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The value of demand response in South Africa's electric power system

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The increasing adoption of grid-connected Distributed Energy Resources provided Distribution (and Transmission) Network Operators with the opportunity to procure a range of "flexibility services" from these third party operated assets in a way that is beneficial to the local or national electricity network—examples of flexibility services that can be procured include large-scale, grid-connected battery storage systems and demand response. This paper will explore different types of demand response interventions utilised globally, provide a South African context of the current demand response, and, lastly, use Plexos to quantify the system value that untapped demand response potential can provide to the South African electricity markets if pursued.