

# Concentrated Solar Power (CSP) and the DESERTEC Concept

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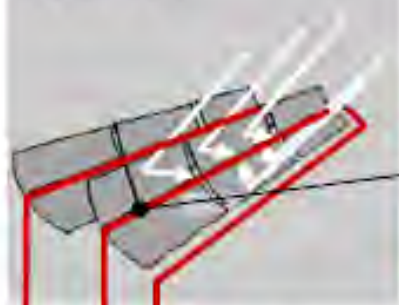


## Steam turbines and receivers enable Siemens to optimize complete water /steam cycle

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### Solar thermal power plant based on bundled expertise from Siemens and Solel

Solar field



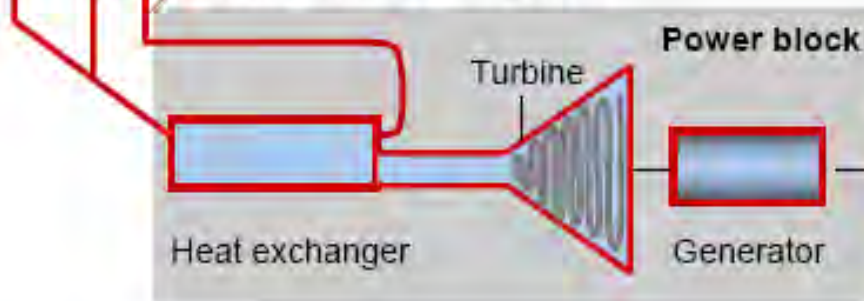
Receiver



#### Key components

- Receiver
- Steam turbine

Heat Transfer Fluid System



Optimization of complete water / steam cycle to further increase efficiency

#### Technical expertise – Solel

- A market leader in solar thermal power
- High-efficiency receivers with performance advantages
- Comprehensive experience in solar field engineering and construction

#### Technical expertise – Siemens

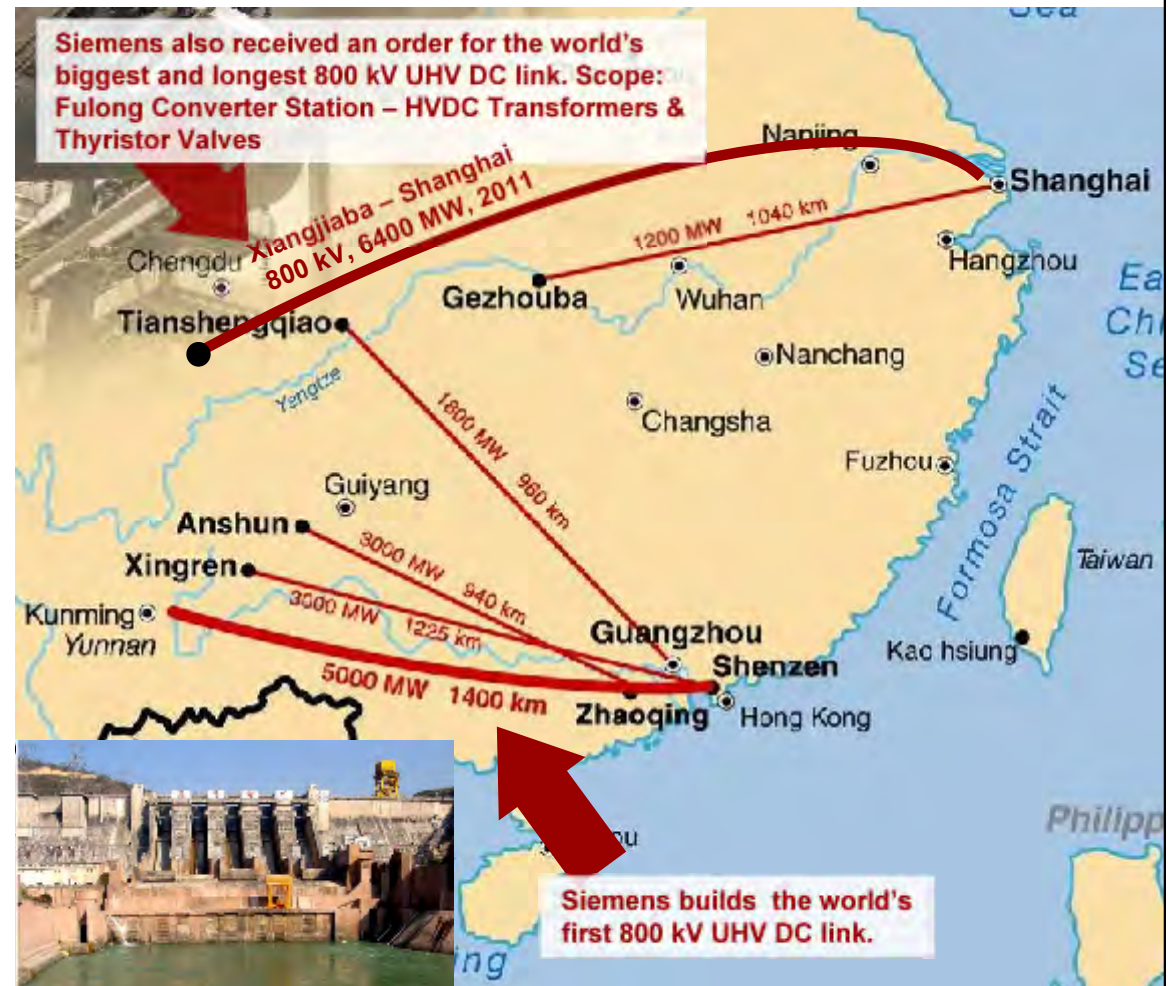
- Market leader in steam turbines for solar thermal power plants
- Experience in large power plant projects
- Know-how in grid connections for renewable energies
- Know-how in other components for solar thermal power plants (for example, geared motors)

## Example HVDC: Use of hydro power with efficient power transmission

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- First 800kV HVDC line
- Capacity: 5,000 MW
- Length: 1,400 km
- Electricity generated by several hydro-electric power plants will be transmitted to Guangzhou region

Avoidance of 30 megatons CO<sub>2</sub> per year (hydro power instead of fossil power generation)



## AT A GLANCE

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- Around the world, renewable energy is available in abundance.
- DESERTEC aims to harness the largest source of energy on earth: solar power from deserts.
- More than 90% of the world's population live within 3,000 km of a desert and may receive clean power from there.
- DESERTEC offers an integrated solution to global problems of the coming decades: climate change and associated shortage of energy, water and food.
- All the necessary technologies are proven and can be put in place forthwith.

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**Thank you**