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Energy Unchained: An Analysis of Affordances of the Blockchain Technology in the Energy Sector

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Abstract : Blockchain technology has gained importance and momentum in the energy sector. Yet, there is no structured analysis of how specific features of the blockchain technology can create value in the energy sector. We employ a qualitative analysis on insights gained from the current literature and expert interviews. Along the four most prevalent use cases of blockchain technology in the energy sector, we discuss the potential of blockchain technology to support a transition to a more affordable, sustainable and reliable energy system. We show that in its current state, blockchain and adjacent technologies are not a necessity but a sufficiency towards this transition. We also show how current limitations of the blockchain and adjacent technologies can be even counterproductive. Finally, we discuss implications for policy makers and managers.

Keywords : blockchain technology, affordance theory, energy trilemma, sustainability
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