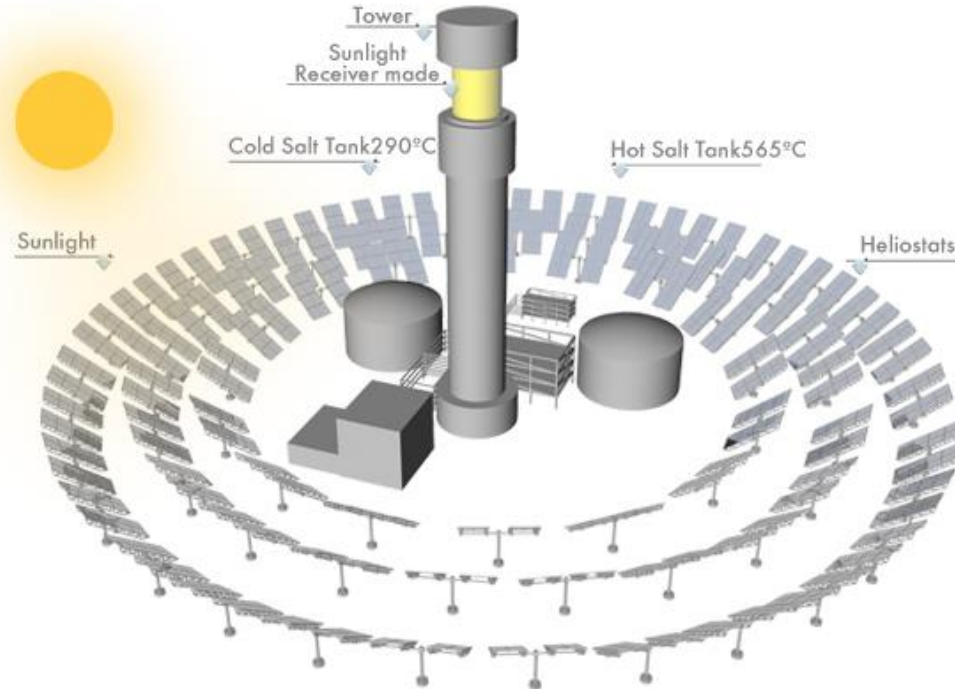


Webinar: Construction and Operation of CSP Towers with Molten Salt Storage (15 May 2018)

Background and Market Overview (Carlos Márquez)



Source: [SQM](#)

Background

- Sodium Nitrate NaNO_3 + Potassium Nitrate KNO_3
- Key component in thermal storage systems
- Advantages
 - Enables higher operating temperatures: Molten Salt upwards of 550 °C vs oil based heat transfer fluid (HTF) < 400°C
 - Non flammable
 - Non polluting
- Risks:
 - Becomes solid at temperatures between 220 °C and 80 °C (depending on mix)
 - Corrosion risk

Key Trend #1: Growing pipeline of Tower projects w/ Molten Salts

Status	Tower with Molten Salt Storage and HTF (MWe)	Tower with Molten Salt Storage Only (MWe)	All Tower Plants (MWe)	All CSP (MWe)
Operation	150	1	663	5072
Commissioning	150	6	156	511
Construction	560	150	831	2086
Development	790	422	1275	5107

Source: [CSP Today Global Tracker](#)

Key Trend #2: Costs of Towers + Molten Salts have come down dramatically



Gemasolar

20 MWe

15 hours of storage

Construction started: 2009

Operation: 2011

Wet cooling

Tariff: 0.27 € per kWh
(FiT)

Source: Torresol

Key Trend #2: Costs of Towers + Molten Salts have come down dramatically



DEWA CSP Phase 1

100 MWe

15 hours of storage

Construction starts: 2018

Expected Operation:
2020

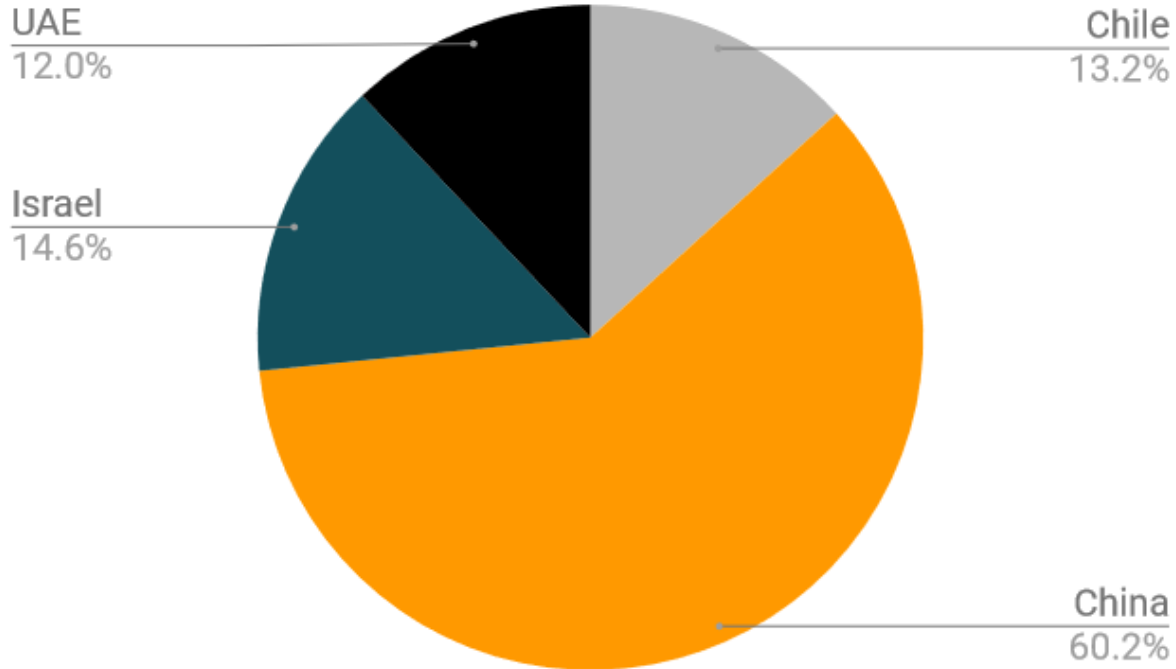
Dry cooling

Tariff: 0.073 US\$ per
kWh

Source: DEWA

Key Trend #3: Developments in the Chinese market are crucial

CSP Tower Projects Under Construction (Total: 831 MW)





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Thank you!

If you have any questions, post them
on the Q&A box