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EcoNomics

Advanced Solar-Thermal

Utility-scale renewable power for Australia

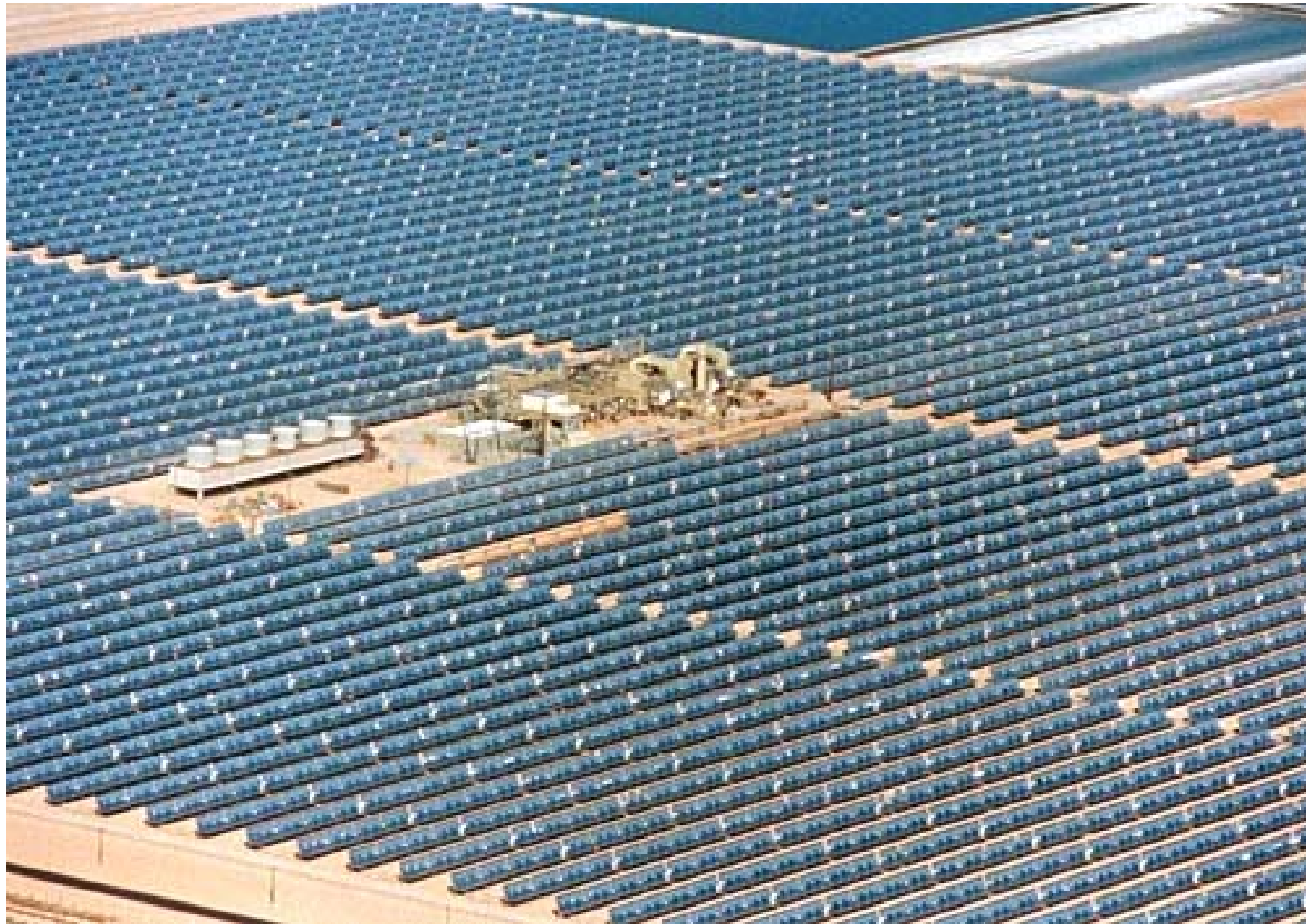




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Solar Energy Generating Station Kramer Junction, CA (30MW)





