



FIVE YEAR STRATEGIC PLAN

January 1, 2019 through December 31, 2023

2021 Update
For BOT Submittal
May 22, 2021

Jim Fitzgerald, P.E., BCEE
Christian Davies-Venn, Ph.D., P.E., BCEE
Vinio Floris, P.E., BCEE
Steve Kadivar, Ph.D., Eng., BCEE
Curtis Miller, P.E., BCEE
Benson Pair, P.E., BCEE, ED
Lilia Abron Ph.D., P.E., BCEE, Liaison
Wendy Wert, P.E., BCEE

TABLE OF CONTENTS

1	INTRODUCTION	2
1.1	Background	2
1.2	Scope.....	2
1.3	Current Situation	3
1.4	Living Document.....	4
2	VISION AND MISSION STATEMENT	5
2.1	Vision	5
2.2	Mission.....	6
3	GOALS AND IMPLEMENTATION	7
3.1	Tier 1 Goals.....	7
3.1.1	Goal 1: Increase Membership by 1,425. [Membership, Development, and Outreach Committee]	7
3.1.2	Goal 2: Significantly Increase the Academy’s Profile in the Professional Community [Seminars and Workshops Committee; Membership, Development, and Outreach Committee].....	10
3.1.3	Goal 3: Maintain Membership Retention Rate [Membership, Development, and Outreach Committee].....	12
3.1.4	Goal 4: Develop Alternate Sources of Funding [Revenue Generation Workgroup; Finance Committee; Seminars and Workshops Committee]	13
3.1.5	Goal 5: Develop More AAEEES Workshops and Seminars [Seminars and Workshops Committee]	14
3.1.6	Goal 6: Make the Environmental Engineering and Science Foundation a Partner of AAEEES [AAEEES Members on the EEF Board of Directors/Trustees].....	15
3.2	Tier 2 Goals.....	16
3.2.1	Goal 7: Develop Demand for Certified Environmental Engineers and Environmental Scientists in the User Community [Membership, Development, and Outreach Committee].....	16
3.2.2	Goal 8: Educate K-12 and College Students on Environmental Engineering and Science Careers [K-12 Committee].....	17
3.2.3	Goal 9: Improve Membership Diversity [Diversity Task Force]	19
3.3	Tier 3 Goals.....	20
3.3.1	Goal 10: Upgrade of the Environmental Engineer and Scientist Publication [Publication Committee].....	20
3.3.2	Goal 11: College Programs	20
3.3.3	Goal 13: Support Volunteers.....	21
3.4	Performance Metrics	21
4	FIVE YEAR FINANCIAL PROJECTIONS	24
4.1	Status Quo.....	24
4.2	Sensitivity Analysis	25
	APPENDIX A.....	26
	LIST OF ACRONYMS.....	28
5	ADDENDA	30

1 INTRODUCTION

1.1 Background

Up until 2007, the American Academy of Environmental Engineers and Scientists (AAEES) was operating on a year-to-year basis without an overall long-range strategic plan. An exercise to codify the Academy’s activities via written Policies and Procedures resulted in a requirement that the Academy be guided by a Strategic Plan. The long-range Strategic Plan is a living document designed to provide AAEES with guidance and flexibility in its growth strategy to obtain optimal results.

1.2 Scope

The scope of this plan includes all new or expanded AAEES activities from January 1, 2019, through December 31, 2023. This plan provides prioritized goals, guidance on implementation, and financial projections.

Routine continuing Academy operations are not in the scope of this plan. Table 1 summarizes Academy activities that are judged to be in the maintenance mode and therefore not included in the scope of this plan. That is, these activities do not need changing or upgrading.

Table 1. Routine Academy Activities Not Included in the Scope of this Strategic Plan

Activity	Responsible Party	Comment(s)
ABET Accreditation	ED and Academy Representative to ABET	
Exam Maintenance and Revisions	Various Examination Committees under the direction of the Development and Upgrading of Exams Committee	Exams are generally in good shape and each committee has a viable review and revision procedure to keep them current.
Admissions	Admissions Committee	Has well developed procedures for properly vetting applications for certification.
Member Compliance with Continuing Education Requirements	Re-certification Committee	Has well developed procedures, reliably implemented.
Awards	Awards Committee, Honorary Member Selection Subcommittee, and Brewster Snow Student Selection Committee	Procedures and practices in good shape.

