

- **Construction time is 18-24 months.**
- **US\$395 million cost is estimated to be 14% more expensive than an equivalent coal-fired power station, 70% more per Megawatt Hour than a comparable wind farm, and some say it will be 5x more expensive than a gas turbine.**

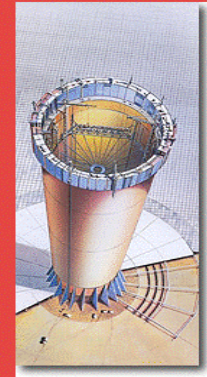
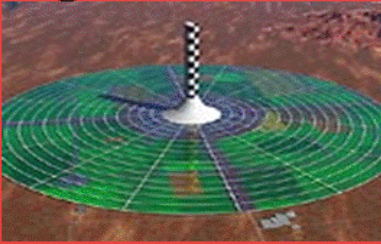


Figure 1: Solar Tower Cost and Timing

Mountain Based Solar Towers

Renewable Energy is a key political issue and an important technology to import to the U.S. This technology could be applied in numerous mountainous regions around the world, and once perfected exported worldwide.

TMI-18 is a modification of the planned Australian solar tower electrical plant (see Figure 1). The Australian plans are extension of a 1981 experiment in Manzananes, Spain. The idea is to create electricity 24 hours a day from solar energy alone. The plan is to use heat absorbing rocks to slowly release heat from the day at night. The required materials of concrete, glass, and steel are available everywhere. The tower has a base of 650 feet at the trunk, a diameter of 500 feet, and is 3,200 feet tall. The greenhouse collector roof is 16,500 feet in diameter. The 32 wind turbines generate 200 megawatts of energy, powering 200,000 homes.

The TMI-18 modification is to lay the tower on the side of a south facing mountain, with the greenhouse at the base of the mountain. A second modification is to use geothermal energy to keep the greenhouse hot at night. A third modification is to study the feasibility of drilling deviated holes from the top of the mountain to the greenhouse to act as the chimneys. The point is that this tall chimney will draw hot air up so fast it will turn large turbines, either at the base of or inside of the chimney. Initial estimates show the cost of the tower could be cut in half from the planned Australian experiment, to about \$200 million. This is on the same order of magnitude of cost as a gas-fired power plant and about 1/3rd the cost of an equivalent solar energy project. Once in place, the plant would have minimal maintenance and would have a much longer life than gas-fired or solar equivalent solutions and is expected to be much more profitable.

DRC proposes \$2 million investment to locate feasible sites, to model the project and the economics, to build a detailed plan, to form a company to implement the plan, and to go to public markets and raise the money to implement the plan. An initial team technical member is John Boyce, a professional heating/cooling engineer, and others will be recruited.