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(54) **SYSTEM AND METHOD FOR HEAT
ENERGY EXCHANGE WITH ELECTRIC
ENERGY STORAGE CAPABILITIES**

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ABSTRACT

Disclosed embodiment of an energy system comprises an electric energy storage subsystem that comprises an electrolyte storage tank containing a first electrolyte and a second electrolyte, and a first electrolyte pump and a second electrolyte pump. The energy system further comprises a heat energy exchange subsystem comprising one or more heat exchange coils connected to the electrolyte storage tank. The first electrolyte pump and the second electrolyte pump are respectively configured to drive a fluid movement of the first electrolyte and the second electrolyte between the electrolyte storage tank and the heat exchange subsystem through the one or more heat exchange coils. The fluid movement of the first electrolyte and the second electrolyte through the one or more heat exchange coils causes a first heat exchange between the first electrolyte and the second electrolyte respectively and a first heat exchange medium comprised in the heat energy exchange subsystem.

