

Environmental Stewardship Initiative

2007 Annual Report

Revised 1/13/09



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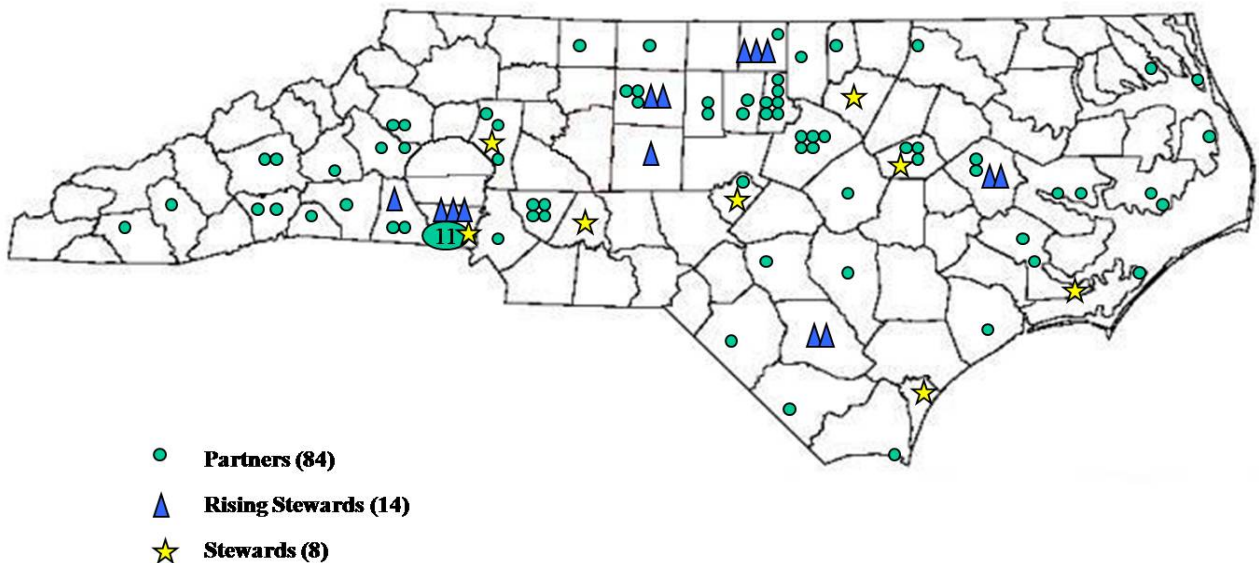
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Executive Summary

The N.C. Department of Environment and Natural Resources' Environmental Stewardship Initiative is a voluntary program that assists and encourages facilities to use pollution prevention and innovation to meet and go beyond regulatory requirements. The ESI takes a unique approach to supplement the current command and control regulatory approach by providing a voluntary, systematic and holistic approach to environmental management.

This approach combines recognition with assistance, training, mentoring and networking opportunities. A three-tiered membership structure of Partners, Rising Stewards and Stewards allows participation from a wide range of regulated organizations. The Partner level helps organizations address compliance issues and have access to assistance while higher tiers require organizations to be models of stewardship, mentoring and educating others. In 2007 ESI membership included 84 Partners, 14 Rising Stewards and eight Stewards.

2007 ESI Participants



ESI members commit to developing environmental management systems that lead to continual improvement and stewardship. In 2007, ESI members set 221 goals covering multi-media regulated and non-regulated impacts including energy and water conservation. Sixty members reported progress toward these goals, resulting in the following environmental impact reductions. Members report reductions after being in the program for one full year.

2007 ESI Members Reported Reductions

	Area	2007 Reported	Units
Reductions	Air Emissions	243	Tons
	Greenhouse Gas Emissions	10,329	Tons
	Hazardous Waste	12.52	Tons
	Landfilled Waste	205,300	Tons
	Energy	28,674,096	mmBtu
	Water Use	83,929,264	Gallons
	Material Consumption	59.60	Tons
	Wastewater Pollutants	0.02	Tons
	Wastewater Volume Reduction	881,690	Gallons
Totals	Biosolids Volume	18,410,000	Gallons
	Total Recycled Volume	23,986	Tons
	Total Cost Savings	\$ 2,961,039	

Reductions and cost savings reported by members demonstrate real results and improvements to the environment in North Carolina. The ESI model addresses environmental challenges through partnerships and a voluntary, comprehensive and innovative approach that benefits both the environment and continued economic growth.

2007 Progress Report

“In an ideal world, regulation is replaced by stewardship, an inherent respect for the environment. In this concept of stewardship, everyone takes responsibility for their actions and the use of resources for the benefit of the community.”

This quote from the DENR Principles of Enforcement is the foundation of the ESI vision. By supporting and encouraging superior environmental performance by North Carolina’s regulated community the ESI vision is to move regulated organizations from a current state of non-compliance and borderline compliance to a future state of stewardship.

