

MSE 2000: Pursuing Energy Sustainability

By Michael Brown, P.E.

Georgia Tech Economic Development Institute

Sustainability is not a new concept, but it is the latest term used to express our relationship with the environment and our responsibility to future generations. As Robert Gilman stated in the quote above, sustainability implies the ability of a society to continue functioning at a consistent level indefinitely. For a community to be truly sustainable, it must consider resources in three areas: economic, environmental and cultural. As we enter the new millennium, sustaining our country's economic growth, standard of living, and quality of life continues to be a source of debate and concern. Achieving sustain development will involve several inter-related concerns: land use planning, transportation, sustainable buildings, and business.

Land use planning impacts sustainability because the way we layout our communities affects transportation patterns. Low-density suburban housing and zoning that restricts businesses into separate enclaves create a heavy reliance on automobiles and highways. This leads to urban sprawl and promotes reliance on transportation. Transportation, whether single driver autos commuting to work, school, or commercial shopping or high speed jet aircraft, relies on fossil fuel. Even the intra-city bus and train and high-speed intercity train are fuel

reliant, although other cultures have demonstrated that this mass transportation can be made fuel-efficient. Buildings used for government, education, leisure, retail and other commercial pursuits are reflective of a culture's standard of living. Applying inefficient energy systems to maintain building comfort is wasteful and negatively impacts sustainability.

Why focus on energy?

Energy is traditionally a non-renewable resource, and consumption patterns are influenced by the way communities are laid out, the transportation vehicles we use, the way we construct buildings, and the types of business and industry that we build. Because energy consumption is central to the concept of sustainability, major effort must be focused on managing energy resources if sustainability is to be achieved.

Efficient energy usage contributes to sustainability in at least two ways: resource conservation and environmental impact reduction. Although renewable energy is the ultimate objective of some suppliers, most sources of energy are non-renewable. Consumption of non-renewable sources of energy like oil, natural gas, coal, and electricity depletes a re-

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Are We Reaching You?

In an effort to make our limited funds go farther, we are doing our best to clean up the Chapter's mailing list. Let us know if we're reaching you! If you wish to continue receiving publications and mailings from our Chapter, simply reply by email to Tommy Sweat at thomas.sweat@gel.com. If you would prefer to receive publications electronically, please indicate this in your email message.

2004 Board of Directors Election Results

We would like to congratulate and welcome the newly elected officers to the 2004 Board of Directors. Joining the Board are

Jill Stachura, *Vice Chairman*

Les Engel, *Treasurer*

Hillary Senser, *Secretary*

Candace Jacobs, *Director*

Also, thank you to all of you who were willing to be nominated -- especially Scottie Alpin and Limari Krebs . There are many other opportunities to help out with GA A&WMA and we would enjoy having you on board in these other capacities.

For more information on becoming more active in the Chapter, please contact Karen Dorman of Global Environmental Solutions at 770-690-9552 or via email at kdorman@gesinc.com.

Membership Offer for Attendees of the Southern Section Conference

From Della Ridley, Chair, Southern Section

I want to thank everyone for attending the annual AWMA Southern Section Conference in Savannah this year. The conference presentations and panel discussions were outstanding. There was excellent support from our sponsors and good participation by exhibitors - all contributed in making this conference a success. The presentations are posted on the newly-expanded GA Chapter web site at www.gaawma.org.

I have a special membership offer for those conference attendees who are not current members of AWMA. If you have not been a member in the last 12 months, you can join now at the **discounted fee of \$100** for the first year. To take advantage of this offer, please complete

the membership application (link below) and forward it with a check for \$100 to the GA Chapter Membership Chair at:

Thomas Sweat
General Engineering
2346 Wisteria Drive, Suite 210
Snellville, GA 30078

http://www.awma.org/members/join/US_Mexico.pdf

Thank you for your continued support of AWMA and we look forward to seeing you at future meetings.

— Della Ridley

Treasurers' Report

Total Reserves for Calendar Year 2003

Checking Account:	\$8,374.44
Certificate of Deposit (CD):	\$8,448.82
Total Assets:	\$16,823.26

2003 Account Summary

Total Income:	\$38,675.00
Total Expenses:	\$38,870.58
Total Loss for the year:	\$ -195.58

2003 A&WMA Southern Section Savannah Conference

Total Income:	\$36,200.09
Total Expenses:	\$34,919.87
Total Profit:	\$ 1,280.22

For more information, please contact Les Engel at (770) 522-9300 or via email at lengel@retec.com, or Jamie Laubenthal at (404) 225-5510.



A Message From the Chair

It's been another wonderful year for the Georgia Chapter of A&WMA!

