



MEMBERSHIP PROSPECTUS

National Council for Air and Stream Improvement, Inc.



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Membership Prospectus National Council for Air and Stream Improvement, Inc.

Executive Summary

The National Council for Air and Stream Improvement, Inc. (NCASI) is a non-profit research institute created by the forest products industry in 1943 and has since evolved into the premier organization producing scientific information needed by the industry to address environmental and sustainability issues. The results of NCASI studies have lowered Member Company regulatory capital and operating costs, improved Member Company communications with customers and governmental and non-governmental stakeholders, and enhanced overall environmental performance by the industry.

NCASI's Member Companies find that results of NCASI research are useful in many different ways:

- Regulations are more rational and less onerous when grounded in, and influenced by, the results of NCASI's credible scientific investigations.
- Access to NCASI resources enables better decision-making by Member Companies in addressing environmental and sustainability issues.
- NCASI's technical support increases productivity and effectiveness of increasingly lean Member Company environmental staff.
- NCASI's forest-related studies are critical to maintain ability of landowners and managers to manage their forests and ensure industry access to a reasonably priced and sustainably produced wood resource.
- Member Company interactions with customers and other stakeholders are more productive because of NCASI's research.

Most of the leading forest products companies in North America are Member Companies of NCASI as are a substantial number of firms that manage forest land. Companies that are not yet Members of NCASI are invited to review this Prospectus and consider the benefits of joining NCASI. The costs and benefits of NCASI membership are described in detail in this Prospectus.

Overview of NCASI

NCASI

What is NCASI?

The National Council for Air and Stream Improvement, Inc. (NCASI) is:

- a non-profit scientific and engineering research organization
- a membership organization predominantly supported by Member Company dues
- an association, wherein companies with similar interests fund activities for the collective benefit of the membership
- focused on environmental and sustainability issues of concern to the forest products industry

What Does NCASI Do?

Research and Information Gathering

Each year, NCASI executes a Technical Studies Program that is guided by industry advisory panels that identify the most pressing environmental issues facing the forest products industry. The program planning process begins with brainstorming by small groups of environmental experts at Member Companies familiar with the industry. The process continues with priority setting by industrial advisory panels representing Member Companies, and culminates in endorsement by the NCASI Board of Governors.

Projects in the Technical Studies Program address issues in

- Air Quality
- Aquatic Biology
- Climate Change
- Corporate Sustainability
- Forestry
- Hydrology
- Recycling
- Risk Assessment
- Solid Waste
- Toxicology
- Wastewater Treatment
- Water Quality
- Wildlife Ecology
- Biological Diversity
- And more...



NCASI staff with expertise in these areas either perform needed studies themselves or oversee research conducted by other experts with NCASI support.



Technical Assistance for Members

Technical assistance is often cited as the NCASI activity that is valued most highly by Member Companies. NCASI provides timely and knowledgeable responses to queries from Member Company staff. Generally, NCASI's technical assistance is designed to respond to short-term needs such as troubleshooting and addressing urgent information needs. Longer-term projects for individual mills or companies are better accomplished through the use of consultants.



NCASI maintains a collaborative working relationship with many national and state/provincial government agency personnel, and NCASI staff are often invited to assist these agencies in interpreting industry processes, operational considerations, costs, etc. associated with rulemaking activities. NCASI is also familiar with permitting requirements and reporting requirements in different jurisdictions and is often called upon to answer questions in these areas.

NCASI's technical assistance takes many shapes and forms, including:

- Input to company responses to regulators, customers and other stakeholders
- Troubleshooting information ٠
- Perspective and training on test methods
- Data on performance of pollution control equipment and best practices •
- **Review of draft permit conditions** ٠

Education and Information Resources for Member Company Staff

In an era where staffing is lean, Member Companies place extraordinary demands on their corporate and mill-level environmental personnel. Meeting compliance and other environmental objectives would not be viable with such lean staffing, absent the productivity enhancers that NCASI provides to Member Company personnel. NCASI provides a current awareness service that alerts Member Companies to changes in regulations and other developments. NCASI also hosts timely workshops and meetings that prepare participants to deal effectively with ever-changing environmental issues, rules and regulations. NCASI webcasts and website delivery afford easy, cost-effective access to personnel who are in remote locations.

NCASI's publications — including newsletters, technical bulletins, and special reports — are essential for use in permitting, reporting and other activities.





