UM invention helps advance reliability of alternative energy

April 16 2012

A University of Minnesota invention could help make storage of solar and wind energy more efficient and economical. The invention was licensed to SustainX, a leading global developer of grid-scale energy storage solutions that use patented isothermal compressed air methods to store large amounts of energy cleanly and economically.

"A lot of renewable energy sources, like wind and solar, are unpredictable. The wind doesn't always blow, and the sun doesn't always shine. With economical bulk energy storage, one can really stabilize these energy sources, which makes them more predictable and more reliable," said Perry Li, inventor and mechanical engineering professor in the College of Science and Engineering.

SustainX is developing isothermal (or near-constant temperature) compressed air energy storage (CAES) systems that provide bulk energy storage capacity while reducing carbon emissions and increasing the reliability of the electric grid. The conventional method of compressed air energy storage depends on the use of underground caverns, which greatly limits their available locations and practical use. The SustainX solution uses pipe-type air storage, which makes it possible to store energy virtually anywhere.

"This licensing agreement with the University of Minnesota expands SustainX's growing IP portfolio and provides our company with another possible method of implementing our unique isothermal CAES technology," said Dax Kepshire, SustainX vice president and general

manager.

The SustainX energy storage solution could also reduce the need for gas-powered peaker plants that operate during hours of peak energy usage.

Provided by University of Minnesota