Hosting the Southern Section A&WMA Conference this summer in Savannah, Georgia was rewarding and we hope that all the attendees enjoyed it too! This year, the Georgia Chapter was also able to award two \$2,000 scholarships to deserving graduate students enrolled at Georgia universities. We also hosted several brown bag luncheon talks on a variety of topics from environmental crimes, regulatory updates, and energy management.

This year's accomplishments were possible due to the generous financial support of our sponsors and exhibitors, and the generous time, effort, and ideas given by our Board Members and other volunteers. A special thanks is given to the following out-going officers of whom most have graciously agreed to help with our efforts for the upcoming year (we must have a fun gang of Board Members!):

- Della Ridley; Solvay Pharmaceuticals – Past Chair 2002 - 2003
- Jamie Laubenthal, Tetra Tech EMI – Treasurer 2001 -2003

- Rochelle Routman, Georgia Power – Director 2000 - 2003
- Tom Bills, Rindt-McDuff – Publications Committee Chair 1997 - 2003

Based on the plans in the works, next year should be another great year. Our one-day annual conference is scheduled for this fall and will include both industry awards and scholarships! And we will have brown bag lunch-time talks throughout the year.

As always, we'd love to hear from you if you'd like to help make this coming year a success. If you're eager to start helping now, please contact our new chair, Brian Queen at bqueen@asi-lab.com or 770/734-4200, or our new vice chair, Jill Stachura at jstachura@brwnncald.com or 770/673-3679.

Finally, may you all have a blessed and peaceful holiday!

Karen Dorman
Chair 2002 - 2003



EPD Updates

If you haven't had time to visit the Georgia EPD's website recently, you may have missed some new publications. In an effort to update our members, the Georgia section of A&WMA will provide information such as EPD updates, article links and press releases. All information is available on the EPD website at www.state.ga.us/dnr/environ.

EPD Press Release 11/13/03: EPD Issues Biennial Report on Georgia's Environment

The Environmental Protection Division (EPD) of the Georgia Department of Natural Resources is releasing the latest in a series of biennial reports on Georgia's water, air and land resources.

Georgia's Environment 2003 chronicles the last two years of environmental progress in the state, and explains the work that still must be completed to achieve EPD goals for environmental quality.

"The report was created to offer all citizens a clear comprehensive look at our environment," said Assistant EPD Director David Word. "It includes the latest data on air and water quality, and also addresses the environmental challenges brought on by Georgia's unprecedented population growth."

Copies of Georgia's Environment 2003 can be obtained by contacting the EPD Director's Office at (404) 656-4713. The report also will be available for viewing, downloading and printing from the EPD Web site at www.dnr.state.ga.us/environ.

Did You Know: Calendar Database Available

GA-EPD's calendar database lists public advisories, meetings, hearings and training workshops held by EPD. Listings can be viewed by county, regulatory area, type of notice or posting date.

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source that can never be recovered. Sustainability can be achieved by effectively managing non-renewable resources and developing renewable supplies.

It's worth noting that fossil fuel consumption contributes to atmospheric pollution. Energy consumption produces thermal, carbon dioxide, carbon monoxide, hydrocarbons, oxides of nitrogen, and sulfur dioxide emissions. These contribute to global warming and photochemical smog. Ultimately, environmental degradation results from the unbridled consumption of energy resources. Consumption can be reigned in through improved energy management. Because energy powers the different functions such as buildings, transportation, business, and industry, efficient usage is mandatory if sustainability is to be approached.

What is MSE 2000 and how does it help?

Energy has been a concern globally since the first OPEC oil embargo in the early '70s. Prior to this time fossil fuels were low cost and plentiful. Energy management and energy conscious design were not a consideration before the embargo because energy was too cheap to be a concern. In reaction to oil supply shortages created during these curtailments, many countries, including the United States, approached energy management from a 'crisis' perspective.

To overcome this crisis mentality, the Energy and Environmental Management Center (EEMC) at Georgia Tech has formulated a management system whose purpose is to achieve proactive management of energy resources. The system referred to as MSE 2000 (Management System for Energy 2000) describes the elements needed to implement a stable management structure that can lead to sustainable improvement in energy efficiency. Because neither technology without management nor management without technology is effective in achieving and maintaining energy efficiency, a structured management system that combines the technical aspects of energy engineering with effective management is proposed.

The cost of energy is the most common unmanaged cost in firms of all sizes. Usually after some energy savings opportunities are implemented and measurable cost savings are achieved, corporate executives are satisfied

that the energy crisis has been addressed and move on to fight other unrelated company fires. Unfortunately, a facility's energy situation isn't static and with resources reassigned to other areas, plant energy efficiency will once again begin to decline. Energy waste is then tolerated until it reaches crisis proportions again, usually five to ten years after the initial energy conservation effort, and the plant reverts to the crisis management mode.