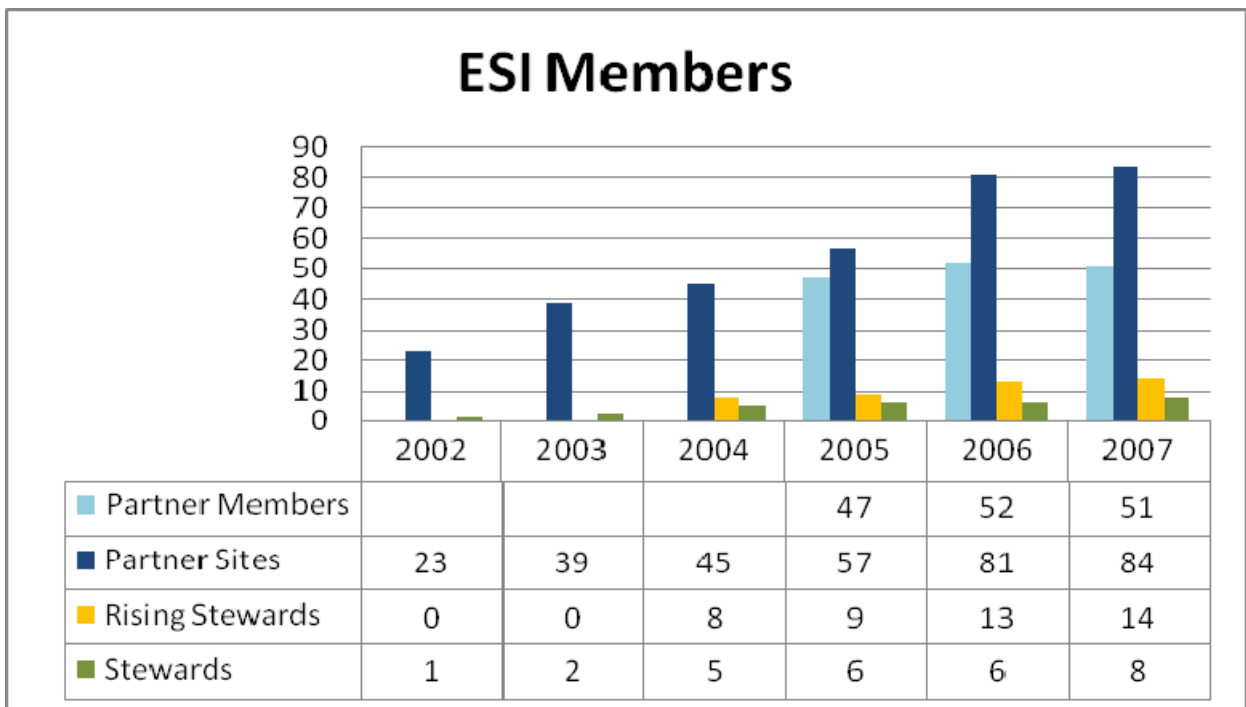
The current command and control regulatory approach to environmental management is necessary in the real world and has led to significant improvements, however it is not practical or fiscally possible for North Carolina to regulate all pollution and consumption of natural resources. The ESI seeks to reduce an organization's impacts beyond measures required by any permit or rule to improve the environment, conserve natural resources and gain long-term economic benefits.

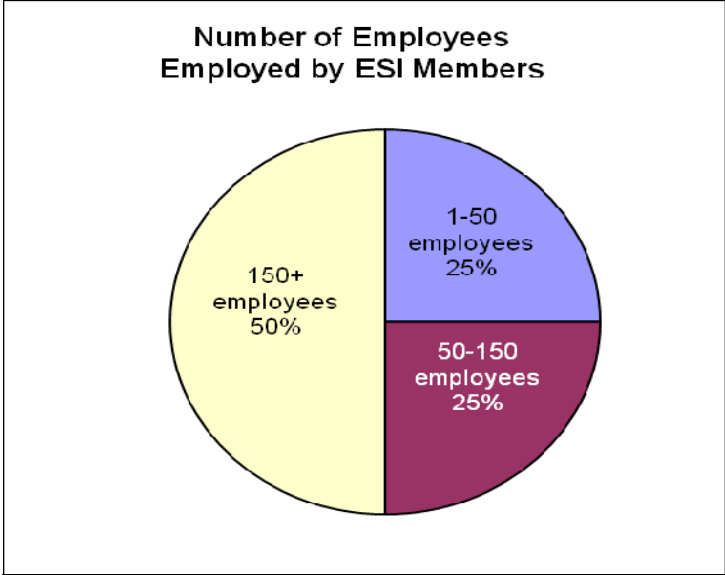
As a requirement of membership, each organization must report annually on their progress toward their goals. This annual report summarizes progress toward the ESI vision. As an environmental program the best measure of progress is reduced environmental impacts, reported annually by ESI members. Starting in 2005, members also began reporting on cost savings from implementing environmental improvements. Starting this year reporting on greenhouse gas emissions reductions is also included.

Achievements

Membership Growth

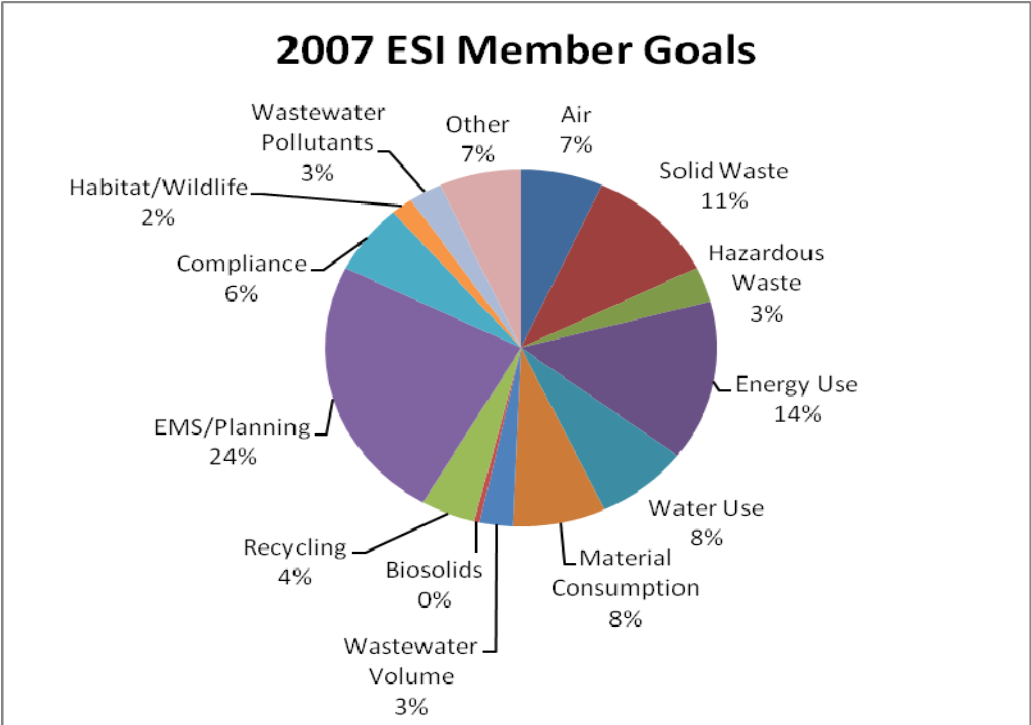
ESI membership has more than quadrupled since it began in 2002, from 24 member sites in 2002 to 107 member sites in 2007. In 2004 a third level of membership was added (Rising Steward). Beginning in 2005, Partner applicants were allowed to submit one application for multiple facilities. Facilities of all sizes participate and 34 members have become registered to ISO 14001 by third party auditors and one has been deemed functionally equivalent by a DPPEA audit.





