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**Environmental Research And Education Foundation**

*Developing environmental solutions for the future*

901 N. Pitt Street, Suite 270 ♦ Alexandria, Virginia 22314

# Environmental Research and Education Foundation

*Developing environmental  
solutions for the future*



# 2006 Annual Report



*Kevin Walbridge  
Chairman of the Board*



*Michael J. Cagney  
President and Chief  
Executive Officer*

**OVERVIEW:** The Environmental Research and Education Foundation is a public charity incorporated in Washington, DC in 1992. We are the only non-profit foundation in the United States that is developing and evaluating new approaches to manage municipal solid waste.

In 2006 total revenue for the year was \$1,859,659 against expenses of \$719,940 for a net increase of \$1,139,719. At December 31, 2006 the foundation's net assets were \$7,317,378 an increase of \$856,041 over net assets at December 31, 2005.

Since the foundation began operating in 1993, \$6,753,124 has been disbursed in research grants and scholarships in support of our mission to develop environmental solutions for the future.

## Benchmarks achieved by the foundation during 2006 include:

- The Shaping the Future Capital Campaign raised \$2,346,000 toward its objective of building the foundation's endowment to \$10,000,000; at this level the EREF will be positioned to make grants up to \$1 million a year. The campaign is scheduled to conclude in December 2010.
- \$597,550 was disbursed in 2006 to support solid waste research grants to various universities and subcontractors.
- The studies of six doctoral and post-doctoral environmental scientists were supported by EREF, with scholarships totaling \$53,000. Current EREF scholars are studying at Carnegie Mellon University, North Carolina State University, Tufts University, University of British Columbia, University of Illinois at Chicago, and University of Texas at Austin.
- Two research bulletins were published, the first titled *Recent EPA Tests Show that MSW Landfill Gas Quality Improving* was an EREF and U.S. Environmental Protection Agency co-funded research program to test landfill gas quality pre- and post

combustion. Data on raw landfill gas quality will be used to update the AP-42 values that are used for regulatory purposes and data on combusted landfill gas will be used to quantify combustion device emissions (copies of the final report are available at <http://www.epa.gov/ORD/NRMRL/publications.html>).

The second report titled *A Performance-Based Approach to Ending Post-Closure Care at Municipal Solid Waste Landfills: A Procedure for Providing Long-Term Stewardship under Subtitle D* was a project funded by EREF to GeoSyntec Consultants in Columbia, Maryland. The project developed an innovative approach toward evaluating the long-term care needs at municipal solid waste landfills with an emphasis on reducing the long-term threat to human health and the environment. Copies of the report are available by contacting Sarah Stancliff at 703.299.5139 and further information on the project can be obtained by contacting Mike Houlihan at 410.381.4333.

- In the fall of 2005, the EREF Board of Directors created the EREF Research Council to guide and prioritize the foundation's research. During 2006, the council developed a prospectus on the benefits of council membership, a proposed governance structure, and a proposed scope of work for council members.
- On April 6th the foundation held its twelfth equipment auction at WasteExpo in Las Vegas – the event grossed \$810,265 (the net return was \$409,388 a decrease of \$48,052 over 2005); since 1995 the auction, with equipment donations from members of the Waste Equipment Technology Association, has raised \$7,851,099 for the EREF.
- On October 20th the foundation held its Fall Environmental Classic golf tournament at the TPC in Scottsdale, AZ co-hosted by Allied Waste Industries (courtesy of John Zillmer) and Republic Services, Inc. (courtesy of Jim O'Connor). This very successful event grossed \$140,326! Since we began the golf fundraisers in 2003, \$589,941 has been raised in support of EREF

The Environmental Research and Education Foundation is committed to building a bridge for all stakeholders interested in advancing solid waste management practices. We look forward to vigorously pursuing this agenda throughout 2007 and beyond.

*Kevin Walbridge  
Chairman of the Board*

*Michael J. Cagney  
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Executive Officer*



## SUMMARY OF INCOME AND EXPENSES FOR THE YEAR 2006

<b>Income:</b>	
Pledges	\$469,109
Auction (net)	409,388
Golf (net)	96,959
Eagle Club	128,415
Investments	751,913
Other	3,875
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TOTAL	\$ 1,859,659
<b>Expenses:</b>	
Projects	\$597,550
Administration	100,792
Fundraising	21,598
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TOTAL	\$ 719,940
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Change in net assets	\$ 1,139,719



# Grants & Donors



### GRANTS approved or in progress in 2006:

\$92,500 to Joyce Engineering, Inc. to determine the composition, size fraction, and concentration of airborne particles generated from construction and demolition waste processing facilities.

\$65,000 to Virginia Polytechnic Institute and State University (Virginia Tech) for the examination of liquid addition on cellulose and lignin degradation in bioreactor landfills.

\$25,400 to the University of Central Florida for a study on controlling hydrogen sulfide emissions at landfills using autotrophic denitrification landfill biocovers.

\$40,000 to the University of Wisconsin - Madison for a study on the performance of alternative final covers through the exhumation of test sections at various landfills in the United States.

\$26,875 to the University of Illinois at Chicago for performing geophysical monitoring of leachate recirculation and its effects on waste degradation at the Orchard Hills Landfill.

\$100,000 to the University of Manitoba, Canada, for an investigation on the clogging of landfill leachate collection pipes and cleaning strategies at the field- and full-scale.

