

A B S T R A C T

A fuel cell power generation system (10) includes a fuel cell (1) generating electric power with a fuel, a condenser (4) extracting mixed gas of hydrogen and carbon dioxide contained in water vapor discharged from the fuel cell (1), a carbon dioxide separation device (5) separating the hydrogen and the carbon dioxide from the mixed gas extracted by the condenser (4), a hydrogen supply path supplying the hydrogen separated by the carbon dioxide separation device (5) to the fuel cell (1), and a carbon dioxide liquefying device (6) liquefying the carbon dioxide separated by the carbon dioxide separation device (5).