

HIGHLIGHTS and INITIATIVES



EERC

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Executive Director

Center for Clean Products and
Clean Technologies
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Office of Communications
David Brill, Director

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Sheila Webster, Director

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The EERC conducts unbiased,
analytical, and multidisciplinary
research designed to promote real-
world solutions to problems in the
fields of energy, environment, tech-
nology, and economic development.

APPOINTMENTS. EERC Executive Director **Jack Barkenbus**, Research Leader **Mary English**, and Research Associate **Jonathan Overly** have been appointed to the statewide Tennessee Early Action Compact Advisory Committee. The Committee is evaluating measures that promise cleaner air in Tennessee and comprises 25 members from throughout the state. The Committee will provide advice to the state and the seven Early Action Compacts in Tennessee, formed to assure attainment of new, eight-hour ozone air-quality standards.

PROJECTS. EERC's Center for Clean Products and Clean Technologies (CCPCT) has received funding from the Tennessee Valley Authority's (TVA) Public Power Institute to develop a Green Electronics Consortium in the Tennessee Valley. The TVA region is home to numerous electronics manufacturers and suppliers, and this industry sector faces increasing regulatory and technical challenges at home and abroad. The project, managed by CCPCT Senior Research Associates **Jack Geibig** and **Catherine Wilt**, will serve as an extensive scoping and partner-building initiative to identify opportunities for increasing the competitiveness of the electronics industry sector within the TVA region, with an emphasis on energy and environmental issues.

PRESENTATIONS. More than 20 participants from across the United States took the U.S. Department of Energy BestPractices Steam Specialist Qualification Training course at the University of Tennessee's Conference Center Building in October. EERC Senior Research Associate **Greg Harrell**, along with EERC Faculty Associate **Richard Jendrucko** (**Mechanical, Aerospace, and Biomedical Engineering**), developed the course. Harrell and Jendrucko trained steam service providers to use DOE's BestPractices Steam Tools to identify and quantify potential efficiency improvements in industrial steam systems.

Harrell also developed DOE's BestPractices Steam End User Training, a course covering the operation of typical steam systems and methods of system efficiency improvement. The training is designed for end users—energy managers, steam system supervisors, engineers, and operators—who have steam system responsibilities in industrial and institutional plants. This course has been offered several times a year across the United States, in Arkansas, California, Colorado, Georgia, New York, and Pennsylvania. Harrell's Steam System Survey Guide, the most downloaded file on DOE's BestPractices Web site, is also being used as a textbook for senior mechanical engineering courses at Penn State University and Tennessee Tech(nological) University.

AWARDS. **David Brill**, director of the EERC Office of Communications and Publications, received a bronze award from the Society of American Travel Writers Foundation for "Desire and Ice: Challenge on Denali." The article, which recounts Brill's 2001 expedition to the 20,320-foot summit of Mt. McKinley (also known as Denali), the highest peak in North America, was published online by *National Geographic Traveler* magazine in 2002. Brill's article was selected for an award from among 1,121 submissions, which were judged by the faculty at the University of Missouri School of Journalism. Brill's article "A Shiver Runs through It," on winter flyfishing, appears in the February 2004 edition of *Men's Health* magazine.

On the Waterfront



Each *Highlights and Initiatives* back page presents a closer look at one of our current projects or activities. This edition focuses on efforts to improve awareness across Tennessee about water-quality issues linked to land use.

continued on back □

On the Waterfront

A collaborative effort relies on education to help curb nonpoint source pollution and improve water quality in Tennessee.

BY CONTANCE GRIFFITH AND DAVID BRILL

“Community planners and engineers can—and should—be trained to consider the impacts land use will have on water quality.”

BETWEEN 1990 AND 2000, Tennessee ranked as the nation’s 14th fastest growing state, according to U.S. Bureau of the Census, with a population increase of nearly 17 percent.

Such rapid growth bodes well for developers and others in the construction trade, but all too often, rapid growth is accompanied by declining environmental conditions, particularly water quality.

Impaired water quality can result from construction-site sediment and debris entering rivers and lakes and increases in pavement and other impervious surfaces, which can contribute to runoff—or nonpoint source—pollution.

But is it a given that growing communities will experience declines in water quality?

Not at all, says Tim Gangaware, associate director of the University of Tennessee’s (UT) Water Resources Research Center (WRRC). WRRC is a subunit of UT’s Energy, Environment and Resources Center.

“Community planners and engineers can—and should—be trained to consider the impacts land use will have on water quality,” he says.

To that end, Gangaware and WRRC Senior Research Associate Ruth Anne Hanahan have partnered with the Tennessee Valley Authority (TVA), the Tennessee Department of Agriculture’s Nonpoint Source Program, the U.S. Environmental Protection Agency, the Southeast Watershed Forum, the communities of Alcoa and Maryville, and Blount and Knox counties to develop and pilot the Tennessee Growth Readiness (TGR) leadership training program.

TGR training aims to build awareness about water-quality issues linked to land use across Tennessee and puts a variety of resources in the hands of administrators to help them address water pollution in their communities. Much of the information provided by the program responds to new Clean Water Act requirements.

“We want communities to grow and prosper as they preserve their water resources,” says Joel Haden, TVA project manager for the TGR effort.

Over the past few months, under the TGR program, Gangaware and associates have been training Tennessee public-works and planning professionals to deliver educational presentations to key land-use decision makers in their communities.

TGR education and outreach materials include leave-behind brochures, “door-opening” letters, detailed maps and other geographic information systems (GIS) documents, a CD-Rom containing all course materials, and pre-packaged PowerPoint presentations tailored to the needs and interests of the specific audiences within a community.

The workshops expose trainees to a range of development options that will reduce negative impacts on water resources without compromising a community’s economic health.

Once trained by the TGR staff, public-works and planning professionals reach out to elected officials, farmers, and other groups whose activities have an impact on water quality, including residential developers and real-estate personnel, commercial developers, and the construction industry.

The Tennessee Growth Readiness project is a charter member of the University of Connecticut’s Nonpoint Education for Municipal Officials (NEMO) program for land-use decision makers.

The Tennessee partners crafted their own version of NEMO in 2001 and launched the pilot program in the Maryville and Alcoa communities and Knox and Blount counties.

“Across the state, 190 planners and public works officials representing 260 communities participate in our training,” says Haden.

To date, the TGR team has presented a series of 11 workshops across Tennessee, from Jackson to Johnson City and including Cookeville, Chattanooga, Columbia, Nashville, and Knoxville.

For more information, contact: Tim Gangaware, WRRC, The University of Tennessee, 311 Conference Center Building, Knoxville, TN 37996-4134, call 865-974-4777, or email <gangwrrc@utk.edu>. Visit the TGR Web site at <<http://tgr.utk.edu>> and the NEMO Web site at <<http://nemo.uconn.edu>>.

