



**Solar steam panels in a tea factory. The problem !**

Tea production needs lots of energy mostly related to the dryer process where normally steam is used. Steam is produced in large boilers normally using Eucalyptus logs as fuel. They are hand loaded into boiler which creates several problems. In total boilers need a lot of wood typically 1-2 ton / hour / boiler. Boilers are between 3 ton steam hour to 8 ton steam / hour. Wood is costly and wood harvesting is a large increasing problem and all know there will be limitations in what fuel can be used soon. This adds demands to save Eucalyptus wood for tea production rapidly. This is needed urgently as problem is real today.

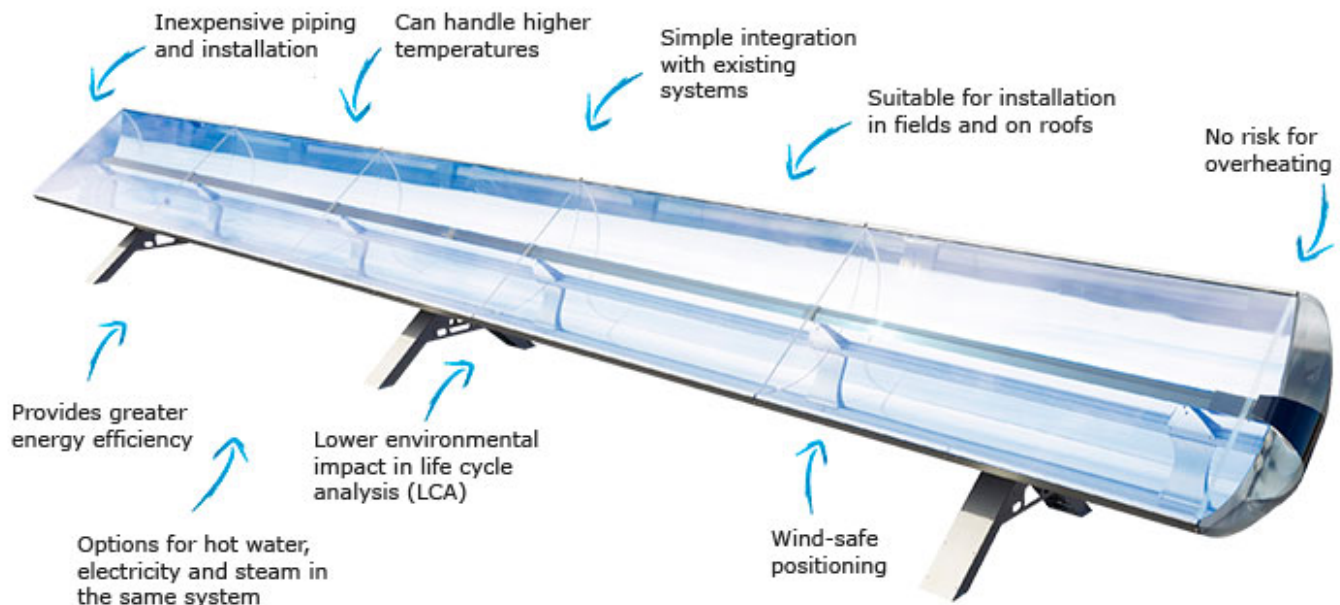


**Solar steam collector panels in a tea factory. The solution !**

Solar steam collector panels by Absolicon Sweden is here a good solution to replace a good % of wood used today by just solar energy. The area where tea factories are located is good for solar energy and the high altitude makes solar radiation more intense and powerful. Panels have an active tracker to follow sun path over the day for best efficiency.

The Absolicon system can make steam with up to 160 C in temperature and a pressure of 16 Bar. Panels can operate with liquids and steam inside tubes. Panels have a window to keep dirt out of sensitive optics inside. Windows are specially nano coated to keep dirt and dust away.

