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(54) **POWER SUPPLY AND METHOD OF SUPPLYING POWER TO LOAD**

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(57) **ABSTRACT**

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**Related U.S. Application Data**

(63) Continuation of application No. 17/674,148, now Pat. No. 11,632,061, and a continuation of application No. 16/099,660, now Pat. No. 11,290,028, and a continuation of application No. PCT/KR2018/006606, filed on Jun. 11, 2018.

A power supply includes an inverter configured to direct current (DC) power into alternating current (AC) power, an impedance matching circuit configured to supply the AC power to a load; and a controller configured to adjust disposition of a powering period, in which the AC power is output, and a freewheeling period, in which the AC power is not output, to adjust a power amount of the power supplied to the load through the impedance matching circuit by the inverter.

