

Dissertation Title:

**Conceptualizing inter-household energy exchanges:
An anthropology-through-design approach**

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Abstract:

With the growth of decentralized, off-grid, and distributed renewable energy systems across the globe, an arena for energy exchanges between households is opening up. As compared to traditional 'centralized' energy supply systems, in these emerging energy systems households are imagined to acquire agency by having choice and control over inter-household energy exchanges within neighborhoods or villages. The existing literature on such scenarios of energy exchanges is mostly rooted in a techno-economic analysis built upon visions of rational choice approaches and lacks discussion on the sociocultural dimensions of energy exchanges.

This research utilizes theoretical perspectives from economic anthropology to study the phenomenon of inter-household energy exchange. The methodological approach followed takes inspiration from discourses of design anthropology, research through design, and ethnography. This approach is instantiated in the form of a longitudinal multi-method study conducted at two off-grid villages in rural India.

This interdisciplinary research makes knowledge contribution to the fields of energy studies and design anthropology. This dissertation develops conceptual knowledge of inter-household energy exchanges by investigating the social and cultural embeddedness of energy exchanges in a system where householders can decide with whom to exchange locally produced energy. Overall, the dissertation showcases that when people get to structure energy exchanges, they do so by employing a range of social, cultural, moral and economic notions, and demonstrates that there is more to energy exchanges than what the dominant rational choice perspective describes. This work proposes a novel approach called Anthropology-through-Design (AtD), which facilitates generating anthropological knowledge about a sociocultural phenomenon through a design intervention. The AtD approach takes a strategic step in relocating 'design' from being an object of anthropology to becoming an instrument for doing anthropology.