MEDAD TECHNOLOGIES

In photo: Prof Ng Kim Choon with his Solar Powered ADC Prototype

Adsorption Desalination (AD) Technology

January 2014

What is Low Grade Waste Heat? (55-85C)

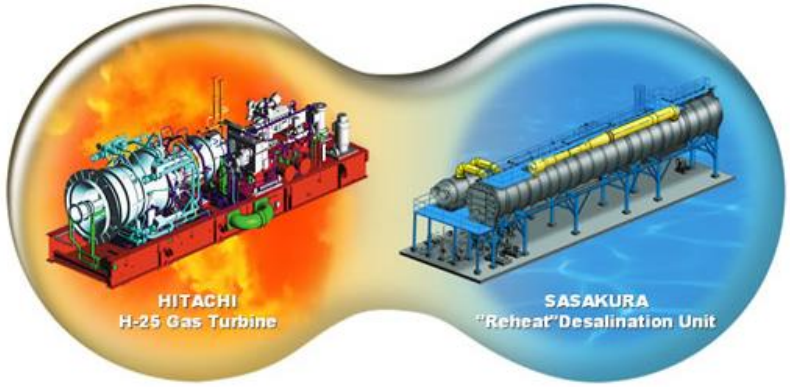


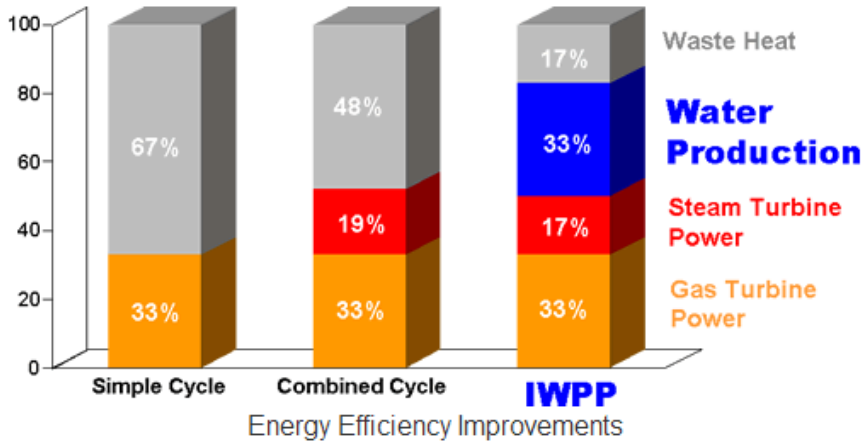


Hybridization- Efficiency of the 21st Century