Member Goals

ESI requires the development of an environmental management system to drive the development and progress toward performance based environmental goals. Members reported on 221 goals that covered multi-media regulated and non-regulated impacts. Fifty-four goals were completed, 41 new goals were set and the majority of the remaining goals are ongoing



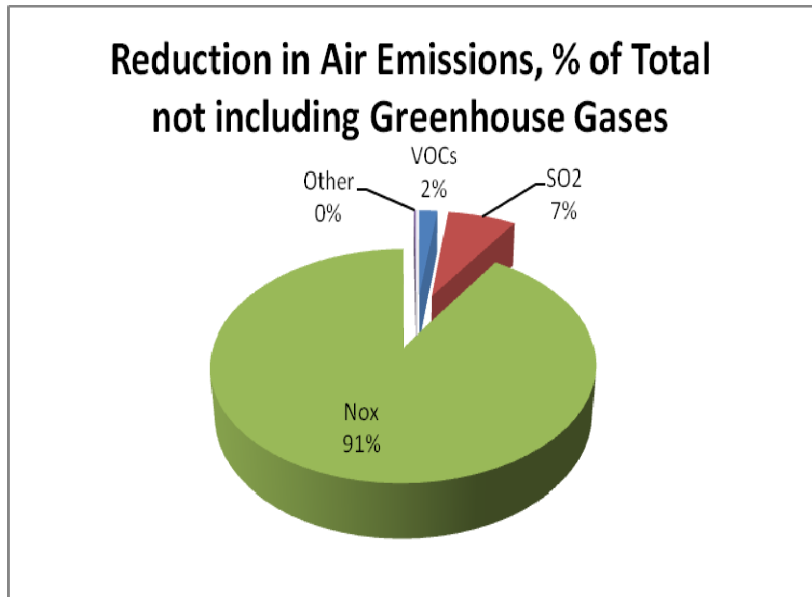
Member Reductions

ESI members are required to report on performance toward environmental goals and reductions in environmental impacts. Sixty members reported progress toward these goals, resulting in the following environmental impact reductions. Members' reductions are included in the final compilation after being in the program for one full year. All reduction data are self-reported by member facilities and are not verified by N.C. DENR.

	Area	2007	2006	2005	2004	Totals	Unit
Reductions	Air Emissions	243	232	208	297	980	Tons
	Greenhouse Gas Emissions	10,329	NA	NA	NA	10,329	Tons
	Hazardous Waste	12.52	405	119	12	549	Tons
	Landfilled Waste	205,300	59,441	82,453	997	348,191	Tons
	Energy	28,674,096	169,349,052	48,451	11,737	198,083,335	mmBtu
	Water Use	83,929,264	591,356,273	54,201,286	369,529,216	1,099,016,039	Gallons
	Material Consumption	59.60	973	37,728	509	39,270	Tons
	Wastewater Pollutants	0.02	400	527	379	1,306	Tons
	Wastewater Volume Reduction	881,690	106,092,200	85,566,162	NA	192,540,052	Gallons
Totals	Biosolids Volume	18,410,000	2,720,350	7,208,691	NA	28,339,041	Gallons
	Total Recycled Volume	23,986	12,594	8,047	10,015	54,643	Tons
	Total Cost Savings	\$ 2,961,039	\$10,393,930	\$12,721,772	NA	\$ 26,076,741	

After EMS and planning goals, reducing energy use and solid waste were the most common goals of ESI members.