The MSE 2000 management system eliminates this reactive and inefficient pattern of resource management. The system is similar to other management systems such as quality (ISO 9000), automotive quality (QS-9000), aerospace quality (AS-9000), and environmental (ISO 14000) management systems. The advantage of these systems is they define an ordered structure, necessary for avoiding management chaos, without being bureaucratic and sacrificing innovation. The strategic objective of MSE 2000 is to generate continual improvement in energy practice. Georgia Tech engineers are

currently pursuing adoption of the MSE 2000 standard as a national standard by the American National Standards Institute (ANSI).

Conclusion

Energy management has historically relied on crisis management to achieve the short-term goals of cost reduction and conservation. Unfortunately because no management system structure

is part of the crisis approach, the short-term solutions developed do not become part of the organization's culture. Without a formal management system in place, the organization regresses to the pre-crisis state of inefficiency.

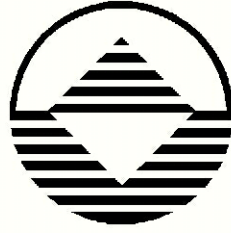
MSE 2000 offers a proactive approach to energy management. Maintenance and operational improvements in energy systems are documented and incorporated into standard practice. With a mandate for continual improvement, MSE 2000 is a method to reduce energy costs, improve operating efficiency, and move toward sustainability. Effectively applied, this management system can help to sustain all of our futures.

Michael Brown is a Senior Research Engineer at the Georgia Tech Economic Development Institute. He has worked in the areas of alternative fuels, energy conservation, and pollution prevention for 20 years. Mr. Brown is a co-developer of the MSE 2000 standard. He can be e-mailed at mike.brown@edi.gatech.edu.

"Sustainability refers to the ability of a society, ecosystem, or any such ongoing system to continue functioning into the indefinite future without being forced into decline through exhaustion. . . of key resources."

-- Robert Gilman, President of Context Institute

BROWN BAG LUNCHEON



AIR & WASTE MANAGEMENT
A S S O C I A T I O N

Brian Queen, Chair

Georgia Chapter

Date: Friday, January 9, 2004
12:00 Noon—1:00 P.M.

Speaker: Tim Cash, Program Manager, Hazardous Sites Response Program
Georgia Environmental Protection Division

Topic: Georgia Hazardous Site Reuse and Redevelopment Act

Location: Powell, Goldstein Frazer & Murphy, LLP
Sixteenth Floor
191 Peachtree Street, N.E.
Atlanta, Georgia 30303
(404) 572-6600

Directions:

From the North: Take the I-75/85 Connector to the Courtland Street exit (#249A). Make a right onto Courtland Street and proceed to the third light. Turn right onto International Blvd. and continue two blocks to the second light. Turn left onto Peachtree Street and continue one block to the first light. Turn left onto Ellis Street. Please note that Ellis is a one-way street. You will pass the entrance to the Ritz-Carlton on the left. The second driveway of the adjacent building is the entrance to the building's parking garage.

From the South: Take the I-75/85 Connector to the International Blvd. exit (#248C). Bear left at the fork in the road and proceed on International Blvd. to the fourth light at the crest of the hill. Turn left onto Peachtree Street and continue one block to the first light. Turn left onto Ellis Street. Please note that Ellis is a one-way street. You will pass the entrance to the Ritz-Carlton on the left. The second driveway of the adjacent building is the entrance to the building's parking garage.

**Please Bring Your Lunch
Drinks Will Be Provided
Guests Welcome**

If you have any questions, please contact Joan Sasine, (404) 572-6647, jsasine@pgfm.com.



Air & Waste Management Association Newsletter is a quarterly publication of The Georgia Chapter of The Air & Waste Management Association.

Our mission is to promote a cleaner, safer environment in Georgia by focusing on air and waste issues. We achieve our mission through information transfer, technology exchange, education and environmental leadership.

Comments or questions about this newsletter or any of the functions of Air & Waste Management Association are encouraged.

Articles printed in the Air & Waste Management Associations Newsletter are intended solely to provide the reader with information on topical issues and to spur discussion on these issues. They do not constitute legal advice and do not attempt to offer solutions to specific problems. Neither Air & Waste Management Association nor any of the contributors to this newsletter are responsible for any loss or damage incurred by any part as a result of reliance on any information provided herein.

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The Georgia Chapter wishes to thank its 2003 CORPORATE SPONSORS



A New Look for the Newsletter!

I hope that you enjoy the new format of the Georgia Chapter's quarterly newsletter. The Chapter greatly appreciates the efforts of Rindt-McDuff Associates to produce the newsletter for the last seven years. I hope to continue their tradition of producing a relevant, timely and useable newsletter for the members of A&WMA Georgia Chapter. If you have any suggestions, comments or questions, please forward them to:

Amanda Kilgore—Editor

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www.gaawma.org