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Nevada Solar One - 64MW

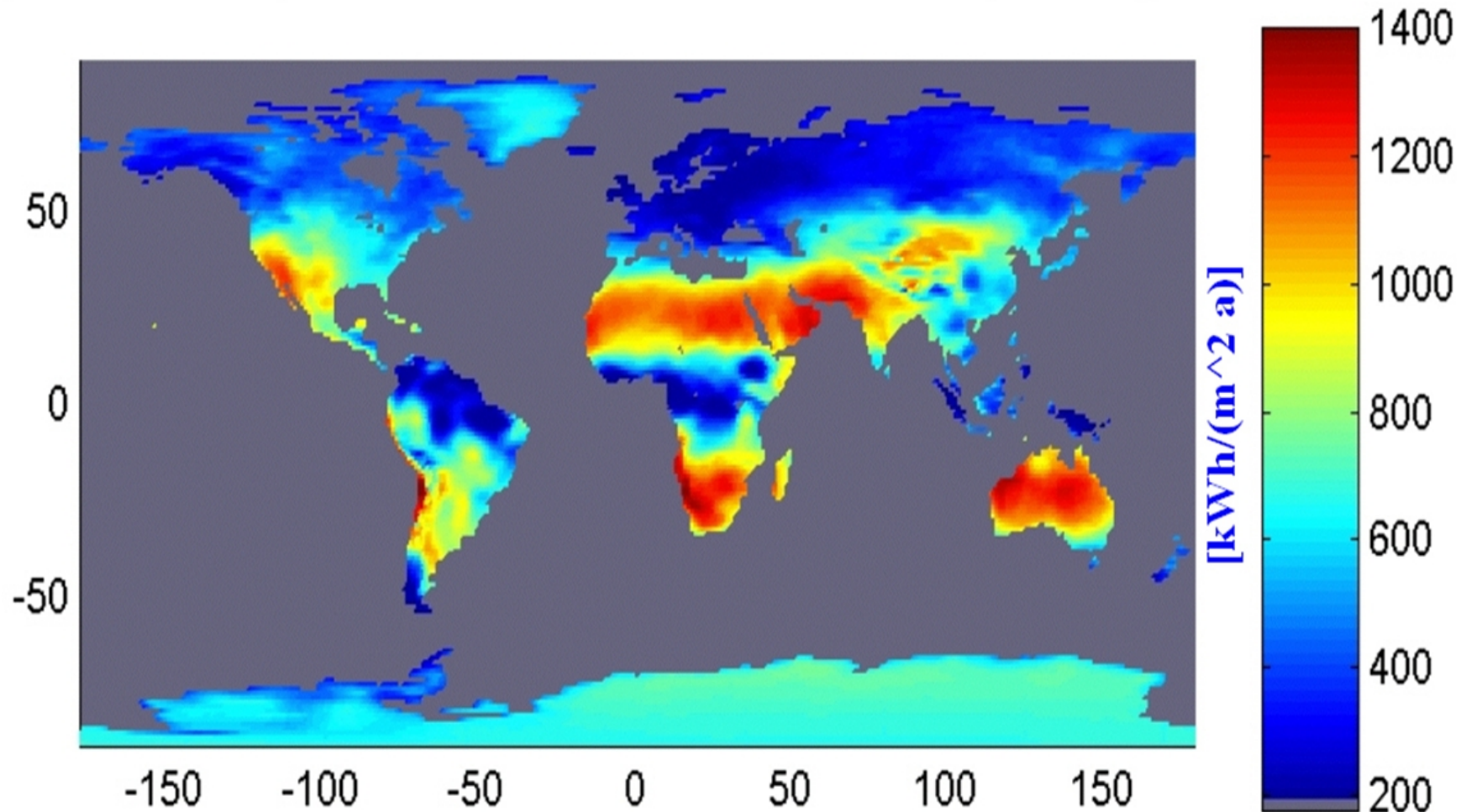




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The World's Sun Belt

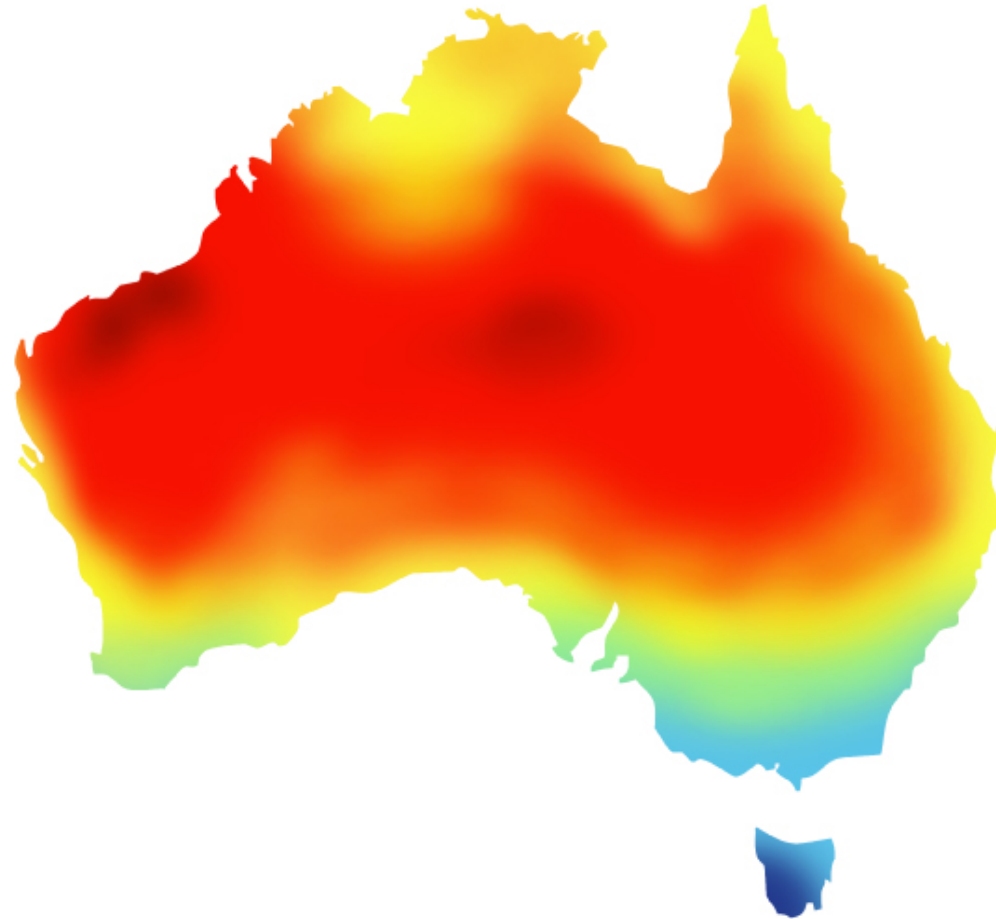




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1. Ideal conditions for Solar Thermal

