

Seawater Desalination with “Dynamic Solar Energy Converter (DSC)” as energy source

Enormous operation cost reduction by renewable solar energy

The problem:

Water covers 71% of the Earth's surface and is vital for all known forms of life. Only 2.5% of the above mentioned Earth's water is freshwater (potable), and 98.8% of that water is in ice and groundwater. Less than 0.3% of all freshwater is in rivers,



lakes, and the atmosphere, and an even smaller amount of the Earth's freshwater (0.003%) is contained within biological bodies (of humans and other life forms). A recent scientifically proven reports suggests that by 2030, not only in developing regions of the world, water demand will exceed supply by 50% or more. Therefore it is obvious, that the natural based earth water cycle supplied freshwater for worldwide humans and economy necessities must in next time be substantial supported by “artificially” produced and supplied, primary potable freshwater.

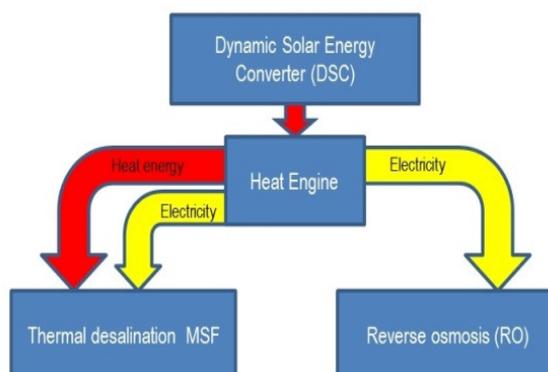
The problem of freshwater production named desalination is the huge energy demand independent of the desalination technology which is at the moment covered by primary energy resources.

SEAWATER DESALINATION	THERMAL DESALINATION	REVERSE OSMOSIS
HEAT [kWh/m ³]	50 - 110	-
ELECTRICAL [kWh/ m ³]	4 - 6	3 - 5.5

We have the solution:

Renewable energy systems offer alternative solutions to decrease the dependence on fossil fuels. Actually, the total worldwide renewable energy desalination installations amount to capacities of less than 1% of that of conventional fossil fuelled desalination plants.

The most important and attractive characteristic of “Dynamic Solar Energy Converter (DSC)”, its unique potential to serve as very high temperature heat energy source and deliver the solar preheated, very high temperature Air, theoretically up to $T_{SPOTmax} = 5762K$.



InvenComm

Invention and patent commercialization

InvenComm GmbH
Im Grod 1
C H-6315 Oberägeri

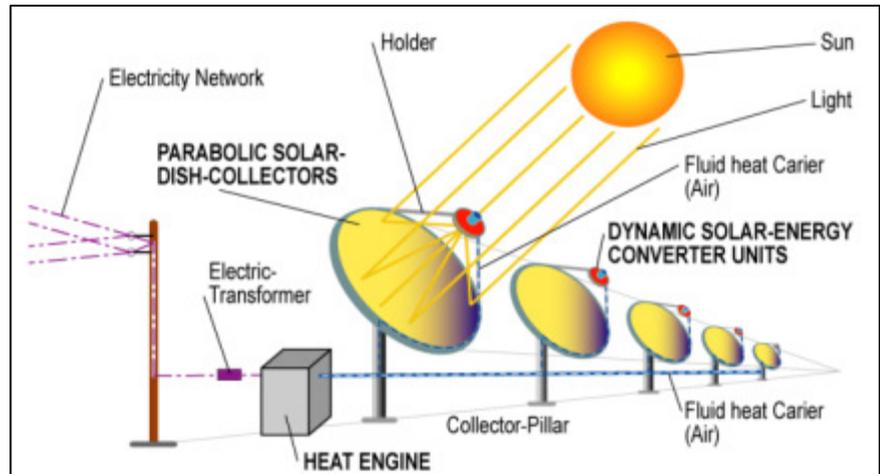
Phone: 0041 (0) 43 4435472
Fax: 0041 (0) 43 4435473
Email: inven@invencomm.com
Web: www.invencomm.com

Therefore DSC-systems can be used with advantage for solar seawater desalination, for covering of electricity needs as solar co-occurring electricity and heat (in the Earth regions between approx. 45° north and 45° south Earth geographic latitude).

According to its patent, the DSC generally consists of two main components:

- a) Of a parabolic DISH-collector (Parabolic mirror) and
- b) Of a centrifugal fan (positioned in focus distance of the DISH-collector, with as flat absorber shaped rotor).

The focused, concentrated solar light, with the light spot area



depending on the chosen light concentration i.e. of needed/ proposed concentrating temperature T_{SPOT} , heats the absorber to the necessary temperature (the theoretical maximal concentrating temperature is the $T_{SPOTmax}$ which heat then will be very intensive transferred (direct converted) to the sucked in ambient air and which will be then transported as a very hot heat carrier out of the centrifugal fan (and out of the DSC-system) to the heat user.

By the use of DSC supported systems can also the covering of electricity needs, with its ability to work as solar co-occurring electricity and heat systems be realized and there is no doubt, that therefore DSC can power both the thermal (MSF) or the reverse osmosis (RO) systems, **reducing dramatically the energy demand on fossil energy or operation cost of the complete plant.**

We are for looking forward for licence partners or buyer for the property rights!

InvenComm

Invention and patent commercialization

InvenComm GmbH
Im Grod 1
C H-6315 Oberägeri

Phone: 0041 (0) 43 4435472
Fax: 0041 (0) 43 4435473
Email: inven@invencomm.com
Web: www.invencomm.com

Your contact: Dipl.-Ing. Thomas Dibke
Managing Director & Owner
InvenComm GmbH
Phone: 0041 43 443 5472
thomas.dibke@invencomm.com

