

# CASI 2011 Annual Summary

by William D. Goran, CASI Director

The Center for the Advancement of Sustainability Innovations continued last year to help the Army address complex issues involved with national, Department of Defense and other mandates to become sustainable. Created by the U.S. Army Corps of Engineers in 2006, CASI now extends its reach to many areas of sustainability across DoD. This summary provides a snapshot of a few of the center's activities in fiscal year 2011.

## Sustainability planning

CASI helped update the USACE Sustainability Plan. The center also wrote a Greenhouse Gas Inventory Management Plan to guide the process of conducting the inventory of GHG emissions at Corps of Engineers facilities and projects.

To facilitate the inventory, CASI developed a simplified GHG data collection tool, based on the Federal Energy Management Program's GHG reporting tool, for major subordinate command and district project managers to enter data. The tool is called the Corps of Engineers Reduced and Abridged FEMP Tool, or CRAFT.

CASI provided webinar training for CRAFT, collected additional inventory data elements not covered in CRAFT and developed a central data repository to allow inventory data archiving and retrieval for analysis. The tool was updated in late fiscal 2011 to a web-based system that ensures better data entry integrity and quality control as well as a database storage system that supports data visualization software and links



*Electric and hybrid vehicles, encouraged to replace gasoline-powered vehicles at installations, use large amounts of rare earth metals such as lanthanum and neodymium.*

to the federal government's Facility Energy Management system.

The center also supported others in sustainability planning, including the Army Materiel Command and the Installation Management Command's Strategy Division. In addition, CASI worked with Fort Leonard Wood, Mo., to develop a 25-year integrated strategic sustainability plan that will incorporate long-term sustainability into all operations and activities at the fort. The ISSP was web-enabled on the Engineering Knowledge Online portal to help Fort Leonard Wood manage actions coming out of the effort.



Goran

## Climate change

The Army recognizes that projected climate changes will impact installations, operations and mission both within the United States and globally. Requirements for climate change vulnerability assessment and adaptation planning are in a DoD instructions, Executive Order 13514 and the 2010 Quadrennial Defense Review.

At the request of the assistant secretary of the Army for installations, energy and environment, CASI is developing a comprehensive planning and assessment framework consistent with national and DoD requirements and guidance. This framework will include a high level identification of the vulnerabilities of military operations, facilities and lands, and it will be guided by stakeholders from ASA-IEE, Army staff elements, Army commands, installations and others. This vulnerability assessment will use data from iterations of the National Climate Assessment of the U.S. Global Change Research Program Office.

## Rare earth minerals

An emerging critical issue is a growing dependence on rare earth minerals essential for a diverse and expanding array of high-technology military applications, such as jet fighter engines and other aircraft components, missile guidance systems, electronic countermeasures, underwater mine detection, antimissile defense, range finding and space-based satellite power

and communication systems. Rare earth minerals are also important in wind turbines and solar cells.

Concerns have arisen about the importance of these minerals to technology because China mines 95 percent of the world's supply. The effects that non-domestic sources may have on supply and demand of these minerals needed to be better understood and integrated into Army investment decisions, because they will affect the Army's ability to execute mid- and long-term missions.

To address this issue, a team composed of CASI, the National Aeronautics and Space Administration's Sustainability Office and the United Kingdom Ministry of Defense's Sustainable Acquisition Team took a broad, strategic and forward-minded look at evolving conditions and explored the investments most critical to address. The study, funded by the Army Environmental Policy Institute, provided recommendations for the Army to consider in weighing possible actions to protect its critical missions and activities.



*Some arctic training, such as this medic training at Fort Greeley, Alaska, depends on frozen ground to provide a realistic experience. Climate change is causing frozen-ground days to decline in the spring and fall, making fewer days suitable for this training. Photo by Airman 1st Class Christopher Gross*