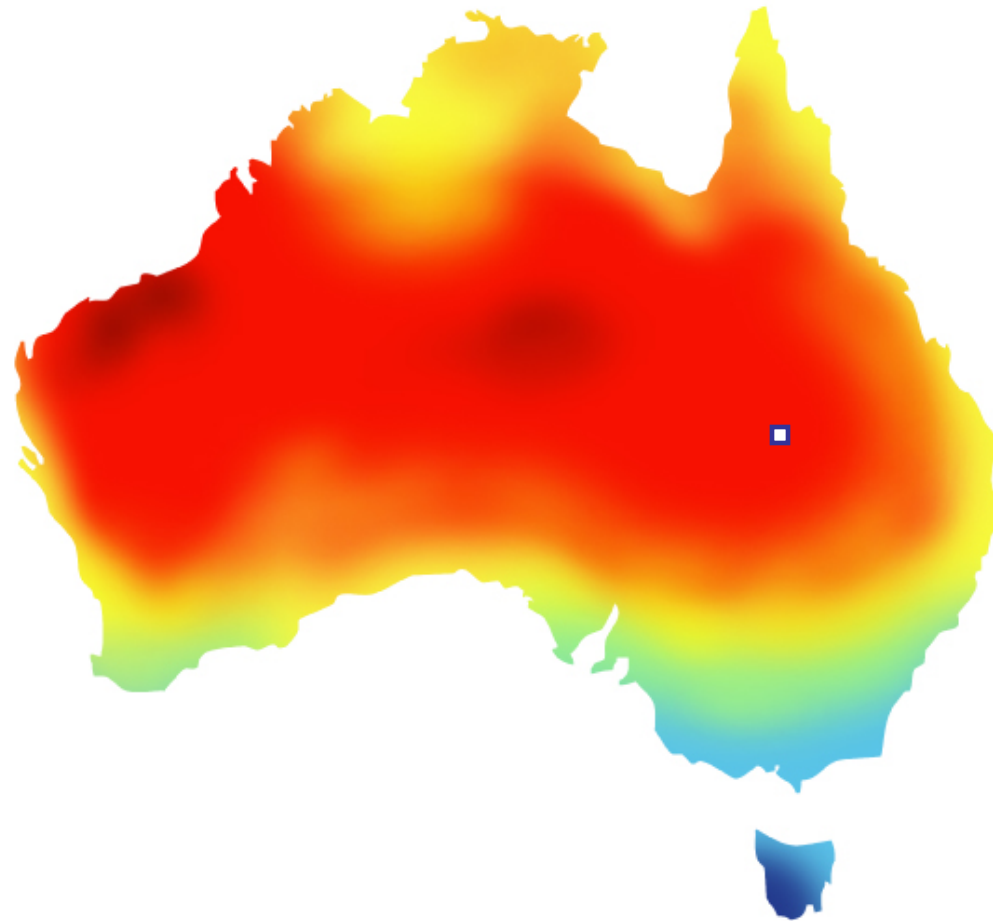




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