



# Sustainable Buildings R&D at NREL: en-route to zero energy

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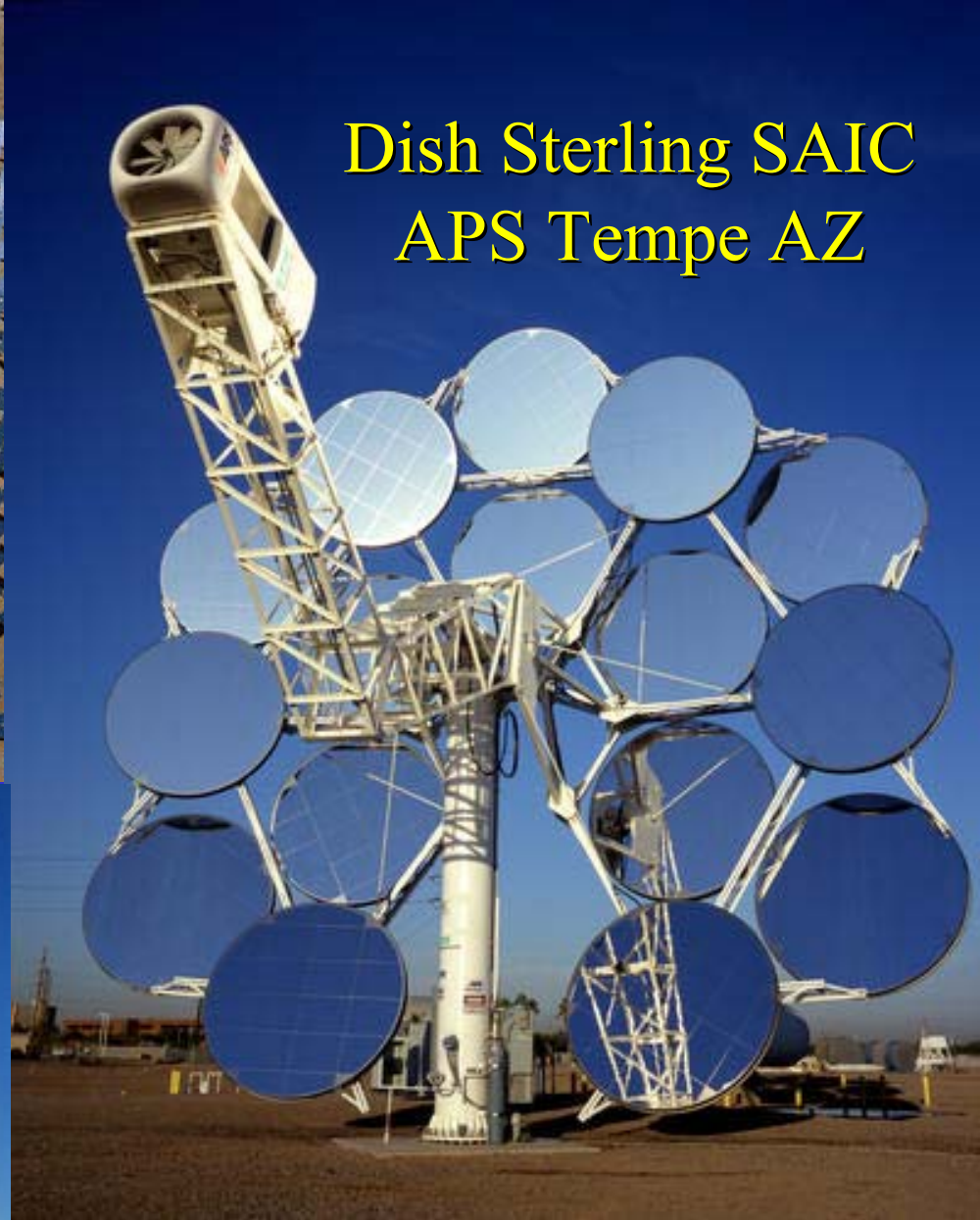


# National Renewable Energy Laboratory (NREL)

- A USDOE National Lab
- Mission is to develop green technologies
  - Photovoltaics
  - Wind
  - Biofuels and Transportation
- Buildings and Thermal Systems Center
  - Buildings: Solar and efficiency
  - Concentrating Solar Power (Solar Thermal Electric)
  - Geothermal Energy Conversion



