

IL CONTRIBUTO DELL'ESE NELLO SVILUPPO DEGLI IMPIANTI SOLARI A CONCENTRAZIONE CON SPECCHI PIANI O QUASI PIANI INVENTATO IN ITALIA

di

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La relazione con proiezione di slides inizia con una breve presentazione di ESE, Engineering Services for Energy, di come è nata e come e perché ha iniziato l'attività nel Solare Termodinamico a Specchi Piani, del successo che ha avuto in qualità di consulente di BrightSource Energy, uno dei principali attori del mercato dell'Energia Solare nel mondo, per poi passare in rassegna l'attività svolta in questo settore. Vengono esposti i contributi di ESE ai progetti del Ricevitore Pilota di Dimona (Israele), del Ricevitore dell'Impianto Solare di Chevron (California) per estrazione di petrolio dai pozzi con iniezione di vapore, dei Ricevitori della Centrale di Ivanpah, e ultimamente a importanti studi su Ricevitori e Generatori di Vapore a Sali Fusi.

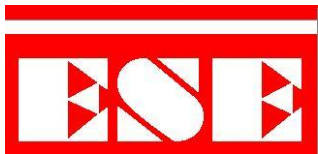
Gruppo per la storia dell'energia solare (GSES, www.gses.it)

Incontro dibattito presso Museo dell'Industria e del Lavoro di Brescia, Rodengo Saiano

Via del Commercio 18 - 25050 Rodengo Saiano - Brescia

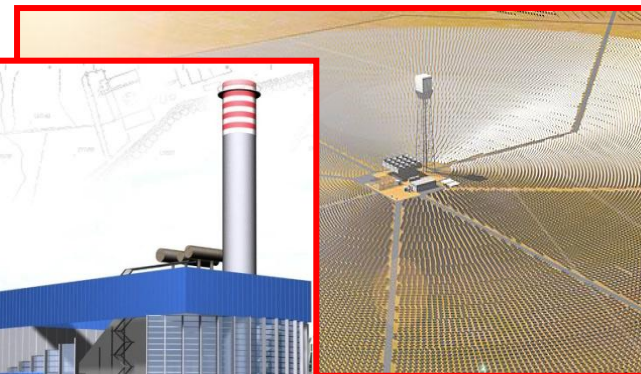
"Storia e attualità del solare termodinamico con il contributo italiano"

venerdì 10 ottobre 2014



Engineering Service for Energy S.r.l

ESE contribution in the development of flat mirrors solar power plants



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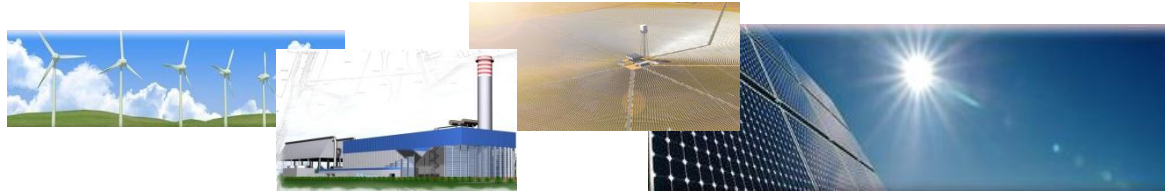
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Company Profiles



Solar Thermal Power Plant



Biomass and Waste to Energy Projects



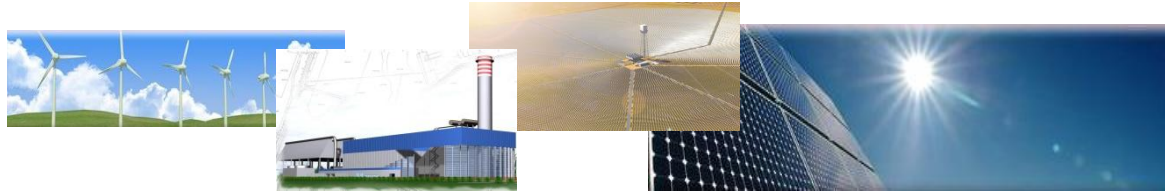
Hydroelectric and Wind Power Stations



Combined Cycles, Cogenerations and Thermal Power Plants

In 1994 General and Technical Managers of leading Italian Companies in the area of Energy, Electrified Rail-Transportation and Mechanical Manufacturing founded ESE S.r.l. driven by the desire to create a **“very high-level engineering company”**.