15 mpg, 15.7 litres /100km

134 mpg, 2.1 litres /100km



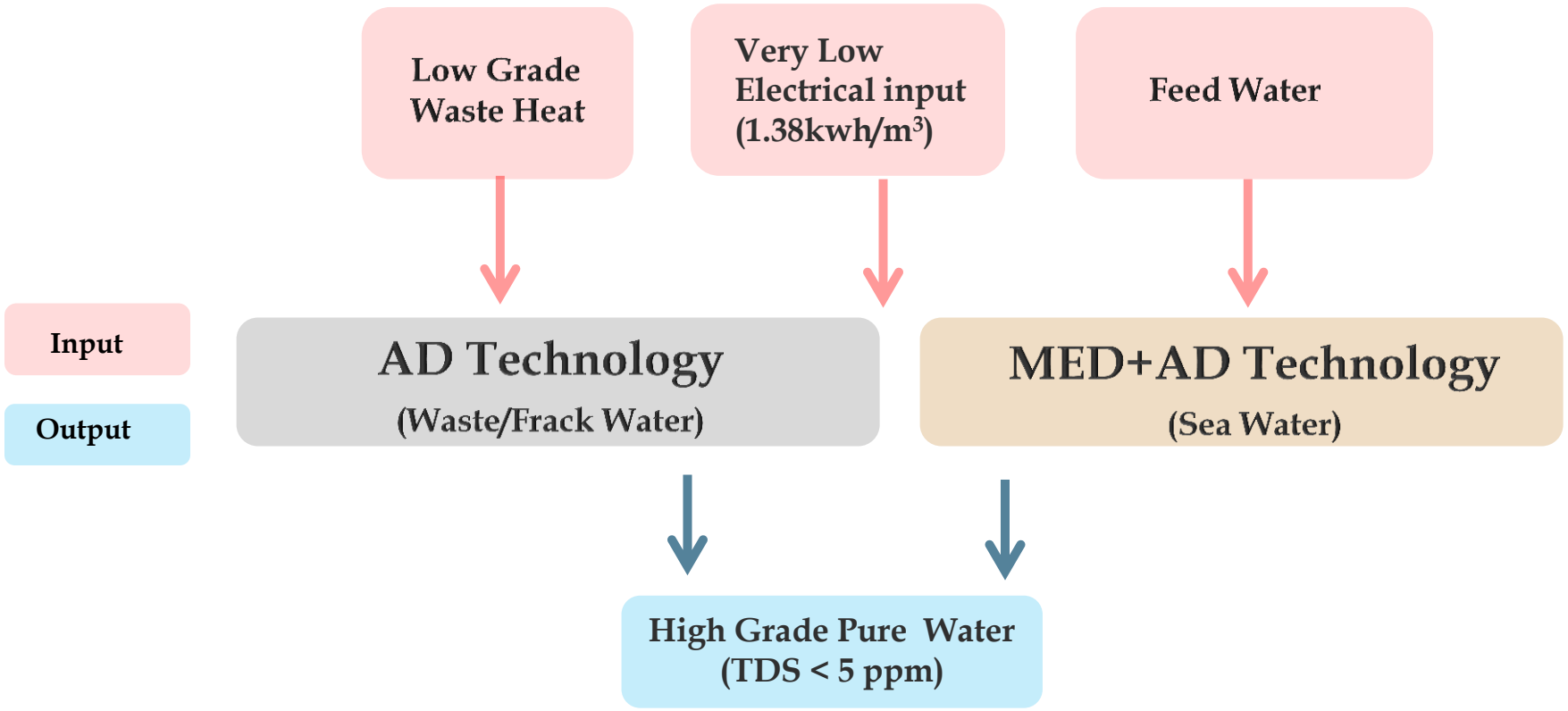


Hybridization of Multiple Effect Distillation (MED) and Adsorption (AD) – MEDAD

MED plant in the GCC region

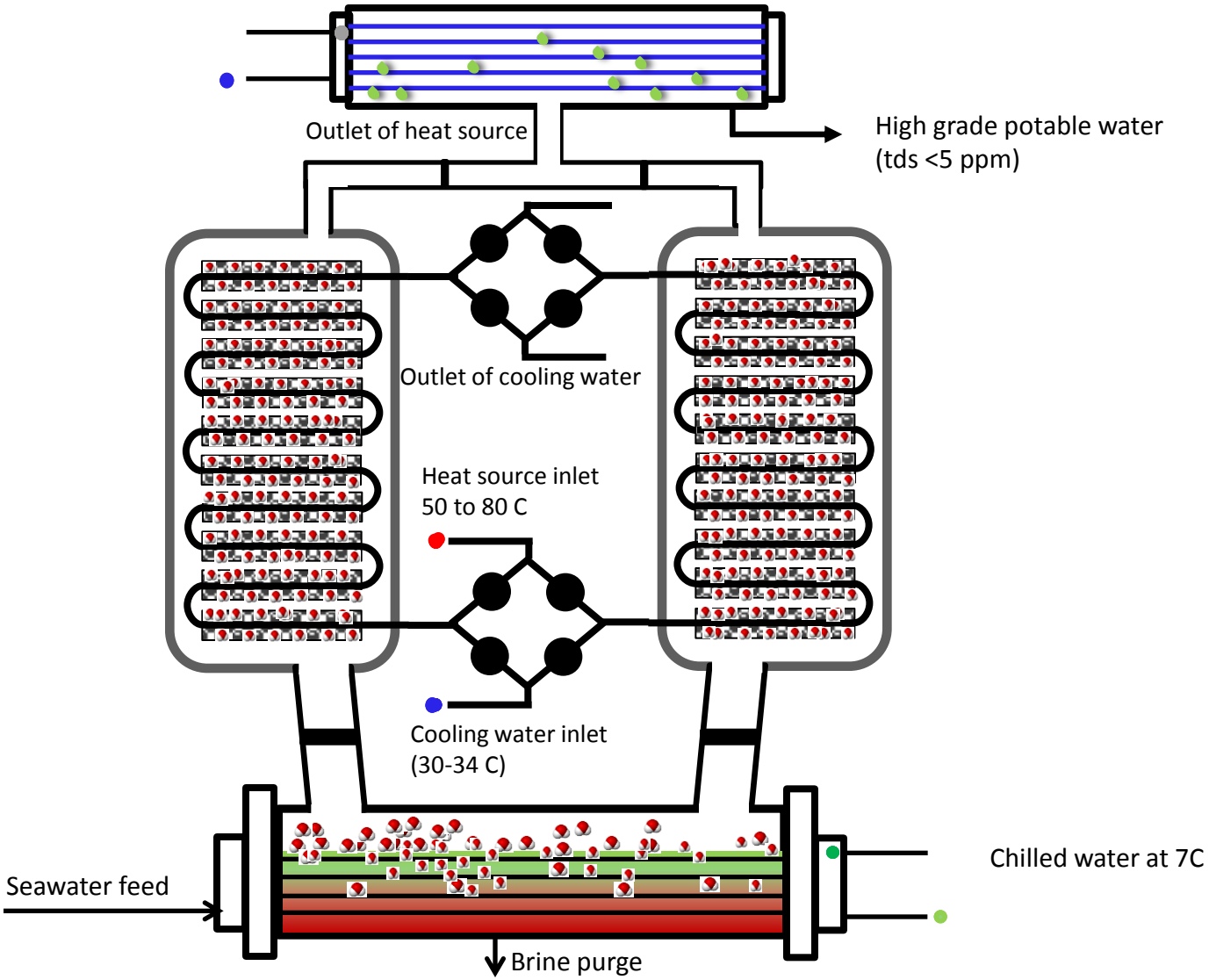
MED+AD Pilot in National University of Singapore

