

Title (en)

STEAM STORAGE SYSTEM FOR ARTIFICIAL SOLAR ISLAND

Title (de)

DAMPFSPEICHERSYSTEM FÜR EINE KÜNSTLICHE SOLARINSEL

Title (fr)

SYSTÈME DE STOCKAGE DE VAPEUR POUR UNE ÎLE SOLAIRE ARTIFICIELLE

Publication

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Application

EP 09708771 A 20090206

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Abstract (en)

[origin: WO2009098588A2] A system [500] for producing solar energy at a desired temperature and pressure range includes a primary energy source [501] that is used in a Clausius Rankine cycle, with the primary energy source connected to and proximate to a plurality of solar collectors [520]. More particularly, at least one steam storage tank [501] feeds the expansion step of the Clausius Rankine cycle. This enables the system [500] to reliably supply energy during times when the solar collectors receive little or no radiation. According to one aspect of the invention, the solar collectors [520] reside on an artificial island [510a, 510b, 510c], preferably sea-based, or offshore, so that the steam storage tank [501a, 501b, 501c] can be located well below sea level. This enables the use of compressive forces from the sea water to counteract the outwardly directed pressure caused by the steam contained in the steam storage tank [501a, 501b, 501c]. Moreover, this storage tank [501c] may have a dual-walled structure [501d, 501e], for insulation purposes, and may be operatively connected to a sea level condenser [501i] to produce sweet water. Still further, steam from the steam storage tank [501] can be used to drive one or more absorption chiller devices housed within an absorption chiller unit [530a] that is operatively connected to an air conditioning system [530b]. And these structures can be located on the roof of a building [530] so as to supply air conditioning to the building [530].

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 2009098588A2

Cited by

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