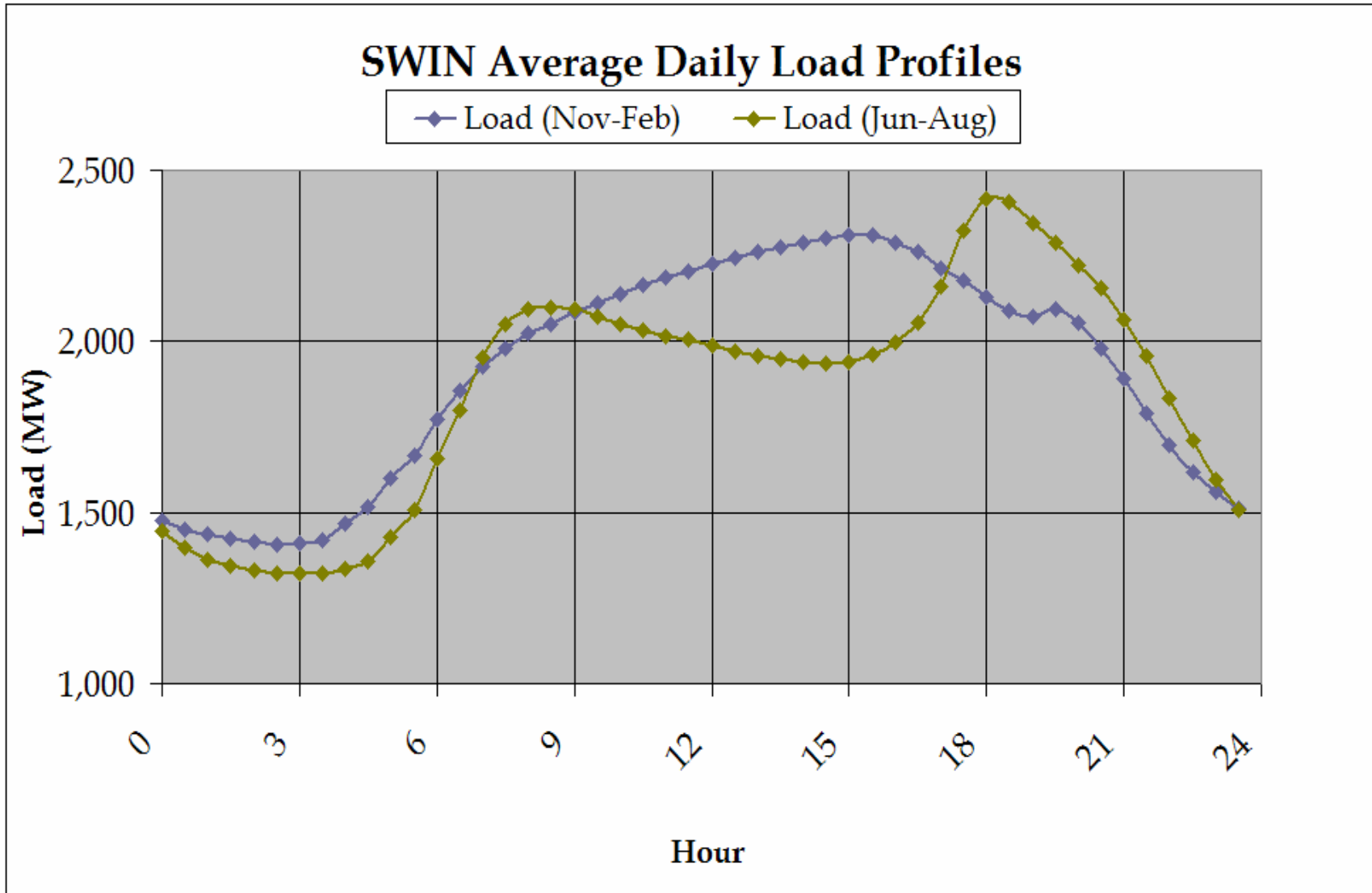
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2. Australia's power by 50km x 50km