The Scope of NCASI's Operations

NCASI's annual budget is approximately \$16 million, most of which is derived from membership dues. NCASI also undertakes a limited amount of externally sponsored research each year, primarily on forestry-related topics. Sponsors of this externally funded work include government agencies, trade associations, individual Member Companies, consortia of companies, and foundations.

NCASI employs over 50 full-time scientists, engineers, foresters and support staff throughout the year, with an additional twenty temporary workers hired each summer to execute forestry-related field studies.

NCASI's Value Proposition

NCASI has been an important industry resource for more than 75 years. This longevity is due to the fact that the annual cost of membership is far less than the value of NCASI's high-quality science in informing regulations, shaping member company environmental and sustainability programs, and assisting Member Company staff.

Research that Informs Policy Scientific Expertise with Trusted Answers

Reliable Marketplace & Stakeholder Support Effective Solution Development

The One-Stop-Shop for All Your Environmental Research Needs Third-party research that is unquestionably relied upon by industry and regulators

Direct Cost Savings Practical Tools Forum for Productive Networking Effective Communications

NCASI's Member Companies

NCASI currently has approximately 100 Member Companies in the United States and Canada and one in New Zealand, all of which manufacture forest products, manage timberlands, or both. In the United States, NCASI members represent approximately 85% of the domestic pulp and paper production, and approximately 55% of the domestic wood panel production. These market shares have been constant over several decades, despite significant changes in the ownership profile in the industry. In Canada, NCASI is a relatively new organization, but has rapidly grown to represent approximately 45% of Canadian pulp, paper, and wood panel production. NCASI members also own or manage 29 million acres of forest land.

On-The-Ground Membership Benefits

NCASI Staff, Tools, and Resource Materials allow Members' employees to:

- Handle more assignments
- Increase technical competence
- Share costs
- Assign less experienced personnel
- Enhance credibility
- Reduce risks
- Draw upon NCASI's deep industry expertise and institutional memory

NCASI also offers a Sustaining Member program for affiliated organizations that do not qualify for regular membership categories. There currently are approximately 30 Sustaining Member Companies, which represent the leading consulting firms and suppliers serving the forest products industry.

Does NCASI Lobby on Behalf of the Industry?

NCASI does not lobby or litigate on behalf of the industry, but rather achieves its goals through generation of credible, reliable and robust technical information which is provided to Member Companies and industry trade associations that work on behalf of the industry. Indeed, NCASI's technical support is often critical to the ultimate success of those lobbying efforts.

History has shown that NCASI is adept at producing information when and how it will have the most impact.

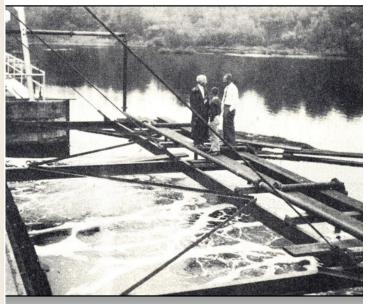
Simply put, NCASI produces the technical and scientific information its Member Companies need to meet the environmental and sustainability challenges they face.



Fact-Based Regulation

Since 1943, regulatory agencies have known they can trust NCASI's science. This has provided opportunities for numerous cooperative studies, including:

- Cooperative work with EPA that led to the virtual elimination of dioxin in mill wastes and products
- Studies with the U.S. Forest Service, U.S. Fish and Wildlife Service and other agencies to examine opportunities and demonstrate that current practices are compatible with sustainability, including water quality, biological diversity, carbon, and related ecosystem services
- Numerous emission sampling studies undertaken in cooperation with EPA



1953 - NCASI Pilot Plant Studies on Waste Treatment at the New York and Pennsylvania Company Pulp and Paper Mill

How Does NCASI's "Good Science" Influence Regulations?

Government agencies that regulate the forest products industry and forest managers rarely have the resources or technical expertise needed to assess the industry and its environmental performance before promulgating rules affecting the industry. The relative lack of information rarely slows the rulemaking process, and rules may be proposed that are based on incomplete or inadequate science.

