

Atmospheric Vortex Engine

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New!

[Link to AVE in Power Magazine](#)

[HTTP://VORTEXENGINE.CA](http://vortexengine.ca)

New!

[Energy Manager PDF \(1.9 MB\)](#)

The purpose of the Atmospheric Vortex Engine (AVE) is to produce clean carbon-free electrical energy. The AVE uses a controlled vortex to harness the huge amount of energy produced when heat is transported upward by convection in the atmosphere.

Mechanical energy is produced when water descends or when warm air rises. The Atmospheric Vortex Engine captures the energy produced when warm air rises by creating a river of rising air using an air vortex which acts as a vertical conduit.

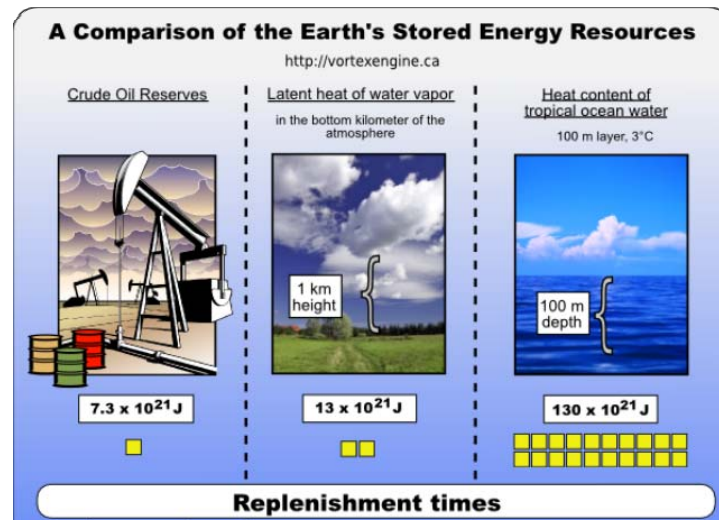
The vortex is produced by admitting warm or humid air tangentially into a circular arena. Tangential entries cause the warm moist air to spin as it rises forming an "anchored vortex". The vortex engine has the same basis as the proven solar chimney except the physical tube of the solar chimney is replaced with centrifugal force in the vortex.

The heat source can be solar energy or waste industrial heat. The solar heat can come from warm sea water or simply from warm humid air. There is no need for a solar collector; the solar collector is the earth's surface in its natural unaltered state.

The pressure at the base of a chimney is less than the surrounding pressure because of the buoyancy of the warm rising air. The reduced pressure at the base of the vortex is used to drive turbines. The turbines are located in the air inlets located around the perimeter of the station.

Centrifugal force in the vortex prevents the rising air from becoming diluted by cooler ambient air and thereby losing its buoyancy. The vortex acts like a chimney – it is well known that warm air rises higher with a chimney than without one.

The vortex engine harnesses the energy of the process responsible for dust devils and tornadoes. An AVE produces a controlled vortex whose base remains firmly anchored in the center of a circular structure. The vortex cannot break away from the base station and its intensity is always under complete control by varying the opening of the air inlet dampers.



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