3. Daytime peak load coincident with solar





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AST Sponsors

WorleyParsons has gathered a consortium of key Australian energy stakeholders to develop the AST concept

RioTinto



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The AST Product

- ▶ 250MW peak electrical output
- ▶ Solar multiple of 1.35
- ▶ 1 x molten salt storage module (1,000 MWHT)
- ▶ No co-firing
- ▶ Wet cooling (with option for dry cooling)
- ▶ The first 250MW AST facility would be the biggest solar-thermal plant in the world



- ▶ Technology
 - Parabolic troughs
 - Oil heat collection

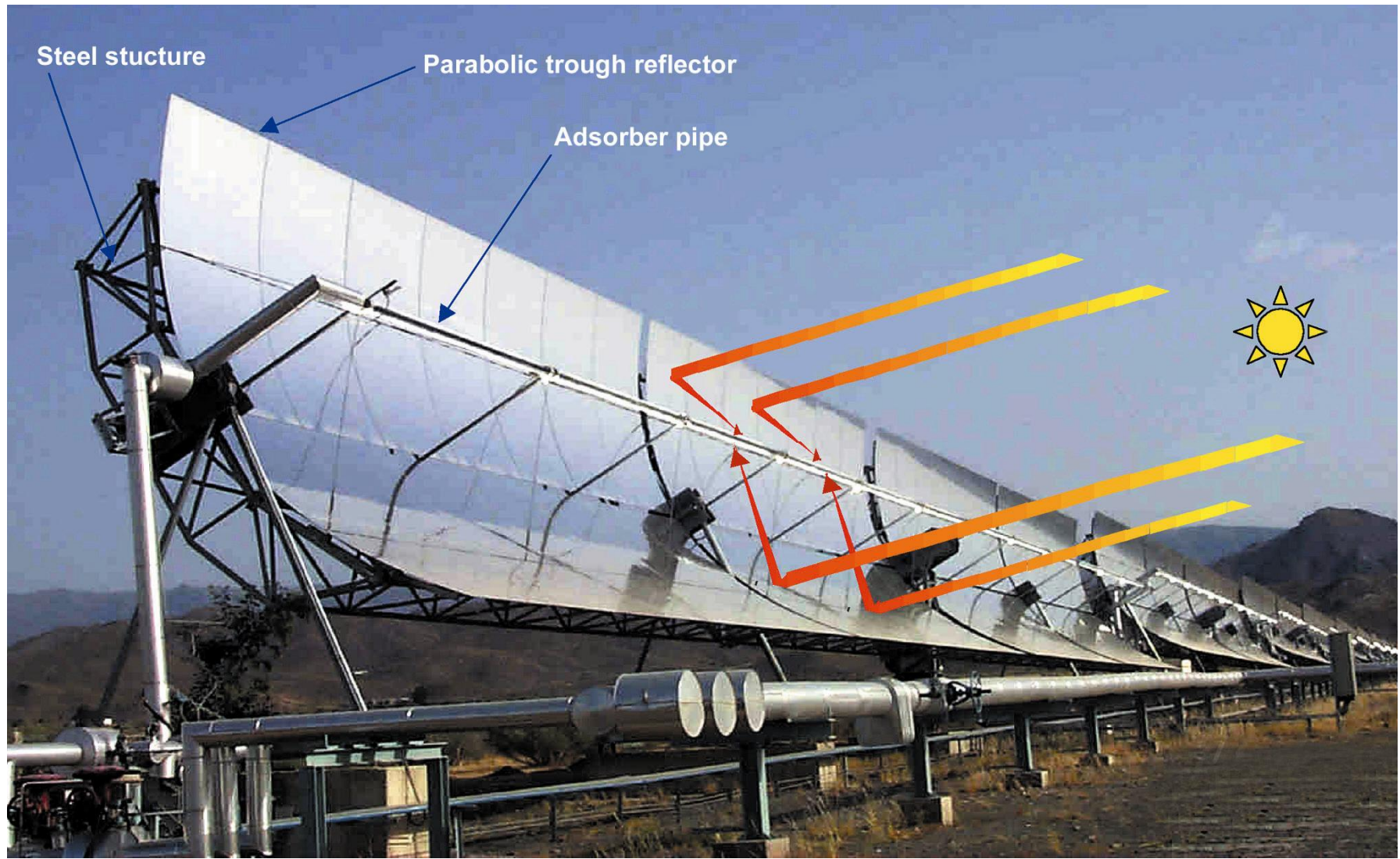
- ▶ Why
 - Mature & proven technology
 - Readily available components
 - Acceptable technical risk
 - The '**bankable**' solution