AD and MED+AD Technology
Utilizing Low grade Waste Heat (55-85C)

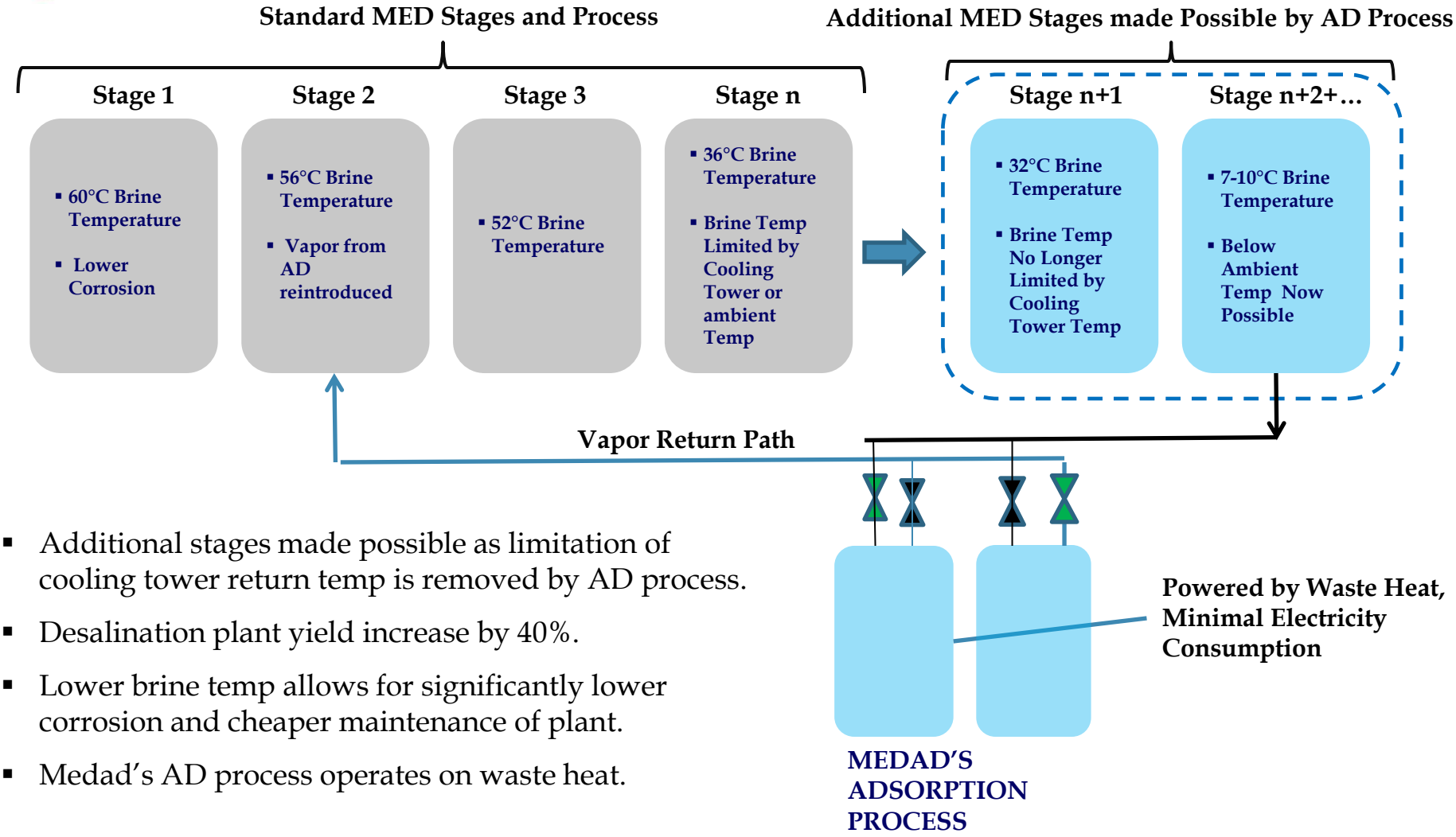


- **Ability to produce pure water with 75% less energy at 50% of the cost of current technologies.**

AD Working Principle – For up to 300,000ppm TDS



MEDAD Technology
A Hybrid of MED and AD Technology, Seawater Desalination



- Additional stages made possible as limitation of cooling tower return temp is removed by AD process.
- Desalination plant yield increase by 40%.
- Lower brine temp allows for significantly lower corrosion and cheaper maintenance of plant.
- Medad's AD process operates on waste heat.

AD Technology – Beyond Proven Concept

Saudi Arabia –KAUST, 10Rtons Solar Powered

Singapore -45Rtons Each, Solar Powered

