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What renewable energy future should we strive for? Assessing renewable energy utopias through Sci-Fi and normative energy ethics

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Abstract-

Background

Socio-technical imaginaries, visions and utopias concerning energy and sustainability offer ideas about how the world should be. As such, they are normative endeavors that require a critical ethical assessment. However, normative assumptions about energy futures often remain implicit, thereby escaping critical scrutiny. This study combines science fiction and normative energy ethics to evaluate competing visions of renewable energy futures. We introduce a conceptual framework that distinguishes between the two main ways in which energy intersects with utopian futures: energy abundance and energy sufficiency. Next, we identify the ethical pros and cons of energy abundance and sufficiency as desirable future states, examining this through popular science fiction texts and normative energy ethics perspectives such as energy justice, virtue ethics, and critical theory of technology.

Results

The vision of renewable energy abundance provides a very appealing prospect and can motivate different stakeholders to speed up the transition to a low-carbon energy system. However, striving towards such an energy utopia comes with several caveats. First, the idea of renewable energy abundance in the near future is dangerous because it is, so far, a technological illusion. Second, regional visions of energy abundance often neglect global and intergenerational energy justice considerations. Third, according to virtue ethics, pursuing energy abundance can be considered excessive, not virtuous and hence immoral. Fourth, energy abundance can lead to problematic forms of alienation and, therefore, dystopian versions of the good life. Utopias based on renewable energy and sufficiency aim to avoid these issues. Yet they face two additional problems that seem to hinder the adoption of energy sufficiency as the leading energy policy paradigm. First, there is a real danger that citizens would protest and slow down the energy transition if energy sufficiency were to be promoted by governments on a large scale. Second, in practice, the lines between energy sufficiency and abundance, and between energy needs and wants, remain unclear and highly contextual, leading to philosophical and practical problems.

Conclusions

We propose distinguishing between two questions that may require different answers: Firstly, what kind of energy future do we, as a society, want? And what energy future should we strive for in our energy policies? Taking critiques of the pursuit of renewable energy abundance seriously, we conclude that we should resist the tendency to unquestioningly incorporate utopian ideas of renewable energy abundance into energy policies and technologies, despite the strong rhetorical appeal of abundance. This implies that the second concern regarding energy sufficiency — namely, its ambiguity, context dependency, and

challenging measurement issues — should be addressed directly instead of being avoided. Energy policies must engage more explicitly with the normative assumptions underlying desirable energy futures, particularly with regard to sufficiency versus abundance.

Index Terms- Energy utopia; just energy transition; energy abundance; energy sufficiency; normative energy ethics; energy justice

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