NCASI is adept at conducting credible scientific studies that are relevant to anticipated rulemakings, and in working with companies and trade associations to inject that science into the rulemaking process. Member Companies and industry trade associations assist NCASI staff in identifying needs for additional scientific information well in advance of emerging rulemaking opportunities. NCASI then undertakes studies in a timely manner so that information is available for timely delivery to agencies. Depending on the circumstance, NCASI may, for example, (i) conduct field studies to characterize existing emissions and discharges or assess species responses to forestry practices, (ii) scrutinize computer models used by agencies to set limits on emissions and discharges or identify habitat for endangered species, (iii) evaluate whether proposed analytical methods are robust enough for use in compliance determinations or, if not, develop new methods, (iv) review the effectiveness of proposed pollution control measures, and/or (v) identify, substantiate, and propose other, less costly approaches to achieve the same environmental objective.

NCASI has an impeccable reputation among regulators as a source of scientific information of excellent quality.

For this reason, and because NCASI's studies are often the only credible studies available to regulators, NCASI's "good science" often has a significant impact on the rulemaking process.

Effluent Treatment Capital Cost Savings in the Billions

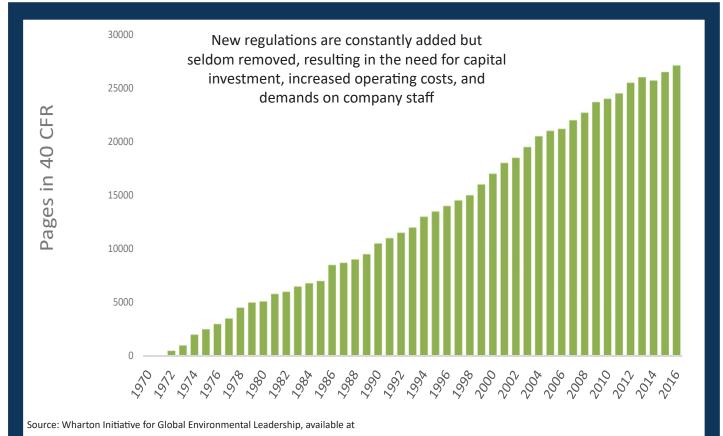
NCASI's good science was persuasive in inducing EPA to adopt effluent guidelines provisions that were strikingly less costly for the industry, while still achieving the desired environmental outcome of virtually eliminating dioxin.



NCASI Lowers Members' Operating Costs

Beyond the substantial cost savings associated with informing regulations, NCASI lowers the cost of environmental management in two additional ways: (i) by sharing the cost of producing generic resources for use by Member Company personnel, and (ii) by providing timely support that greatly increases productivity of Member Company environmental personnel.

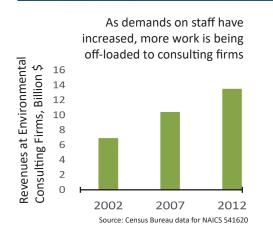
Every company must perform a variety of tasks associated with routine environmental and sustainability operations. The environmental and forestry staff working for most companies are stretched to the limit. Many companies have eliminated specialists and their specialized knowledge, relying instead on a small team of generalists. Forest product manufacturers and forest managers still comply with permit limits, other environmental regulations and best management practices, but there is little time available to reflect on process improvements or cost reduction strategies.



https://whartonigel.wordpress.com/2017/04/10/u-s-environmental-regulatory-trends-past-present-and-future/

NCASI Studies Greatly Reduced Control Costs

When EPA first considered limiting Hazardous Air Pollutant (HAP) emissions from paper machines in the mid-1990s, EPA assumed that paper machines could be enclosed and the vent gases collected and incinerated to reduce emissions of hazardous air pollutants. NCASI data alerted EPA to the fact that HAP emissions were generally too low to justify installation of controls on these sources, and no MACT standards were promulgated for this industry sector.



Fortunately, in this era of lean staffing, NCASI provides a variety of products and services for use by Member Company environmental personnel that increase their productivity and support their efforts in areas where specialized expertise is needed.

NCASI Provides Multifaceted Support for Mill and Corporate Environmental Personnel

- NCASI's staff provides expert technical support to Member Company personnel.
- NCASI's expert technical assistance is prompt, knowledgeable, reliable and provided at no additional cost.
- NCASI provides technical support to state/provincial, regional and national trade associations when that support serves the needs of Member Companies.
- NCASI provides many practical resource materials, such as handbooks, manuals and reporting templates, for use by Member Company personnel in accomplishing their routine work activities.
- NCASI provides face-to-face and web-based training, workshops, conferences, and other resources that enhance the skill set of Member Company personnel.
- Regularly published newsletters, together with access to the content rich, members-only web site, provide instantaneous information to the most remote locations.
- Under its current-awareness service, the NCASI staff monitors international, national, state/provincial and regional initiatives, to identify emerging situations that merit the attention of the membership.