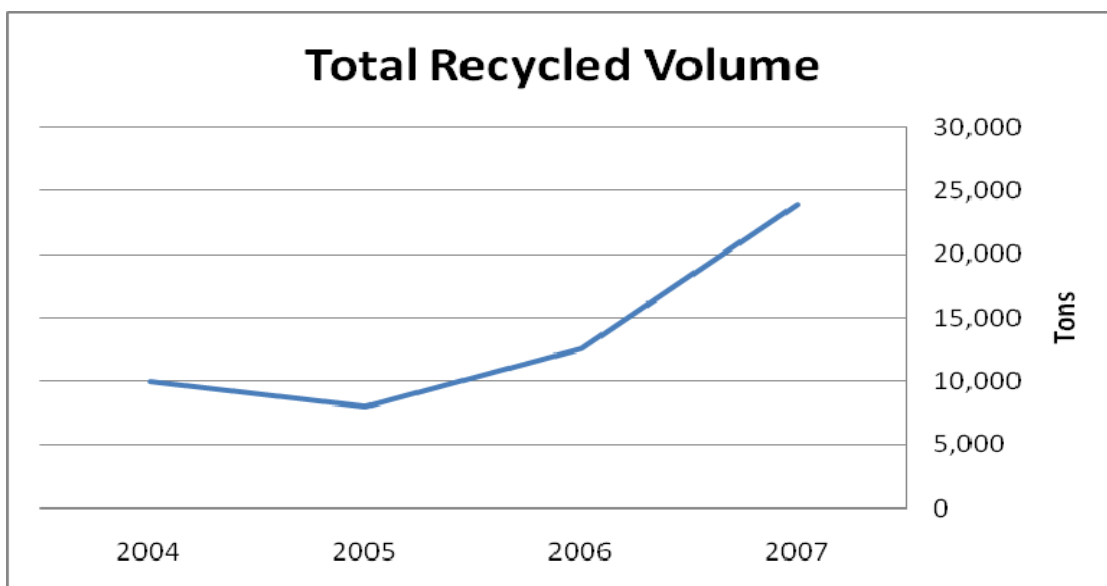
- Twenty-three facilities reported reducing more than 200,000 tons of solid waste sent to landfills through optimizing material usage, composting and recycling.
- Twenty-four members reported reducing consumption of energy (natural gas, propane, oil and electricity) by more than 28 million mmbtus.
- Fifteen members reported air emission reductions of 243 tons. The largest reductions were in nitrogen oxides. Reduced fuel oil usage, process changes, chemical substitutions and improved equipment efficiency were some of the methods used to accomplish these reductions. In addition, one facility reported greenhouse gas emission reductions of more than 10,000 tons.



Facilities also reported reductions in water use, material consumption, wastewater volume, hazardous waste, wastewater pollutants and biosolids.

- Twenty-one facilities reported water usage reductions of almost 84 million gallons through reduced consumption and process water recycling.
- Eleven facilities reported reductions in material consumption including reductions in the use of caustic, acids, paint and pesticides.
- Six facilities reported a wastewater volume reduction of more than 880,000 gallons.
- Five facilities reported reducing hazardous waste.
- Seven facilities reported wastewater pollutant reductions.
- All biosolids reductions were reported by one facility.

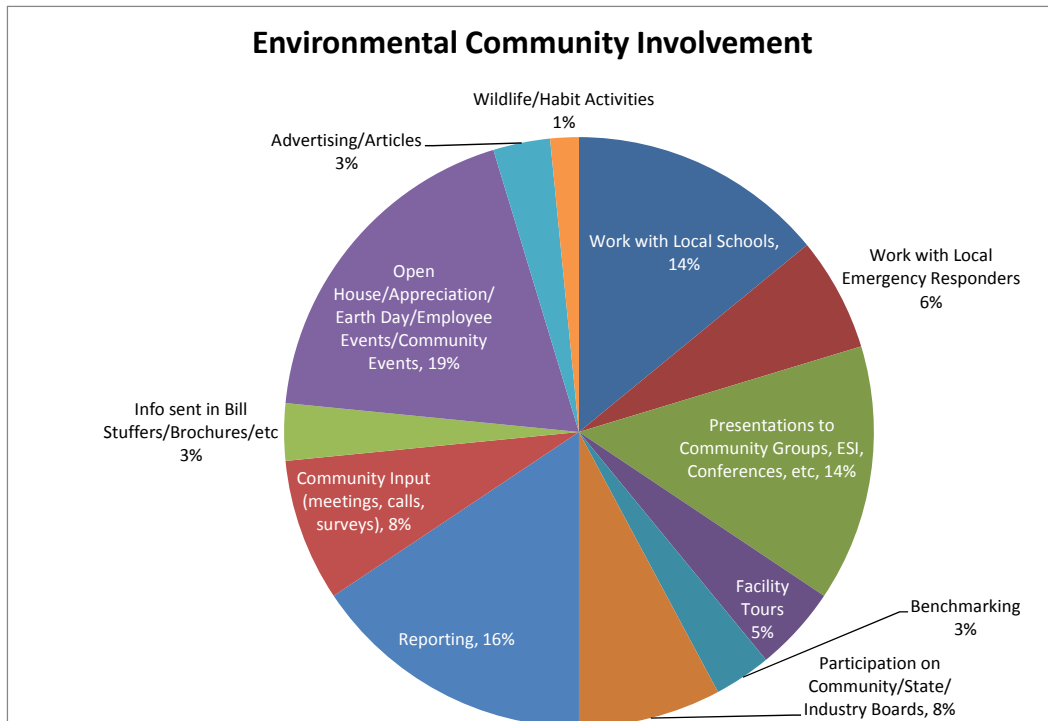
Thirteen facilities also reported a recycling volume of almost 24,000 tons.



ESI members reported savings of more than \$2.9 million in 2007. Savings were reported by 27 facilities and reflected savings from 54 goals. More than \$1 million was saved through energy reductions and significant savings were reported from hazardous waste, solid waste, wastewater reductions and composting.

Energy	\$1,145,867.00
Material Consumption	\$ 290,331.00
Other	\$ 225,000.00
Composting	\$ 367,508.00
Solid Waste	\$ 215,312.00
Wastewater	\$ 248,133.00
Hazardous Waste	\$ 418,345.00
Water Use	\$ 50,543.00
Total	\$2,961,039.00

In addition to reporting on goals, the participants also submit information on their environmental involvement in the community. ESI Stewards are required to communicate with their communities about the environment. Although only the Stewards are required to report these activities, other participants may choose to report their activities as well. For 2007, 64 activities were reported by 44 members.



