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(54) **MICROGRID WITH AUTOMATIC LOAD SHARING CONTROL DURING OFF-GRID STANDALONE OPERATION**

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(57) **ABSTRACT**

Various embodiments include methods and systems for managing electric power demand distribution across electric power generators in a microgrid. The system may include electric power generator clusters each having electric power generators, electric power output units each electrically connected to at least one of the electric power generator clusters, an energy storage unit electrically connected to an electric power output unit, and a control device. The control device may be configured to determine whether an energy availability of the energy storage unit is less than an energy availability threshold, calculate a sharing multiplication factor for an electric power generator cluster in response to determining that the energy availability of the energy storage unit is less than an energy availability threshold, and calculate a sharing electric power demand for the electric power generator cluster using the sharing multiplication factor.