Handbooks

Chemical Reporting

Pulp & Paper Manufacturing Industry Sector

> Wood Products Manufacturing Sector

Analytical Resources & Methods

Workplace Health and Safety

NCASI Helps Sustain Access to the Wood Resource

Many well-funded, innovative, initiatives are dedicated to restricting forest management activities throughout the world. If successful, these campaigns could substantially increase the costs of growing, producing, and purchasing timber. The best response to these campaigns is injecting science into the public debate—science that challenges the questionable claims that would seem to justify such initiatives. Indeed, in many recent instances, NCASI's unbiased science has revealed the environmental efficacy of voluntary initiatives and the scientific inadequacy of many proposed regulatory initiatives that would have imposed unacceptable restrictions on forest management practices.

For example:

• NCASI data supported the extension of the silvicultural exemption for forest management practices under the Clean Water Act. Had the exemption not been extended, forest management activities would have been severely limited in and near wetlands.



- NCASI's extensive studies of threatened and endangered species have helped demonstrate that proposed listings of some species were not necessary and helped reduce the economic impact of requirements to protect other species that have been listed.
- NCASI studies have revealed that forest chemicals, such as herbicides and fertilizers that are essential to modern forest management, can be used safely and effectively.



NCASI's studies have shown that streamside management zones and other forestry "best management practices", which in many states are non-regulatory, are a highly effective approach to protecting water quality and aquatic life in streams and rivers. Results of these studies helped demonstrate that a regulatory program to manage stormwater runoff from forest roads was unnecessary.



Non-regulatory forest management initiatives to protect the environment and biological diversity are under attack due to their voluntary nature. NCASI has helped protect these programs by documenting their effectiveness.



NCASI Helps the Industry Position Its Products in the Marketplace

"The Life Cycle Assessment of U.S. Average Corregated Product results demonstrate the efforts mills and converting facilities are making to reduce the industry's supply chain impact on the environment." - Dennis Colley, CPA Excutive Director

NCASI Assists Members in Responding to Green Marketing Initiatives

NCASI members face growing pressure from customers and stakeholders to report environmental performance and demonstrate that their facilities and products are "eco-friendly." Some of these challenges are addressed at the industry level where NCASI provides in-depth support. Individual companies, however, also benefit from NCASI's expertise. NCASI is an acknowledged expert in areas such as:

- Carbon footprint estimation
- Water profile calculation
- Life cycle assessment (LCA)
- Benchmarking Reports
- Emerging concepts such as the circular economy and natural capital characterization

Staff regularly assist members in applying these concepts and tools for their own purposes.

NCASI's information resources have been useful in responding to green marketing initiatives. For example, NCASI provides companies with tools that enable them to report emissions and discharges using standardized tools, which levels the playing field and deters claims that are based on questionable test methodologies. NCASI also gathers global data on the environmental performance of manufacturing locations and develops this information into benchmarking tools which companies use to understand their performance in the context of the overall industry.

NCASI also provides a platform for engaging non-governmental organizations focused on green marketing campaigns in a constructive, non-threatening dialogue about the technical realities of manufacturing processes and forest management practices. Because NCASI has credibility as an unbiased scientific resource, NCASI is often able to educate non-governmental organizations regarding technical realities, which has led on occasion to moderation of some of the more unworkable demands by these organizations.

NCASI has collaborated with the World Resources Institute (WRI) to develop tools for characterizing greenhouse gas emissions from the forest products sector.