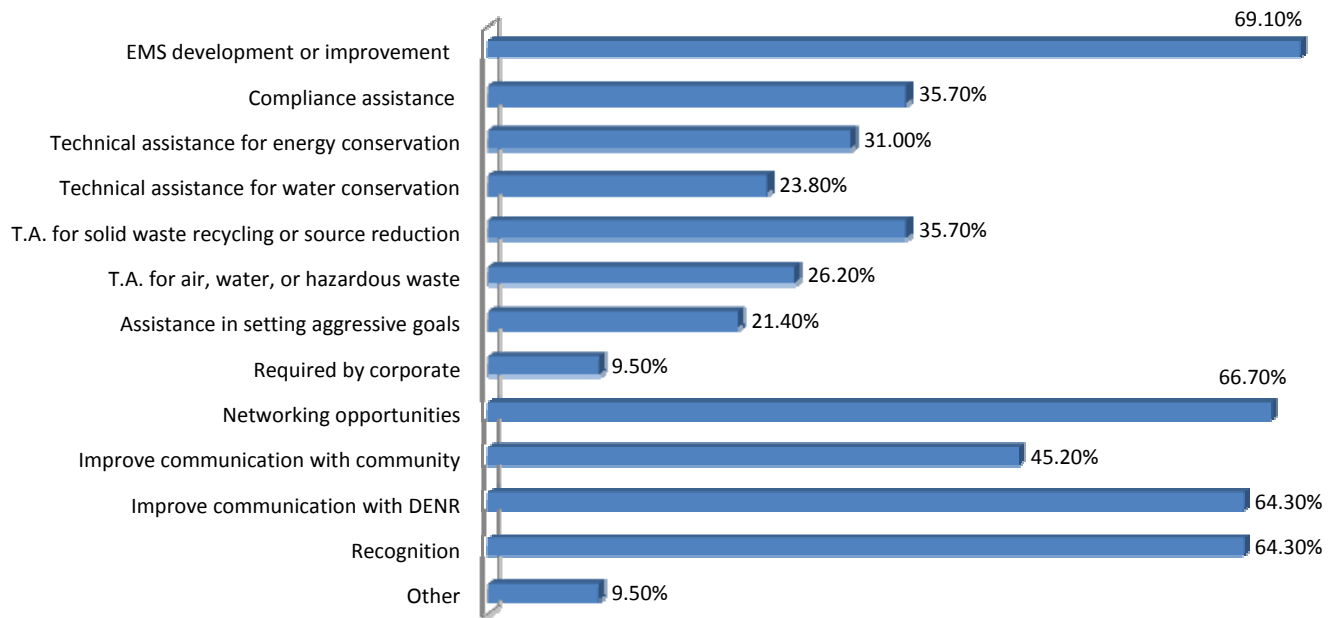
Program Updates

The ESI operates on a limited budget that comes partially from a federal grant and partially from appropriations from the N.C. General Assembly. Following is a breakdown of the budget from the beginning of the program through the end of the 2006-2007 fiscal year. Over the last two fiscal years three full-time employees have been dedicated to the ESI program and four or more other staff members act as coaches and provide expertise as needed.

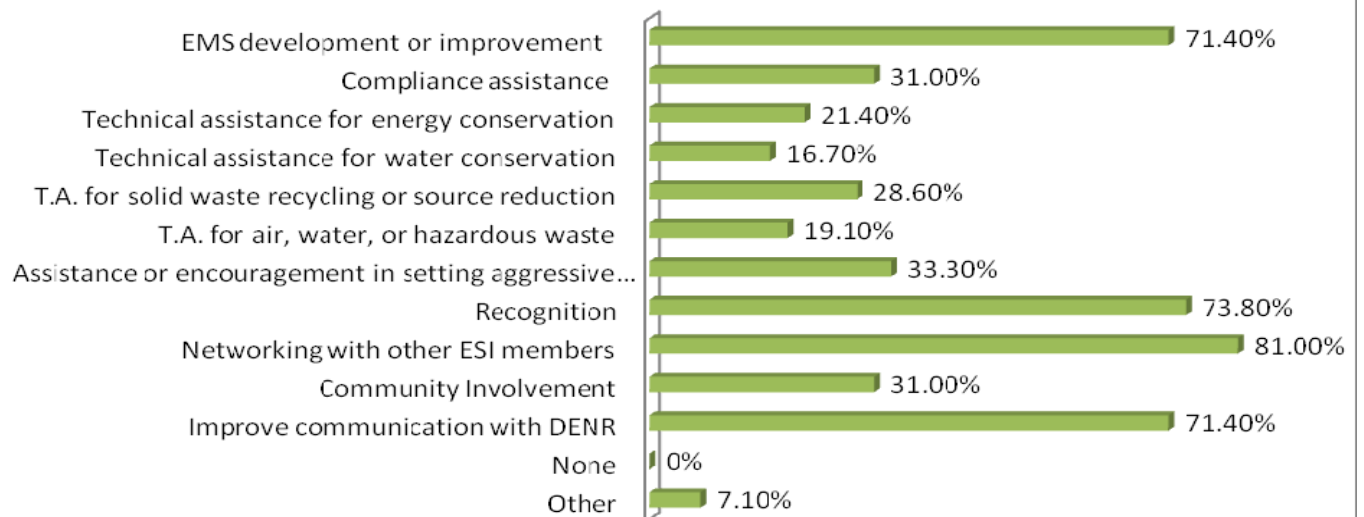
Fiscal Year	Budget	FTEs
2003-2004	\$154,280	2.0
2004-2005	\$212,135	2.75
2005-2006	\$346,810	5.0
2006-2007	\$411,354	5.5
2007-2008	\$417,788	5.5

During 2007 the ESI membership was asked to participate in a survey regarding the program and its benefits. The following graphs summarize the responses from the 42 members who responded. The numbers are represented as a percentage of the total respondents and members were allowed to select multiple answers to each question.

