Vorsana
RADIAL COUNTERFLOW SOLUTIONS

For Immediate Release

New Technology Offers Prospect of Clean Coal

Portland, Oregon, Feb. 28, 2009 – Vorsana, Inc. today announced a worldwide license to a new cost-effective approach to cleaning up coal emissions, using vortex separation and cracking. "Clean coal" until now has meant combining "scrubbing", using chemicals to capture the carbon dioxide, and "sequestration", which means burying it. "Like it or not, we're more dependent on coal power than most people realize," says David McCutchen, Vorsana's CEO. "Coal is going to keep the lights on while we get carbon-free power like solar and wind ramped up over the next decade. It's essential that coal emissions be cleaned up, but our current approach to "clean coal" can't work at the scale and speed needed to tackle climate change. A new approach is the answer."

Vorsana uses radial counterflow vortex technology, featuring fractal turbulence organized between counter-rotating disks, in several patent-pending devices to capture and convert carbon dioxide. The Vorsana Gas Scrubber axially strips out the nitrogen and water vapor that make up 80% of flue gas, leaving a pure stream of CO_2, while also capturing other pollutants such as fly ash and sulfur dioxide. The Vorsana Shear Electrolysis Reactor then cracks the carbon dioxide and steam together to produce syngas, an efficient fuel, as well as oxygen and hydrogen. Both of these devices are simple mechanical processors, requiring no chemicals, which can be scaled up to any size necessary.

The climate crisis is worldwide, and requires solutions not only for modern power plants, but also as retrofits for older plants, especially in developing nations. "Finding a simple cost-

effective way to fix the pollution from older plants brings immediate benefits worldwide," says Wilmot "Mac" McCutchen, David's brother and Vorsana CTO. "It's like an old car -- fixing one smoky old car has as much of a positive immediate impact on the air as multiple people switching to hybrids."

Coal is dirty but reliable and constant, while solar and wind are renewable but sporadic. Another Vorsana approach solves both of these problems with Hybrid Power, which uses the carbon dioxide in effect as the energy storage that renewables lack. The coal plant's carbon dioxide, captured by the Vorsana Scrubber, is later cracked by the Vorsana Shear Electrolysis Reactor, using off-peak renewable power, and turned back in a clean fuel, syngas. This syngas can be turned into vehicle fuel or burned directly, so the carbon dioxide can be recycled, again and again.

"With a new approach like this we can actually make "clean coal" a reality." says David McCutchen.

Vorsana, Inc. www.vorsana.com is a Portland OR environmental company developing a range of patent-pending devices to solve major air and water pollution problems.

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