TA TuP
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Call for Abstracts

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In search of deeply sustainable technologies: Beyond extractivism, exploitation and exclusion

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Submit your abstract by 10. January 2025

Background: From ubiquitous digital technologies to the vision of technically controlling the geosphere: Technology-based extraction, exploitation, and exclusion are increasingly becoming central points of criticism in technology assessment. Important impulses for such criticism come from decolonial and postcolonial theory, political economy, social ecology, new materialism, eco-feminism, and infrastructure studies. Empirical analyses showcase that every socio-technical innovation – however noble the associated goals may be – comes with its own material and energy footprint, its own social and geopolitical problems.

Technology assessment (TA) is dedicated to the intended and unintended effects with the aim of preventing or at least minimizing negative consequences and simultaneously enabling societal benefits. However, having reached or exceeded our global economy's "limits to growth" (Meadows et al. 1972) in an increasingly "full world" (Daly 2005), in an age in which the human impact on the Earth's geology, ecosystems, biodiversity, and climate becomes irreversible and decisive for the future of humanity (Crutzen & Stoermer 2000), and with a critical view on global justice and rights, more generic questions come to the fore: Can we imagine socio-technical innovation that

- is 'deeply sustainable' and thus radically aligned with planetary boundaries, societal sufficiency, and global justice?
- has at least a net zero balance in *all* relevant dimensions, from the social, political, and cultural to the economic and ecological spheres?
- takes into account local, regional, and global scales across all time horizons and generations?

Or will it always be the case that 'one person's gain is another's loss', that a gain in one dimension comes with a loss in another? Is socio-technical innovation without high external (and, thus, unacknowledged and unaddressed) costs at least conceivable and, if so, how can it be achieved?

The development and use of electric vehicles may be motivated by the good goal of advancing the energy transition in the Global North, but still disregard global human-ecological limits and values, for example, in terms of raw materials required for their production, resulting exploitation of humans and ecosystems in the Global South and geopolitical dependencies and conflicts. The production of renewable energy leads to land use conflicts in peripheral rural regions, particularly in the Global South. Generative AI, although seemingly immaterial and ar-

tificial, has serious ecological and social downsides, e.g., in terms of energy and water consumption or the working conditions of so-called 'clickworkers.' These examples illustrate the material, immaterial, and geopolitical dimensions of socio-technical innovation in a 'glocal' world society.

An alternative perspective on the long-term overall impact of socio-technical innovation in the face of limited resources and on its geo-political management requires a comprehensive TA approach that includes all dimensions relevant to the affected communities and considers local and translocal, material and immaterial causal chains and limits. It also reformulates an old question, namely whether and if so, how socio-technical innovations can be intrinsically sustainable. Such a perspective has recently been developed by Andrea Vetter in her work on "convivial technology" (Vetter 2018, 2023), building on Ivan Illich's "tools for conviviality" (Illich 1973). In addition, the question arises as to whether 'deep sustainability' can be an attribute of concrete technologies or socio-technical innovations at all, or whether the realization of such an objective is not primarily about infrastructures, institutions, societies, and ways of life – or in other words, who or what should be the subject of corresponding TA.

Research interest: Against this backdrop, we invite research articles with theoretical or empirical analyses that address one or more of the following questions:

- **Is deeply sustainable socio-technical innovation possible?**
    - Can "convivial technology" (Vetter 2018, 2023) ever be 'cost-neutral' across all the dimensions mentioned above and fully comply with existing limits?
    - Are there other promising approaches to this problem, such as 'soft technology,' 'radical technology,' 'alliance technology' (Bloch 1985[1959], 1986[1959]), or 'calm technology' (Weiser & Brown 1995)?
    - Are there paradigmatic empirical examples that demonstrate existing, possibly insurmountable obstacles to 'deeply sustainable' technological innovation, e.g., due to rebound effects, trans-local causal chains, or hidden material logics? Are there positive examples of deeply sustainable technological innovation?
    - Could new institutional or paradigmatic developments in the context of a global TA contribute to 'deeply sustainable' socio-technical innovation?

- **On which level, on which object should TA focus in its search for 'deeply sustainable' socio-technical innovation?**
    - Do we currently focus on the right kind of technologies? Vetter (2023) for example suggests paying more attention to everyday technology such as cargo bikes and compost toilets rather than to high-tech and expensive gadgets.
    - Should TA focus on specific technologies, socio-technical innovations, socio-technical infrastructures, socio-political systems, or socio-cultural lifestyles (cf. Brand & Wissen 2017 and 2021 on solidary and imperial modes of living)?
    - Is there or should there be a strict demarcation between technology assessment and social criticism, between the assessment of emerging

technologies and the search for alternative social futures, or are they inextricably linked?

- How do (ex-post or ex-ante) TA, cTA, and more goal-oriented approaches to socio-technical innovation relate to each other in this context?

We welcome contributions from all scientific and artistic fields showing a clear connection to technology governance and technology assessment.

Special topic guest editors

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How to submit

- We recommend the submission of manuscripts in English (US), but German versions are also welcome.
- Please submit your abstract by **10. Janauary 2025** at the latest via e-mail to redaktion@tatup.de.
- Length of the abstract: max. 1.5 pages.
- The editorial office will contact the author submitting the abstract.
- Please state full names, e-mail addresses, and institutional affiliations of all co-authors.

Editorial process outline

10. January 2025	Submit your abstract
January 2025	Notification of invitation or rejection to submit research articles
April 2025	Submit your research articles, followed by peer review
End of June 2025	Feedback from the reviewers, followed by revision by the authors
End of July 2025	Submission of the revised research articles
August 2025	Further revisions, if necessary
October 2025	Editorial deadline
December 2025	Publication (print and online)

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