

ENHANCED PRACTICAL PHOTOSYNTHESIS CARBON DIOXIDE MITIGATION

J. D. Muhs

ORNL has continued development of the solar lighting system for a engineered photobioreactor being developed by Ohio University to sequester carbon at power plants. Ohio University has prepared a comprehensive annual report detailing the project. A prototype solar collector was installed at Ohio University by ORNL in June 2002 and was fully-operational for the remainder of 2002.

The collector is being updated and refurbished, in preparation for a 6-month test that will begin in June 2003 at Ohio University.

In addition to developing the collector, ORNL has also developed the illumination system within the bioreactor, using illumination sheets containing side-emitting optical fibers sandwiched between algae growth membranes. The system was installed in June 2002 along with the solar collector. Refinements to the illumination system are continuing in FY 2003.