ContainerPower Energy Solutions

Vertical power station power generation

Overview

The solar updraft tower (SUT) is a design concept for a renewable-energy power plant for generating electricity from low-temperature solar heat. Sunshine heats the air beneath a very wide greenhouse-like roofed collector structure surrounding the central base of a very tall chimney tower. The resulting convection causes a hot air updraft in the tower by the chimney effect. This airfl. DesignPower output depends primarily on two factors: collector area and chimney height. A larger area collects and warms.

A chimney turbine was envisioned as a , and illustrated 500 years ago by . An animal spitted above a fire or in an oven could be turned by a vertical axis turbine with four angled vanes in th.

The traditional solar updraft tower has a power conversion rate considerably lower than many other designs in the (high temperature) group of collectors. The low conversion rate is balanced t.

• The proposal replaces the physical chimney by a controlled or 'anchored' cyclonic updraft vortex. Depending on the column gradient of temperature and pressure, or buoyancy, and stabilit.

A solar updraft power station would require a large initial capital outlay, but would have relatively low operating cost. Capital outlays would be roughly the same as next-generation nuclear plants such as the AP-100.

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