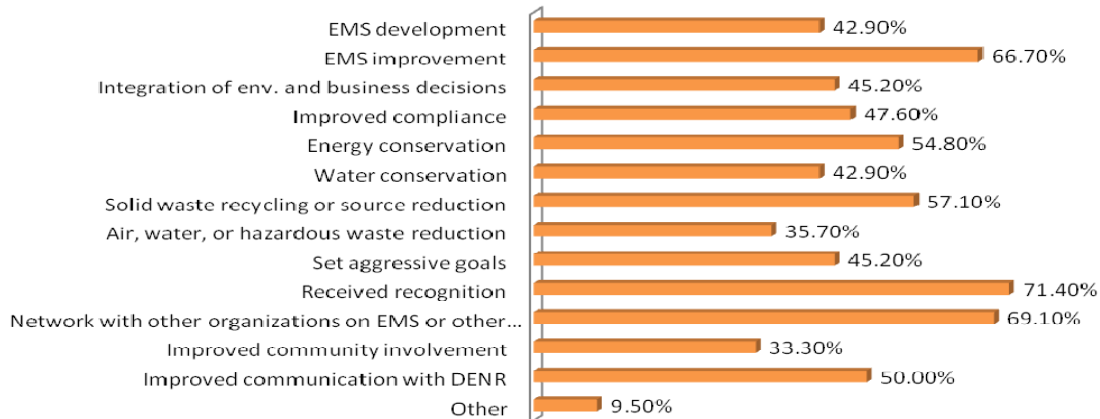
Why did your organization join the ESI?



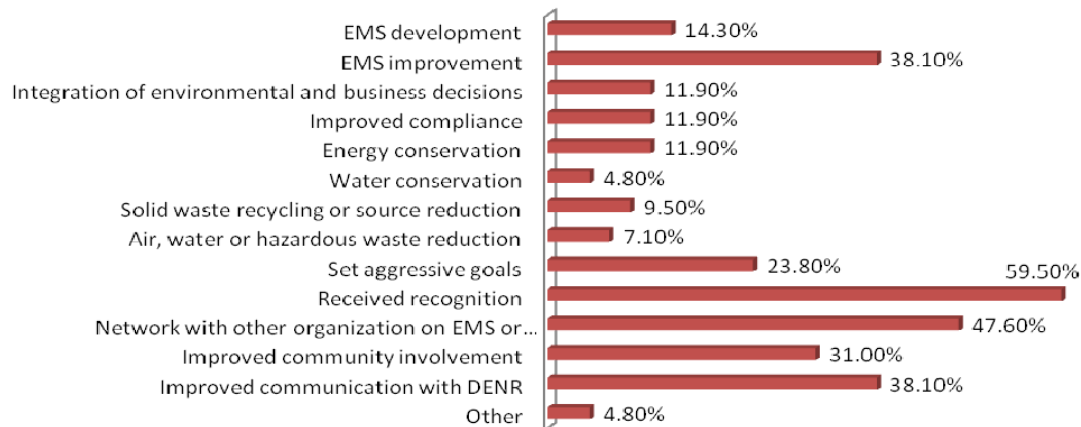
What benefits has your organization received from the ESI?



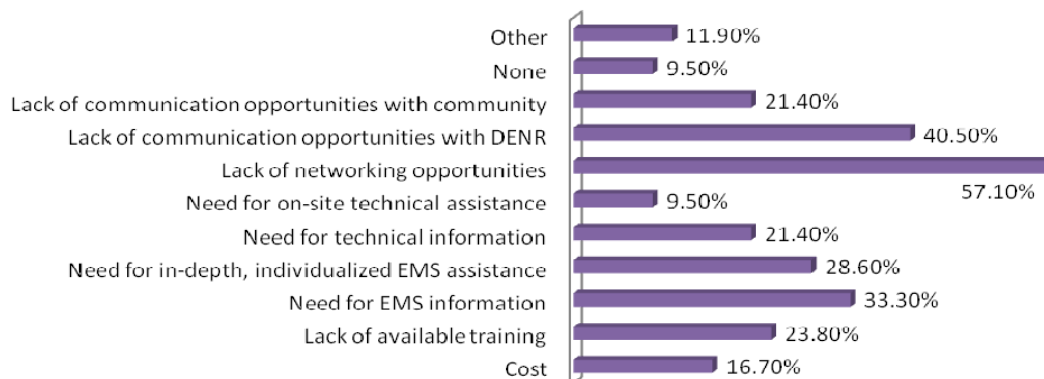
Which of these improvements has your organization accomplished?



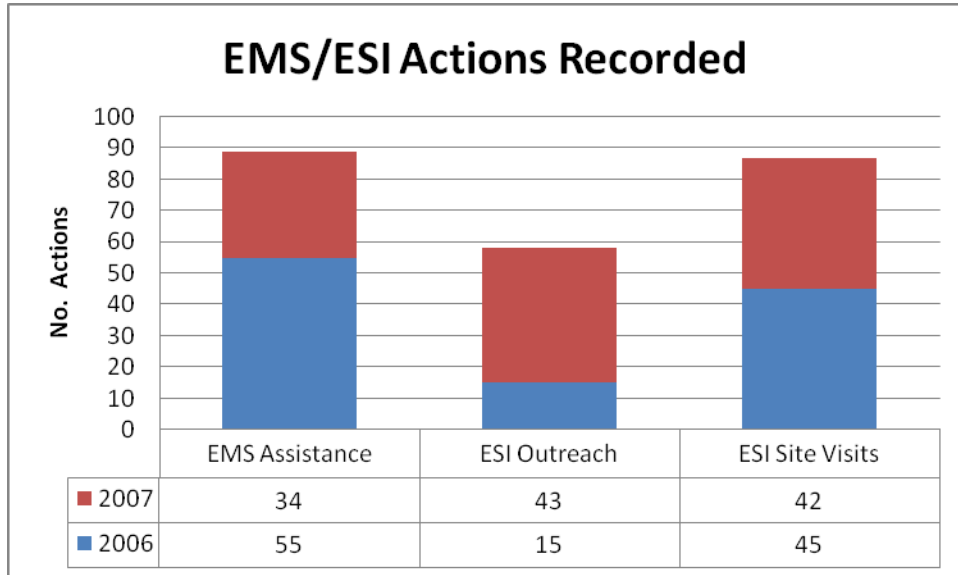
Of the improvements selected above, which would your organization NOT have implemented without the ESI?



