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Shaping electricity end-user behaviour for demand response using the COM-B model

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Abstract-

Electricity end users can contribute to the secure operation of the future power system by aligning their electricity consumption with the overall system's needs. To facilitate this, end users should receive economic signals that are economically optimal and behaviourally salient to guide their decisions. In fact, end users may not respond to economic signals solely based on economic evaluations. We propose a conceptual framework that describes ways in which key stakeholders can influence end-user behaviour in demand response programmes. We do this in two steps. First, we identify key stakeholders by examining demand response contracts. Second, we categorise literature on end-user behaviour in electricity demand response through the established Capability, Opportunity, Motivation – Behaviour (COM-B) model. We extend this model by integrating behaviourally informed tools that stakeholders can employ to facilitate end-user participation in demand response programmes. Our setup enables policymakers to better understand key behavioural determinants, allowing them to design behaviourally informed energy policies for demand response.
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Index Terms- Demand response; End-user behaviour; Demand response contracts; COM-B model

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