Singapore –NUS 10Rtons, Waste Heat Prototype

- 4 prototype units in Singapore and Saudi Arabia.
- First prototype (NUS) still running with the same silica gel bed after 10 years. (Currently converted to run as a MED+AD prototype)
- Small footprint, high capacity
- MED+AD pilot running in NUS (completed 2012)

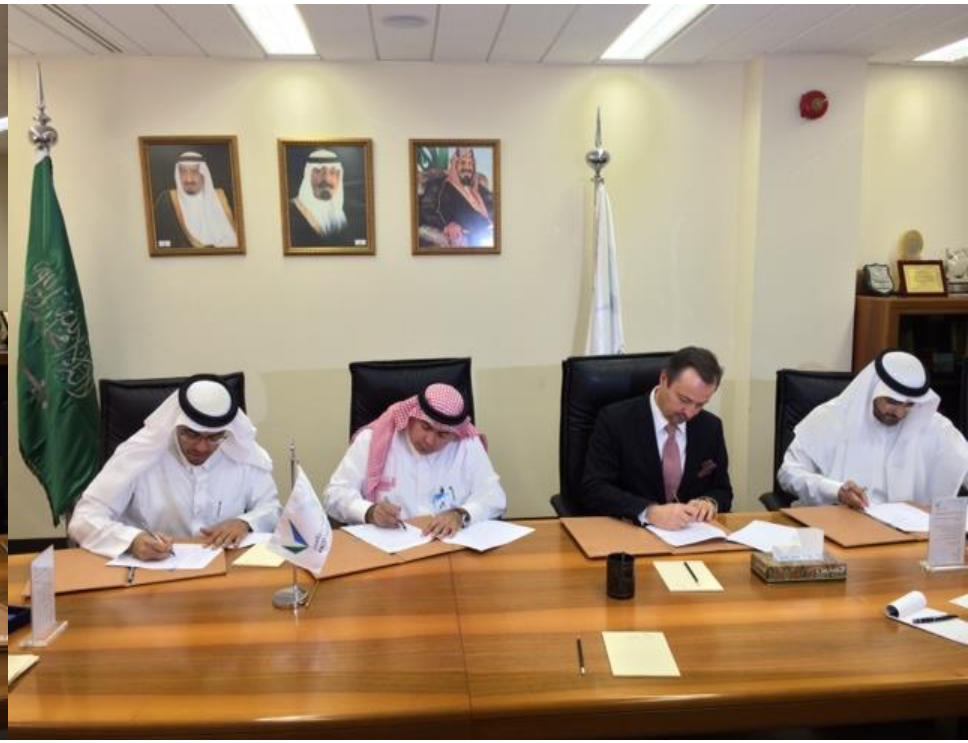
Solar Heat Powered Pilot in KAUST, Saudi Arabia

Solar panels power a 4-bed AD pilot in Saudi Arabia.

Al-Safwa AD Pilot Phase 1 Site

RO Plant **Pilot Site for Phase 1.** **Waste Heat Source**

Signing between Alsafwa, Medad, KAUST and KACST



Prince Dr Turki bin Saud of KACST and Aleksander Widuch of Medad

Contact Us

Joseph Ng
CEO
Joseph.Ng@medad-tech.com