Why would your organization not have been able to implement the improvements selected above?



From 2002 through 2005, 560 actions were recorded by DPPEA employees related to EMS development and assistance. These activities included site visits, presentations, meetings and other technical assistance. See the chart below for a breakdown of 2006 and 2007 actions.



Application Review Process

Partner applications are accepted year-round and reviewed monthly. Steward and Rising Steward applications are accepted only during a two-month period starting in March.

Following receipt of an application, an environmental compliance check is completed to determine if the facility has been under environmental criminal indictment or been convicted within the last two years, as well as identify any compliance issues.

The DENR Internal Workgroup reviews all Partner applications and makes a recommendation to the Secretary regarding acceptance into the program. The internal workgroup reviews Rising Steward and Steward applications to provide regulatory and compliance information to the ESI Advisory Board. The internal workgroup comprises representatives from regulatory divisions within DENR.

2007 DENR Internal Workgroup Members

Sonya Avant	Division of Land Resources
Tom Belnick	Division of Water Quality
Jimmy Carter (Chair)	DENR Asst. Sec. for Information Systems/Chief Information Officer
Linda Culpepper	Division of Waste Management
Dale Dusenbury	Division of Environmental Health
David Lee	Customer Service Center
Donnie Redmond	Division of Air Quality/Planning
Paula Hemmer	Division of Air Quality/Technical Services
John Sutherland	Division of Water Resources
David Williams	Division of Soil and Water Conservation

Following compliance review by the Internal Workgroup the Rising Steward and Steward applications are presented to the ESI Advisory Board.

DENR Secretary Bill Ross established an Advisory Board to oversee program development and implementation. Membership consists of manufacturers, industries, industry trade groups, environmental and citizen non-governmental organizations, small businesses, representatives of city and county government, DENR representatives and others as deemed appropriate. DENR Assistant Secretary, Jimmy Carter, chairs the board. Whenever possible, Environmental Stewards are given priority for membership. Membership on the Advisory Board rotates every three years and is capped at fifteen members.

2007 Advisory Board Members

First Name	Last Name	Organization	Representation
Jennifer	Adams	Corning Inc.	Steward - Large Business
Katy	Ansardi	Sustainable North Carolina	Environmental and Citizen NGOs
Kristin	Beck	Progress Energy	At Large
Jack	Blackmer	Novozymes North America, Inc.	Steward - Large Business
Bob	Bruck	NCSU	Academia
John	Burke	ASMO North America	Steward - Large Business
Jimmy	Carter	DENR	NC DENR - Chair
Eric	Henry	TS Designs	Small Business
Preston	Howard Jr., P.E.	MCIC	Industry Trade Group
Matt	Jordan	City of Gastonia	Steward - Local Government
Dan	Miller	FRCE	Steward - Federal Facilities

Rising Steward and Steward applicants receive an on-site verification visit to ensure the EMS is functioning and to gather observations supporting the organization's application. All information obtained through the application and the onsite-verification visit is documented and collated into a report that is presented to the Advisory Board for review.

The DENR Secretary reviews recommendations made by the Advisory Board and makes the final decision. Organizations accepted into the program are usually announced by December.

Membership

Utilizing pollution prevention and other innovative approaches, this voluntary effort offers benefits to members for developing and implementing programs to meet and go beyond regulatory requirements.

Any regulated company or organization that operates one or more facilities in North Carolina and whose activities impact the environment is eligible to participate in ESI. This includes, but is not limited to, manufacturers, businesses, agribusiness, service providers, government agencies, schools and nonprofit organizations. Members can enter the program at any of three tiers: Environmental Partner, Rising Environmental Steward or Environmental Steward. Membership criteria in the ESI vary depending on the tier.

Criteria

The "**Environmental Partner**" level is designed for adoption by a broad range of organizations that are interested in beginning the process of developing a systematic approach to improving their environmental performance. Partner applications may include multiple sites. By Dec. 31, 2007, the program had 84 Environmental Partner sites.

To be considered at the Partner level the following criteria must be met:

- Demonstrate commitment to compliance.
- Set environmental performance goals that include pollution prevention and are appropriate to the nature, scale and environmental impact of the organization.
- Commit to developing, implementing and maintaining an EMS based on ISO 14001 or a functionally equivalent model.
- Not be under any environmental criminal indictment or conviction.
- Agree to report annually on progress toward the organization's environmental performance goals, reductions in environmental emissions and/or discharges of releases, solid and hazardous waste disposal, use of energy and water, and any reportable non-compliance events.

The "**Rising Environmental Steward**" level is designed for those organizations that have a mature environmental management program. Rising Steward applications must be for a single site. By Dec. 31, 2007, the program had 14 Rising Environmental Stewards.