> Calculation Tools for Estimating Greenhouse Gas Emissions From Pulp and Paper Mills

> > Version 1.1 July 8, 2005





"Nuts and Bolts" of NCASI Governance and Operations

Access & Assistance – Benefits of NCASI Membership

Technical Assistance

- Informed, prompt technical assistance by NCASI experts on a broad range of topics at no additional cost
- Assistance in education and advisement of trade association staff on technical aspects of issues facing the forest products industry at the state/provincial, regional and national levels
- Assistance in education and advisement of technical staff at regulatory agencies on technical aspects of issues facing the forest products industry at the state/provincial, regional and national level
- Results of a current-awareness service that identifies federal and state/provincial environmental initiatives and suggests cooperative response when appropriate

Reliable and Timely Research Results

- Technical investigations suitable for use in shaping environmental regulation
- Forestry-related studies that are suitable for use in challenging initiatives that would restrict management of forests and the industry's access to wood fiber resources at reasonable cost

Resources

- An enormous library of publications that chronicle the results of more than 75 years of NCASI investigations, available in both print and digital formats
- A broad range of handbooks, guidance manuals, and reporting templates that facilitate Member Company efforts on a variety of routine environmental tasks
- Newsletters that inform Member Company staff of recent developments in the field of environmental management and forest sustainability

Education and Professional Development

• Workshops, regional meetings, webcasts and other training resources that enhance the skill sets of environmental staff employed by Member Companies

Tools and Methodologies

- Analytical test methodologies that have been evaluated and found to be reliable in the environments unique to the forest products industry, or have been modified (or supplanted) to achieve such reliability
- Computer models and computational tools that are specific to environmental performance in the forest products industry
- Benchmarking information regarding environmental performance of the global forest products industry



NCASI Governance

NCASI operates under the direction and oversight of its Board of Governors, a group of twenty-one senior executives from NCASI Member Companies who serve for three-year terms. Board members are elected by the membership at the Annual Meeting of Members. Each year, the Board elects several of its members to serve as the Executive Committee of the Board, which provides more immediate guidance to the operations of the organization. The Board of Governors delegates the administrative function to the President, who serves as the chief staff officer for the organization.

The Board also appoints a US Operating Committee and a Canadian Steering Committee comprised of senior environmental managers in Member Companies to provide more direct guidance, especially on technical issues in those two countries. The Operating and Steering Committees meet with NCASI senior staff frequently to review progress, plan the research agenda for the coming year, and set priorities for NCASI operations. Several other industry advisory panels are utilized to ensure that NCASI's activities are targeted on industry issues of highest priority, and to ensure that the quality of NCASI's studies remains high.

NCASI is Structured as a Business Enterprise

NCASI is a non-stock corporation incorporated in Delaware in 1943 and is recognized by the Internal Revenue Service in the United States as non-profit organization that is exempt under Section 501(c)(6) of the Internal Revenue Code. This non-profit status has been recognized by Canada, it's provinces and by the states where NCASI has a physical presence. Because of NCASI's exemption status, 100% of revenues from membership dues can be used to accomplish the technical goals of the membership.



∫ NCASI

NCASI Communication with Member Companies

NCASI strives to communicate results of its work in the most appropriate and timely manner possible. The Technical Bulletin series, which is NCASI's primary publication, consists of comprehensive reports that document results of projects executed under the Technical Studies Program. NCASI generates a large variety of other publications and resources as well. These include:

- newsletters
- current awareness memoranda, such as the Corporate Correspondent series
- handbooks and manuals, such as the NCASI Methods Manual and the Toxics Release Inventory and National Pollutant Release Inventory Handbooks for reporting certain chemical releases from pulp and paper operations and wood panel manufacturing operations
- NCASI's web site and other forms of digital communications

Additional tools and forms of communication are available to provide more in-depth and interactive opportunities to receive reliable and timely information.

Peer-Reviewed Journals

NCASI staff and cooperators routinely publish results of technical studies in the peer-reviewed scientific literature thereby influencing discourse within the scientific community about topics of relevance to Member Companies.

Software and Computer Models

As needs arise, NCASI also provides a variety of computer models and other software to assist Member Companies in accomplishing their goals. NCASI models are widely used in areas as diverse as troubleshooting wastewater treatment plant problems and optimizing forest harvest practices. Model development would be too costly for individual companies to undertake on an individual basis but become practical when the development costs are shared among many companies.

Primers and Reports

NCASI has authored two primers on environmental issues facing the forest products industry, one for pulp and paper operations and a second focused on wood panel manufacturing operations. These publications trace the development of regulations affecting the industry, discuss environmental implications of specific manufacturing processes, and review effectiveness of pollution control measures used in the industry. The electronic versions of these reports contain links to background materials, such as statutes, regulations, and guidance documents issued by EPA, that are updated regularly. Although the publications were predicated on the regulatory environment in the United States when they were developed, the process-related and pollution control aspects of these Handbooks are relevant to Member Company personnel in other jurisdictions.