\$81,200 to the University of Central Florida for characterizing spontaneous fires at municipal solid waste landfills.

\$53,863 to Michigan State University to develop an estimation of field-scale properties of bioreactor landfills for optimum performance.

\$40,000 to the U.S. Environmental Protection Agency (EPA) to investigate the performance of full-scale bioreactor municipal solid waste landfills.

\$27,000 to the Solid Waste Association of North America (SWANA) to develop a body of knowledge, a training course, and a certification examination for managers of bioreactor landfills.

\$65,000 to the Environmental Protection Agency for the development of an internet-based municipal solid waste decision support tool (DST) for North America.

\$66,351 to Michigan State University for field-scale testing of granular blankets for leachate recirculation and monitoring hydraulic performance and temperature at bioreactor landfills.  
\$60,224 to the Environmental Industry Associations to develop a training video for solid waste supervisors on how to reduce employee injuries.

\$531,945 to GeoSyntec Consultants for defining the end of post-closure care at municipal solid waste landfills.  
\$297,970 to R.D. Gibbons, LTD, Terra-Dynamics, Inc. and Severn Trent Laboratories, Inc. for a landfill leachate sampling and characterization study.

\$300,000 to EPA to collect and test municipal solid waste landfill gas as generated and after combustion.  
ing program.

### DOCTORAL SCHOLARSHIPS approved or in progress in 2006:

\$36,000 to Bryan Staley at North Carolina State University for studies on municipal solid waste degradation in landfills.

\$36,000 to Susan DeLong at the University of Texas at Austin for studies on the bioremediation and biological treatment of pollutants to degrade them and waste materials.

\$24,012 to Shahzeen Attari at Carnegie Mellon University for studies on packaging and its ultimate affect on the municipal solid waste stream.

\$24,012 to Monica Danon-Schaffer at the University of British Columbia for a mass balance evaluation of polybrominated diphenyl ethers used as flame retardants.

### POST-DOCTORAL

\$36,000 to Nicole Berge at Tufts University conducting research on groundwater remediation and continuing research on the nitrification/denitrification of bioreactor landfills.

\$24,012 to Solenne Grellier at the University of Illinois for studies on the dynamic water balance and geotechnical stability of bioreactor landfills.

### DONORS

We are pleased to recognize the companies and individuals who have made substantial commitments to EREF:

**CHAIRMANS CIRCLE CLUB**  
*(donations of \$250,000.00 or more)*  
Allied Waste Industries  
Dean L. and Rosemarie Buntrock Foundation  
Environmental Industry Associations  
E-Z Pack

Heil Environmental Inc.  
Labrie Environmental Grp. (Leach Company)  
Mack Trucks, Inc.  
Marathon Equipment Company  
McNeilus Truck and Manufacturing Company  
Donald F. Moorehead, Jr.  
Penton Business Media  
Republic Services, Inc.  
Ritchie Brothers Auctioneers  
Suez Environnement  
U. S. Department of Energy  
Volvo Truck North America  
Waste Management, Inc.

**PLATINUM CLUB** *(donations of \$100,000.00 to \$249,999.00)*  
Autocar, LLC  
Lawrence Beck  
Tom Bowen  
Andy Crawford  
Robert C. Duncan  
George W. Fennell  
Galbreath, Inc.  
Harris W. Hudson  
Poole Family Foundation  
RJM Waste Equipment Company  
Dwight Schaubach

**GOLD CLUB** *(donations of \$50,000.00 to \$99,999.00)*  
Norm Aardema  
Joseph Anstett  
Ave Maria Carite  
Charles Cattaneo  
Centres de Recherches et d'Essais  
DaimlerChrysler Corporation  
EDCO Disposal Corporation  
Groot Industries, Inc.  
H. Wayne Huizenga  
William Hulligan  
David Hyman  
International Baler, Inc.  
Joyce Engineering, Inc.  
K-PAC Division, Krause Corp.  
George Moorehead  
Perkins Manufacturing Company  
PTR Baler and Compactor, Inc..  
Bruce Ranck  
Refuse Parts  
Resource Management Companies  
Harold Rubenstein  
W. Tom Sawyer, Jr.  
SCS Engineers  
SP Industries, Inc.  
Robert Stearns  
Wastequip

**SILVER CLUB** *(donations of \$25,000.00 to \$49,999.00)*  
Patrick Banfield  
Bayne Thinline Premium Lifts Systems  
General Purpose Steel  
Homewood/Nu Way Disposal Service, Inc.  
J. V. Manufacturing Company  
Ronald McCracken  
O'Brian Manufacturing Company  
Palo Alto Sanitation Company  
Pioneer Cover-All  
Toter, Inc.  
Walbridge Family  
Eugene Wingerter  
Zarn, Inc.

**STERLING CLUB** *(donations of \$5,000.00 to \$24,999.00)*  
Izzie Abrams  
ALCOA  
Ameri-Kan  
Michael Cagney  
Cascade Engineering  
Tom Conrad  
General Waste  
Goodyear Tire  
Harris Waste Management Group, Inc.  
IESI  
Kim Kawasaki  
Nu-Life Environmental, Inc.  
Marshall Rabins  
RDK Trucks  
Robert Riethmiller, Jr.  
Schaefer Systems International, Inc.  
Telma, Inc.  
Texas Commerce Bank  
Vermeer  
Kevin Walbridge  
Weaver Boos & Gordon, Inc.