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Parabolic Trough Principle

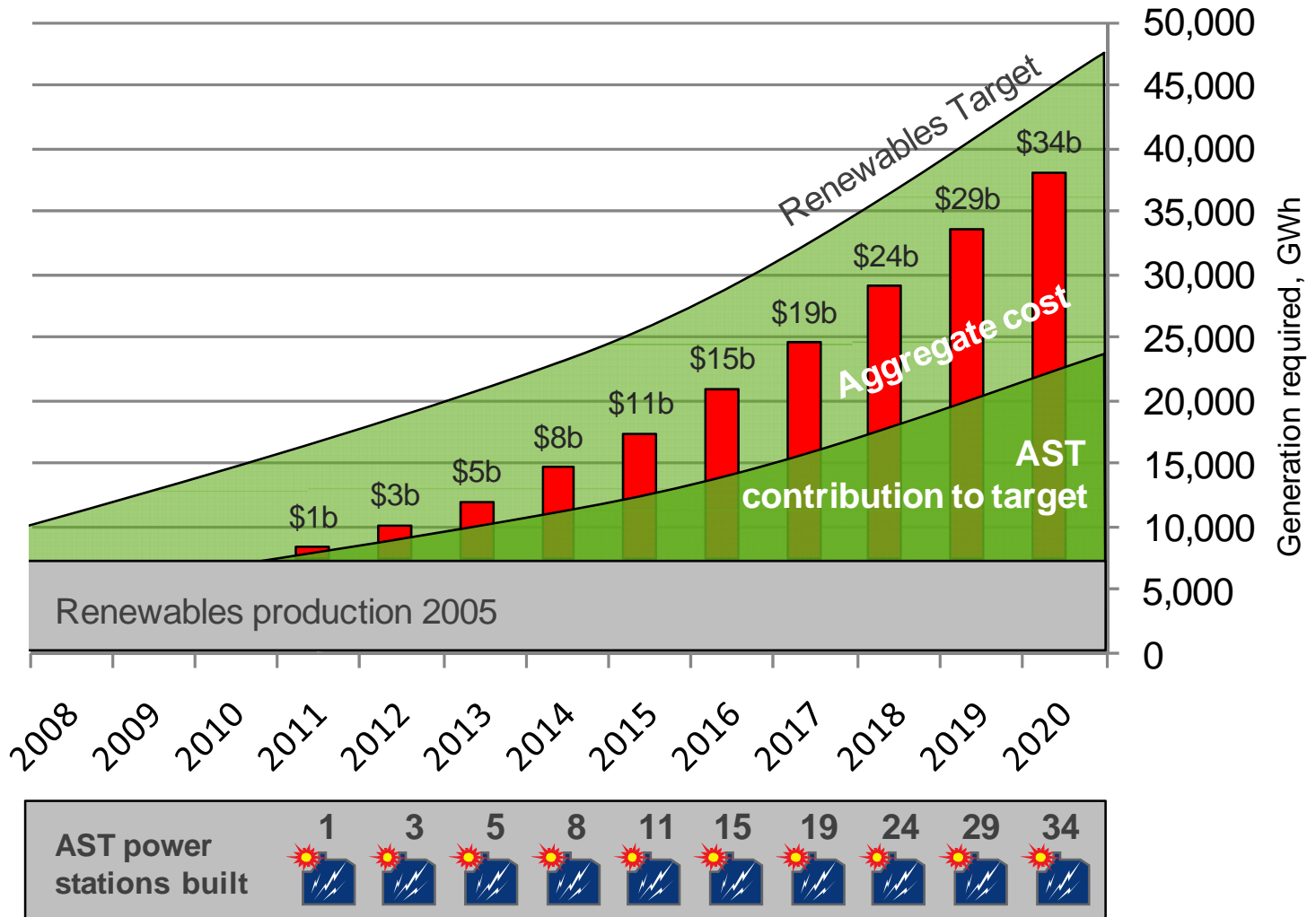




- ▶ Output vs size, solar thermal power stations use less land than both hydroelectric and coal fired generation
- ▶ Solar field components are not high-tech
- ▶ Most solar field materials can be recycled
- ▶ “Energy payback” on a solar field is only 5 months
- ▶ Deserts are the best locations for solar-thermal stations



AST can provide 50% of renewable target





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Delivering profitable sustainability