The Company structure has been designed so as to be very flexible and capable of developing works of extremely different size and commitments.



ESE in Flat Mirrors applications



Rotem (ISR)
6 MW thermal
BrighSource Solar
Demonstration Facility

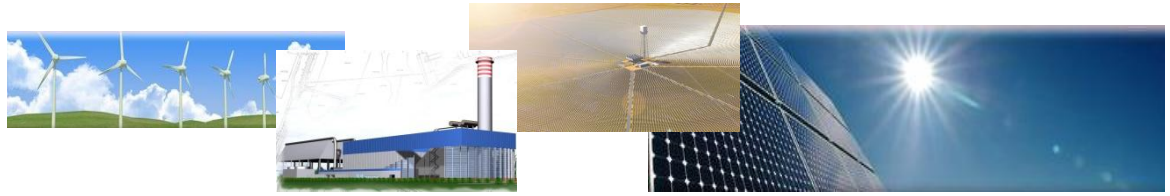


Coalinga (CA)
29 MW thermal
Chevron-BrighSource
Solar to Steam
Demonstration Facility

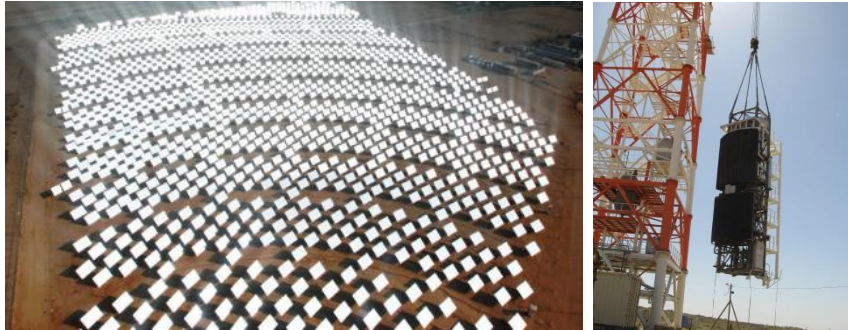


Ivanpah (CA)
377 MW BrighSource
Solar facility

ESE debuted as a successful consultant of BrightSource Energy, a leader in the design and development of concentrating solar thermal technology used to produce high-value electricity and steam for power, petroleum and process markets worldwide.



Rotem Demonstration Facility (SEDC)



Facility Description

SEDC is a scaled cross-section of a typical commercial plant used as Demonstration facility for the equipment, materials and procedures testing of BrightSource Energy's LPT solar thermal technology.

It includes more than 1,600 heliostats and a 60 meter tall tower topped by a solar boiler.

ESE contribution

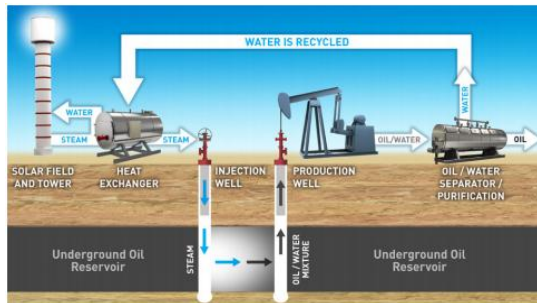
- Receiver design
- System detailed design follow-up
- Plant construction and commissioning follow-up



Coalinga Solar to Steam Demonstration Facility



Concentrated sunlight is focused on BrightSource's power receiver above a pumpjack at Chevron's Coalinga oil field.



