February 26, 2015

Stephanie M. Lage

Assistant Director

Institute for Sustainability, Energy, and Environment

University of Illinois at Urbana-Champaign

1101 W. Peabody, Room 340

Urbana, IL 61801

Regarding Sustainability Innovation: **Helium Recovery from Remote Users**

Dear Ms. Lage:

Our Innovation involves recovering Helium gas from remote locations using existing technology in new ways. Helium is a finite resource and a critical element in multiple scientific disciplines and used on our campus for cryogenic refrigeration. Superconducting Magnets, Physics and Materials experiments, all use Helium in liquid form and the recovery of the boil off gas is vital in maintaining our mission to sustain research and the supply of this important element. If not recovered this resource literally escapes into space leaving our atmosphere forever.

Using readily available equipment we have instituted helium gas recovery in laboratory areas not physically connected to the main physics building but. Our first project in a remote location, gas is collected, compressed into transport cylinders and returned to the Liquid Helium production area to be used again. This process was instituted five years ago at the Nuclear Physics facility at 23 Stadium Drive 1.3 miles from the main Physics building.

Following that project the Physics department is now in the process of construction of a system to recover gas from users in three other buildings that are part of the Chemistry Department. This system will use an underground gas recovery line to return collected gas from those buildings directly to the Liquid Helium production area to again be used again. Previously all Helium used there was lost into the atmosphere, this system provides a simple way to recover this resource and take control of our Helium use and secure our supply for continued research.

Sincerely,

Eric Thorsland, Nuclear Physics Department at the University of Illinois