## CLAIMS

[Claim 1]

A vaporizer having a cold energy recovery function, comprising:

an intermediate medium evaporator that evaporates at least a part of an intermediate medium through heat exchange between a heat source medium and the intermediate medium;

a low-temperature liquefied gas evaporator that vaporizes low-temperature liquefied gas with the intermediate medium evaporated by the intermediate-medium evaporator;

an intermediate medium channel for extracting the intermediate medium liquefied by the low-temperature liquefied gas evaporator to an outside, and returning the intermediate medium to the intermediate medium evaporator or the low-temperature liquefied gas evaporator;

a refrigerant circulation circuit in which a refrigerant circulates;

a heat exchanger that performs heat exchange between the intermediate medium that flows in the intermediate medium channel and the refrigerant that circulates in the refrigerant circulation circuit; and

adjusting means for adjusting, according to a demanded cold energy load, a cold energy amount supplied from the intermediate medium to the refrigerant in the refrigerant circulation circuit.

[Claim 2]

The vaporizer having a cold energy recovery function according to claim 1, wherein the adjusting means includes: a refrigerant-flow-rate adjusting unit that adjusts a circulation amount of the refrigerant in the refrigerant circulation circuit; and a temperature adjusting unit that performs control for adjusting temperature of the refrigerant such that the temperature of the refrigerant cooled in the heat exchanger is within a predetermined range.

[Claim 3]

The vaporizer having a cold energy recovery function according to claim 1 or 2, further comprising:

state detecting means for detecting temperature or pressure of the intermediate medium for vaporizing the low-temperature liquefied gas in the low-temperature liquefied gas evaporator; and

a heat-source-medium-flow-rate adjusting unit that adjusts a flow rate of the heat source medium according to a detection result of the state detecting means such that the temperature or the pressure detected by the state detecting means is within a predetermined range.

[Claim 4]

A cold energy recovery device used by being connected to an intermediate fluid type vaporizer that includes: an intermediate medium evaporator that evaporates an intermediate medium through heat exchange between a heat source medium and the intermediate medium; and a low-temperature liquefied gas evaporator that vaporizes low-temperature liquefied gas with the intermediate medium evaporated by the intermediate-medium evaporator, the cold energy recovery device comprising:

an intermediate medium channel having one end portion configured to be connectable to the low-temperature liquefied gas evaporator and the other end portion configured to be connectable to the intermediate medium evaporator;

a refrigerant circulation circuit in which a refrigerant for supplying cold energy to a use side circulates;

a heat exchanger that performs heat exchange between the intermediate medium that flows in the intermediate medium channel and the refrigerant that circulates in the refrigerant circulation circuit; and

adjusting means for adjusting, according to a demanded cold energy load, a cold energy amount supplied from the intermediate medium to the refrigerant.