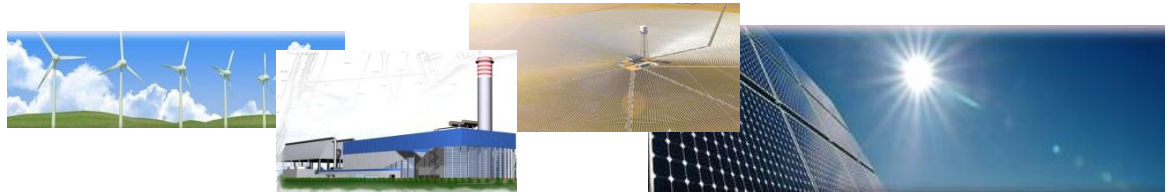
Facility Description

Coalinga Solar to Steam facility is installed in Chevron's oil field and demonstrates the solar thermal technology ability to cleanly and cost-effectively support enhanced oil recovery efforts.

It includes 3,822 heliostats and a 100 m tall tower.

ESE contribution

- System final design assistance
- Receiver construction follow-up
- Components design and purchase assistance



Ivanpah Solar Facility



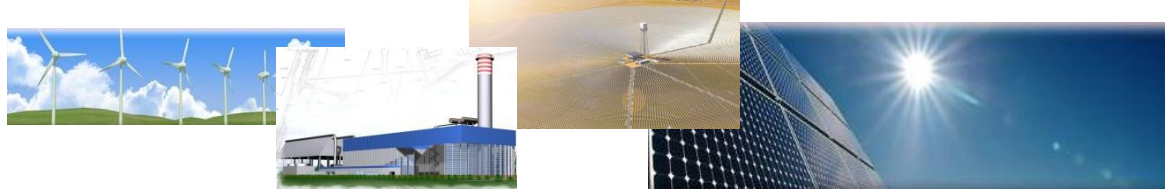
Facility Description

Ivanpah at present includes three units that are expected to be totally working before the end of 2014, making the plant the largest facility of its type in the world.

It deploys 73,500 heliostats, focusing solar energy on boilers located on three centralized solar towers.

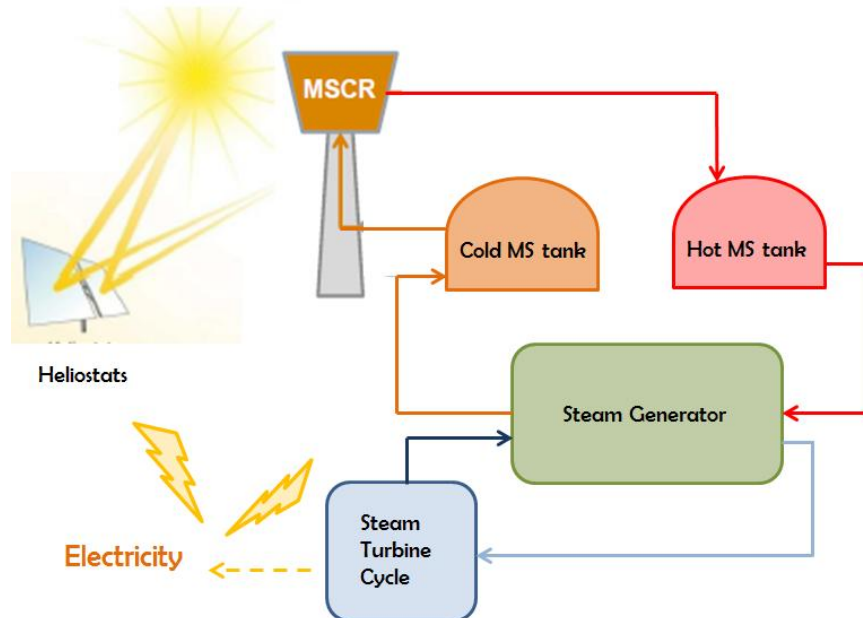
ESE contribution:

- Components design
- Components purchase assistance
- Receiver design follow-up



ESE in Molten Salt Power Facility applications

ESE is developing, as a consultant of a very important company, its knowlege in thermal solar plant by exploring molten salt applications.



Facility Description

What the market requires to power plants is to be as much as possible dispatchable.

In solar applications this need can be fulfilled by decoupling the energy collection from electricity production.

Thermal energy can be stored in tanks filled, here, with molten salt at high temperature.

ESE contribution

- MS Receiver base design
- MS Storage system design
- MS Steam generator design
- System integration design