Solar I



Dish Sterling SAIC  
APS Tempe AZ

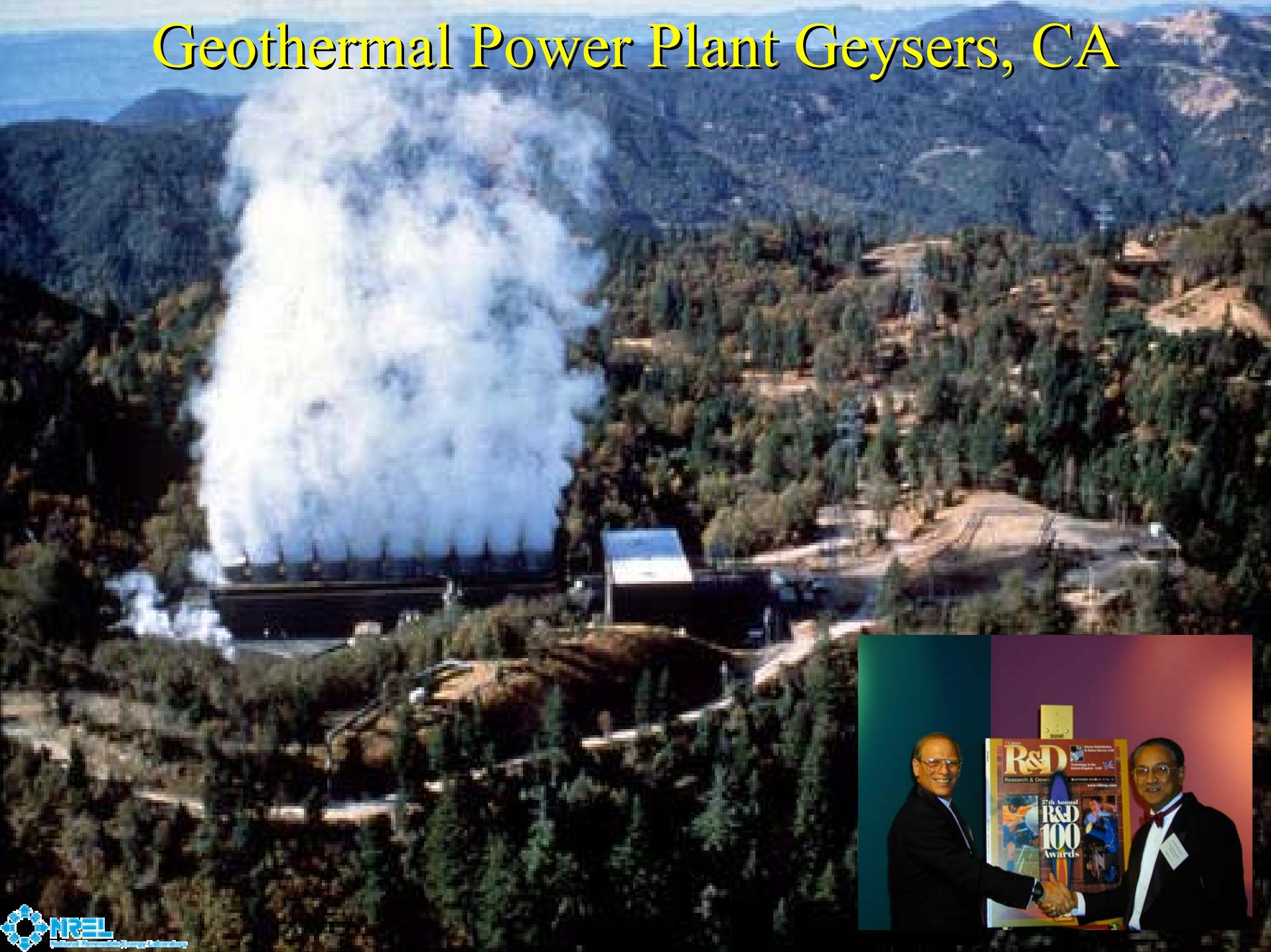


SEGS Troughs

Solar Thermal Electric



# Geothermal Power Plant Geysers, CA





# Buildings Research Areas

- Measurement and simulation of building energy, comfort, lighting, and air quality
- Energy efficient/Sustainable Design: Commercial, Residential, and Manufactured buildings
- Passive/Active Solar & PV for Buildings
- Advanced HVAC systems and BCHP
- Computerized Design Tools/Optimization (Beopt)
- Validation methods: ASHRAE/ANSI SMOT 140  
BESTEST
- IEA 34/43

