

Major Technical Advances

Patents pending are in place on all of this

1. The 1st is the way we make out turbine. We have developed a way to cut the blades out on a CNC machine instead of individually fabricating each blade and then attaching them to a hub. Our method is a great deal less expensive.
2. 2nd is the way we make small turbines practical. Small turbines have tip losses and case friction losses that make them impractical. We have developed a method of placing a ring around the blades effectively eliminating the tip losses completely and greatly reducing case friction losses. This technology is called "Ring Blade."
3. 3rd is called "Optimized Re-injection. Our turbine is "semi-condensing. This means that the exhaust is both liquid and vapor. The ratio is optimized. We have developed a special pump that allows us to inject this mixture directly back into the boiler. This is where the term "Optimized Re-injection comes from. Approximately 1/3rd of the energy in a typical power plant is vented to the atmosphere in the condenser and lost. Optimized Re-injection allows SunDancer to operate without a condenser at all, and none of this energy is lost.
4. 4th is designing the system to operate at low pressure and temperature. Our turbine design makes this practical. The lower operating temperature means that more energy is used in the boiler, and less of it goes out the stack.