Rising Environmental Steward applicants must meet all Partner criteria and the following:

- Environmental performance goals must be measurable goals adopted into the framework of the EMS, demonstrate annual improvements to performance.
- Demonstrate a mature EMS based on ISO 14001 or a functionally equivalent model. The EMS for the site must be ISO 14001 third-party certified or be reviewed on-site by DENR staff.
- Demonstrate commitment to meet and go beyond compliance.

The “**Environmental Steward**” level is for those organizations that display a commitment to exemplary environmental performance beyond what is required by law. Steward applications must be for a single site. By Dec. 31, 2007, the program had eight Environmental Stewards.

Environmental Steward applicants must meet all Partner and Rising Steward criteria and the following:

- Set aggressive environmental performance goals.
- Have a process for communication with the local community on program activities and progress toward performance goals.
- Demonstrate how the EMS is integrated into core business functions.
- Agree to be a mentor to Environmental Partner and Rising Environmental Steward participants.

Organizations at each level are accepted into the program for a period of five years. Rising Stewards and Stewards are assessed after three years on their progress toward meeting the organization’s overall program goals. An organization may apply for renewal after five years. Partner participants are reviewed annually, through their annual report submissions, to assess progress made toward environmental performance goals and overall program goals.

Benefits

All levels of ESI members are eligible for the following:

- Technical assistance on developing an EMS, pollution prevention approaches, environmental management and treatment technologies, and achieving and maintaining compliance with local, state and federal regulations;
- Specialized training;
- Networking opportunities;
- Recognition of program participation;
- Coverage by U.S. EPA and DENR self-reporting policies;
- A coach and/or single point of contact within DENR; and
- Other benefits as deemed appropriate by the Secretary based on recommendations from the Advisory Board.

Partners have the additional benefit of access to Stewards as mentors where appropriate. Environmental Stewards have the following additional benefits:

- Formal public recognition from the Secretary of DENR that may include use of a program logo, an on-site award ceremony, public announcements and press releases.
- Participation in the Environmental Stewardship Forum chaired by the Secretary and including key department policy makers.
- Priority membership on the ESI Advisory Board.
- Established time frames for permit decisions. This does not change existing public comment opportunities.
- Stewards who have been in the program for at least one year can seek support from DENR to implement regulatory innovations that follow principles outlined in the Joint EPA/State Agreement to Pursue Regulatory Innovation.

Facilities accepted into the program at the Environmental Partner level receive a certificate of recognition signed by the DENR secretary and Rising Environmental Stewards receive a plaque during the annual members' meeting. Environmental Stewards accepted into the ESI receive a personal letter signed by the DENR Secretary. The secretary presents Stewards with a large plaque during an on-site ceremony. DENR highlights members' participation in press releases, the ESI Web site and newsletters. Facilities' achievements are also written in publications by peer facilities and customers, which promote companies' environmental reputations and public relations.

2007 ESI Members

Stewards:



- **ASMO North Carolina Inc. - Statesville**
- **City of Gastonia Long Creek Water Resource Recovery Facility**
- **Corning Inc. - Wilmington**
- **Fleet Readiness Center East - Cherry Point**
- **GKN Driveline- Sanford Precision Forming Facility – Sanford**
- **Michelin Aircraft Tire Co. - Norwood**
- **Novozymes North America Inc. - Franklinton**
- **Smithfield Packing Co. - Wilson**

Rising Stewards:



- **ASMO North America Inc. - Greenville**
- **City of Gastonia Crowders Water Resource Recovery Facility**
- **City of Gastonia Wastewater Treatment Division Biosolids Program**
- **Eaton Corporation - Roxboro Plant**
- **Evonik (formerly Degussa Stockhausen)**
- **Firestone Fibers & Textiles Company, Gastonia**
- **Firestone Fibers & Textiles Company, Kings Mountain**
- **GKN Driveline - Roxboro Facility**
- **NACCO Materials Handling Group**
- **NC Zoological Park - Horticulture Section**
- **RF MicroDevices**
- **Roxboro Steam Plant**
- **Smithfield Packing Company, Inc. Tar Heel Division**
- **Smithfield Transportation Company**

Partners:



- **Advanced Tubing Technology**
- **Alliance One International, Inc. (5)***
- **American & Efird Inc. (10)***
- **Asahi**
- **Baker Furniture (3)***
- **Baxter Healthcare**
- **Borg Warner Emissions/Thermal Systems**
- **BSH Home Appliances**
- **Burt's Bees**
- **Caterpillar**
- **City of Gastonia Fields Operations and Customer Service Center**

Partners: (continued)



- **City of Gastonia Water Treatment Plant**
- **City of Hendersonville Water Treatment Plant**
- **City of Shelby First Broad River Wastewater Treatment Plant**
- **City of Shelby Water Treatment Plant**
- **CMS Building Services**
- **Duke University**
- **Engineered Sintered Components**
- **Fort Bragg & 18th Airborne Corps**
- **Freudenburg Nonwovens (2)***
- **General Electric Co.**
- **Hexion Specialty Chemicals**
- **Hunter Farms Dairy**
- **International Paper - Riegelwood Mill**
- **Kao Specialties Americas**
- **Kapstone Kraft Paper**
- **Marine Corps Base, Camp Lejeune**
- **NC DOT Ferry Division (9)***
- **NIEHS**
- **PSNC Energy Carolinas Inc. (21)***
- **Smithfield Clinton Plant**
- **Smithfield Foods Clayton**
- **Smithfield Packing Co., Elon**
- **Talecris Biotherapeutics**
- **Tredegar Film Products**
- **USCG-Support Center Elizabeth City**
- **Warren Wilson College**
- **WSACC- Interceptor System**
- **WSACC- Mt. Pleasant Water Treatment Plant**
- **WSACC- Rocky River Regional Wastewater Treatment Plant**