- In what ways, to which extent and until when would decentralised systems become compatible with monopolistic centralised state-controlled electricity regimes of countries in the Global South and with what impacts?
- What are the possibilities for countries of the Global North that have developed excellent centralised electricity systems to make a switch to more flexible and modular energy systems, which most commentators expect to become the dominant model of the future?
- Are Global North countries witnessing a path dependence leading to unforeseen institutional consequences where countries like the UK – with its highly centralized electricity system – are now facing bigger challenges in making the transition to a more flexible and sustainable energy systems compared to countries like Denmark and Germany where stronger elements of decentralized electricity generation have been maintained?
- Is the emerging global tendency of decentralizing electricity generation increasing the space for democratic participation in energy, or rather creating a dual system where the commercial and the rich consumers increasingly manage their own energy needs while a less efficient public electricity system is left to serve the poor? The Panel invites papers addressing such issues concerned with the decentralization of electricity generation in different regions of the world.

The aim is to mobilize a set of papers that will allow us to explore and compare what the emerging technological, social and political trends are in the different regions of the world as our electricity systems are clearly moving away from the centralized, utility-based and state-controlled power generation model of the previous decades. The panel seeks to contribute to energy transition research by identifying the drivers behind this trend, challenges and opportunities ahead and the direction of electricity futures in specific geographies.