

DME S-006-2013 – Lecture 02



Desalination Tanker 50.000 m³/day

Prof. Dr. KarlHeinz Rösener & Captain Wolfgang Beier,

...> PiM <<... & Rosenberg SA

DME - Seminar Key Solutions for Key Markets

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Jeddah – Saudi Arabia

1-3 DECEMBER 2013, JEDDAH HILTON, SAUDI ARABIA

SWPF 2013

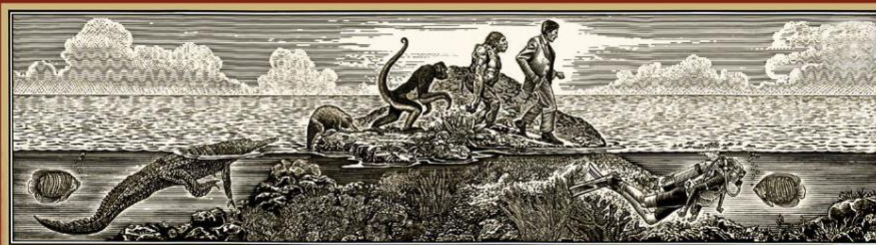
المؤتمر السعودي للمياه والطاقة
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Going where we coming from



<http://www.ustacould.com/scubaevolution.jpg>

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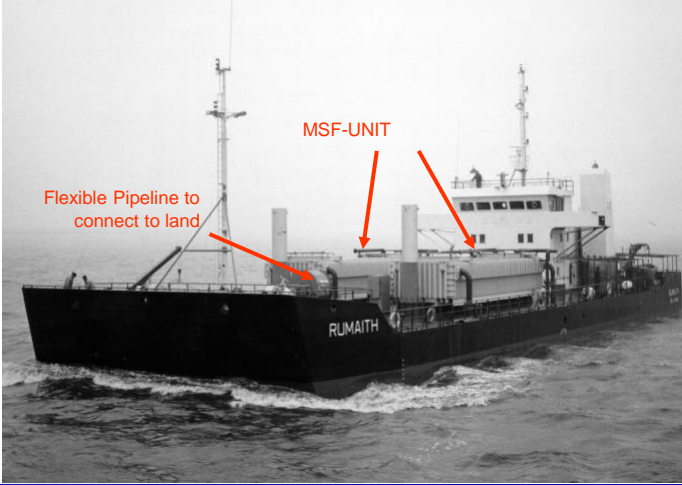
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Desalination Ship 2 MSF-Units (2 x 500 m³/d) of 1980 (Germany)



Flexible Pipeline to connect to land

MSF-UNIT

RUMAITH

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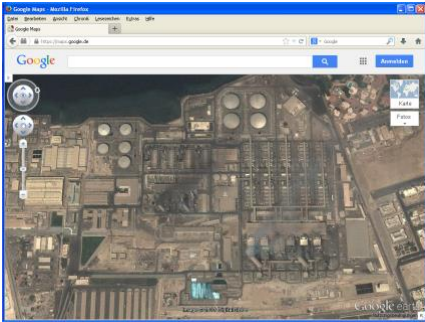
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Desalination of Today in KSA

Land based (Jeddah) **Floating barges (Yanbu)**



Mogens M. Heimerzhalm
TAPROGGE GmbH

05-46

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International Barges Company for Water Desalination (Bewarege)



<http://www.acwapower.com/project/6/international-barges-company-for-water-desalination.html>

Location: Yanbu, Red Sea, KSA

Cities Sup.: Yanbu & Madinah Monawrah

Project Cost: US\$ 0.11 billion (2008)

Capacity: 2x25,000 m³/day per Barge

Technology: Water: Reverse Osmosis

Fuel: Diesel for onboard generators

Commercial Operation: Q2, 2008

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Desalination Tanker of today



50.000 m³/d Capacity

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Seawater Desalination Tanker



- New building with delivering, 12 to 18 month from Order
- Produce daily drinking water: 50.000 m³
- Technical data:
 - Length overall: approx. 216,00 m
 - Length between perpendiculars: 206,00 m
 - Breadth moulded 32,20 m
 - Depth to main deck moulded: 18,00 m
 - Draught (draft): 11,70 m
 - Draught: 12,00 m
 - Deadweight: 53.000 t
- Cargo tank capacity 100%, incl. all tanks approx. 52.000 m³



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One Way to sail for Desal Tanker



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50.000 m³/d Desalination Tanker



Remarks:

- Exclusive binding agreement with Partners in place, open for discussion.
 - Shipyard
 - Desalination Plant
 - Operator
- Global Operation possible
- Usable as national / strategic Water resource
- No land costs, sails around red algae!

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Financial Numbers



- CAPEX for Tanker app. 150 Mio Euro
- OPEX for one m³ of Water app. 1 Euro (5 SAR)
- Water Quality @ WHO Standard or less
- Time to build 12 to 18 Month
- Lifetime of min. 15 years
- Availability app. 92%
- Yearly operating costs app. 16,5 Mio Euro

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Thank you for your attention

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