Here we only use solar energy only to generate heat and steam that is fed into the boiler or separately to the dryer. The collectors can replace a good part of use wood and operate in parallel with boiler installed in front feeder water pump.

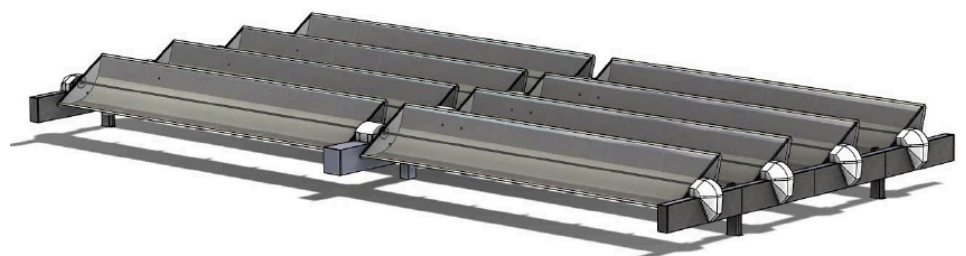
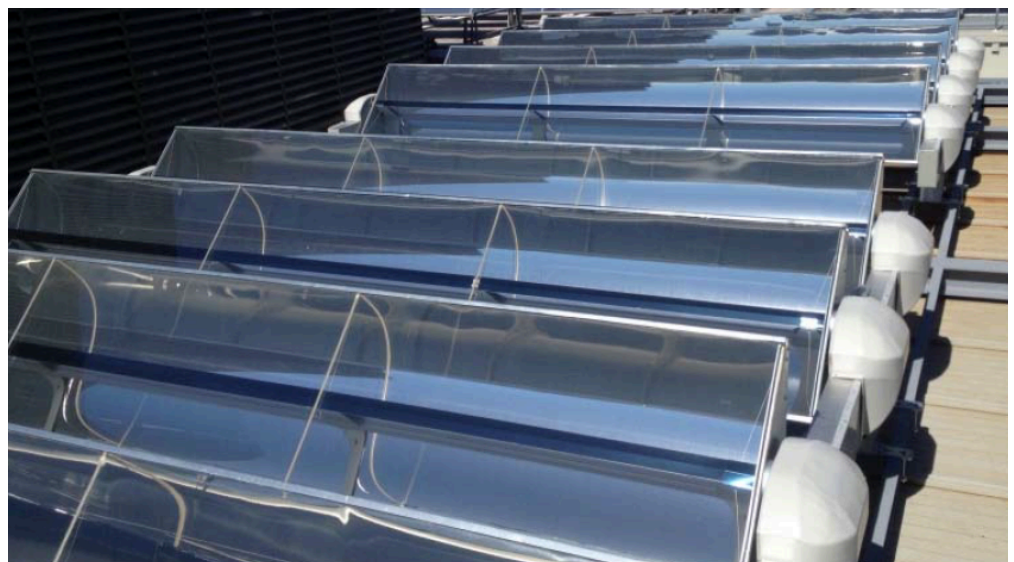


The solar collectors are designed as a long module unit. They are designed to fit into a 20/40 feet container efficiently. One panel unit is 5600 x 1050 mm and have an active area of 5.5 M2. Modules are then assembled in a matrix for the solar farm. Often they are in a set off 2 x 4=8 pcs.

Solar collectors have a good efficiency and steam energy can be in range of 550-700W / M2 when radiation is 1000 W.

**How to install the collector system in a tea factory.**

The simple way is to install panels after the feeder pump at pressure side and get cold water here and then it pass the panels in a loop and then retur water direct to boiler. If so water get preheated into the boiler in a simple way and less wood is needed to keep temperature up. This is simple and do not need many changes. We have a tap so when water is hotter from panels than return water pump starts up. If we use panels at withering unit lower temperatures are needed and then we can feed hot water into the radiators in the fan units.



**What to save in wood ?** More area is as always better. We assist if we have your key parameters !