Meetings, Workshops and Webcasts

NCASI holds regional meetings to provide an environmental update for Member Company personnel in the region. Recent results from NCASI research, and issues of regional importance, are discussed. These meetings offer an opportunity for Member Company environmental personnel to interact with others who have similar interests, and to improve their knowledge base.

Additionally, frequent in-person and virtual workshops, webcasts, and seminars are scheduled as needed to provide training and education on critical topics, useful to Member Company staff.



NCASI's Interaction with Industry Trade Associations

NCASI works closely with the American Forest and Paper Association, the National Alliance of Forest Owners, the Forest Products Association of Canada, numerous state and provincial trade associations, and many other industry trade associations, both inside and outside the forest products industry, consortia, and institutions. NCASI, however, is an independent entity with no formal ties to any other organization.

NCASI's relationship with trade associations is cooperative and symbiotic. Trade associations inform NCASI of emerging regulatory issues so that NCASI can plan its research activities to support the anticipated need for technical information. Trade associations are also often the vehicle by which NCASI's science is injected into the rulemaking process.



Types of Memberships and Dues Rates

Types of Membership

NCASI recognizes four categories of membership:

- Regular Membership for companies that manufacture forest products in the United States or manage timberlands in that country
- Canadian Membership for forest products companies operating in Canada
- International Membership for forest products companies operating outside North America
- Energy Companies producing electricity from forest-derived feedstocks

The membership categories are non-exclusive; i.e., a large, multinational forest products company may or may not participate in several membership categories, depending on the location of its production facilities. The dues rates and schedules are different for each category of membership and reflect the effort NCASI mounts to support the industry in each locale.

Over its more than 80 years of operation, NCASI has seen growth in membership to a point where nearly all US companies are members. The commitment to annual renewal reflects the urgency of environmental issues and the importance to the sponsoring industry of access to, and value of, NCASI's resources.

Dues Rates

Member Company dues provide more than 90% of NCASI's revenues in a typical fiscal year. The dues rate schedule affixes charges on a per-unit-of-production basis for manufacturers, a per acre basis for forest owners/managers, and a per ton of wood-derived fuel for electricity producers. In addition, each year at the Annual Meeting of Members, the membership chooses a dues rate multiplier to be applied to that schedule, so that sufficient revenues will be available to fund the Technical Studies Program and other activities for the year. Annual dues are based on company data from the previous calendar year. NCASI's fiscal year runs from April 1 to March 31.

Dues rates are different for each different type of product and roughly reflect the level of support provided by NCASI for that product type; i.e., those products with a larger potential environmental footprint, such as bleached chemical pulping, incur proportionally larger dues assessments. A minimum dues rate is enforced. Annual dues currently range from \$5,000 to over \$2 million. Membership dues in excess of \$350,000 are discounted by 50% and gross dues exceeding \$1 million are discounted by 62.5%. Minimum dues and discounting thresholds are scheduled to increase in coming years.

Membership Agreement

NCASI's membership agreement specifies a one-year notification period for any Member Company that seeks to resign from membership. Another dues-related requirement is that all domestic production must be represented in the dues calculation; i.e., all the production of a multi-facility company must be represented in the dues calculation. An individual facility cannot enroll as a member if other facilities owned by the same company in a given membership category do not participate as members. ¹⁵

Invitation to Membership

Companies who wish to become NCASI Members must complete the application form and submit it to the headquarters office, together with a confidential dues calculation worksheet for the company.

The application (but not the dues calculation worksheet) is reviewed with the Board of Governors or its Executive Committee, one of which must approve the application according to NCASI bylaws. Usually, such approval is pro forma. The Member Company is then notified of approval of the application and billed for the next quarter's dues. Upon payment, the company is immediately eligible to receive technical assistance, NCASI's publications and other resources.



Contact Us

NCASI welcomes the participation of all companies that are eligible to become Member Companies. To assist prospective companies in reaching a decision regarding membership, NCASI's President will arrange a presentation of the benefits and costs of membership at the offices of any prospective Member Company.

To arrange for this presentation, or to request additional information, please contact:

Vipin Varma, President & CEO National Council for Air and Stream Improvement, Inc. 402 SW 140th Terrace Newberry ,FL 32669-3000