Academy Finances	Finance Committee, Audit Committee & ED	Well established procedures, including outside audit of Academy books to ensure proper financial operation.
Board Operations	ED; Bylaws, Policies and Procedures Committee; Nominating Committee	Two meetings per year organized by staff and supported by President of the Academy.
Certification by Eminence	Certification by Eminence Committee	Has well established and successful procedures for finding Eminence candidates.

Note - ED = Executive Director

1.3 Current Situation

The Academy has about 1,861 members, with a constrained, balanced budget that requires careful management and provides very limited potential support for major new initiatives.

A rough breakdown of our membership is: Consulting ~ 67%, Government ~ 16%, Academia ~ 10%, Retired ~3%, and all others ~ 4% (unknown or NGOs).

Currently, the Academy has the following on-going activities:

- Annual certification application appraisal and examinations.
- Continuous upgrading and development of specialty certification exams.
- Recognition of significant individual contributions to the field of Environmental Engineering and Science via an individual awards program, and certification by eminence.
- Annual Excellence in Environmental Engineering and Science (E3S) project competition and awards and Environmental Communication Awards.
- Communication with the membership through the Highpoints newsletter, the Environmental Engineer and Scientist quarterly periodical, LinkedIn and Facebook social media.
- Services to the Environmental Engineering profession through the development and publication of the Environmental Engineering Body of Knowledge and the Environmental Engineering and Science Selection and Career Guide.
- Coordination with student chapters.
- Serves as the lead organization for ABET accreditation of academic Environmental Engineering programs
- Operation of an on-line job matching service.
- Kappe lecture series.

- Webinar Series, Regional Seminars, Workshops, and related activities.
- Exhibitions at Sponsoring Organization and other related organization conferences.

The Academy has 12 sponsoring organizations (SOs), which provide limited in-kind support. The Academy has a place for any environmental engineer or environmental scientist to belong as a member.

Membership Categories:

Years of Experience	Possesses a PE License	Does not Possess a PE
<0	N/A	Individual Student Member, Tau Chi Alpha Member, Student Chapter Member
0-4	N/A	Member
4-8	Member	Member
8+ *	Board Certified Environmental Engineer (BCEE)*	Board Certified Environmental Engineering Member (BCEEM)* or Board Certified Environmental Scientist (BCES)*

Note - An engineer or scientist can become certified without a written examination if the individual has at least 16 years of Environmental Engineering or Environmental Science experience

** Includes individuals selected by eminence.*

1.4 Living Document

This document covers a five-year interval - a long planning horizon in the life of any organization. Circumstances can and will change, and changes should be implemented by Academy staff and Academy Standing Committees and Working Groups with strong oversight by the Executive Committee (EC). The EC should review progress versus Tier 1 goals quarterly, and Tier 2 and 3 goals on a rotating basis as the EC meets. ***It is the responsibility of the Executive Committee and Executive Director to review this plan annually and direct the Planning Committee to make changes where appropriate. Otherwise, it is the responsibility of the Planning Committee to review and update the Plan no less frequently than bi-annually.***

Progress versus plan should also be a standing Board of Trustees (BOT) Meeting Agenda item. The metrics shown in Appendix A should be used as an annual evaluation tool. Also, the BOT should insist on reports from every existing committee and working group of the Academy for each BOT meeting. These committees and working groups play a large and critical role in the implementation of this plan.

2 VISION AND MISSION STATEMENT

Figure 3-1 shows the hierarchy of the strategic planning approach from aspirational to specific and tangible.

Figure 3-1: Strategic Planning Approach



2.1 Vision

Leadership and excellence in environmental engineering and science.

The Five Interconnected Grand Challenges that we are facing in the 21st Century, as identified by the National Academies of Sciences, Engineering, and Medicine were considered when setting the long-term, aspirational direction for the Academy these are shown in Figure 3-2.

Environmental Engineers and Scientists are central to addressing these interrelated Grand Challenges, therefore it is the mission of the Academy to prepare professionals to address these complex environmental challenges we are all facing.

Figure 3-2: Five Interconnected Grand Challenges of the 21st Century

Five Interconnected Grand Challenges 21st Century

1. Sustainably supply food, water, and energy
2. Curb climate change and adapt to its impacts
3. Design a future without pollution and waste
4. Create efficient, healthy, resilient cities
5. Foster informed decisions and actions



2.2 Mission

The mission of AAEEES is:

Protecting public health and the environment by:

- Recognizing leadership and excellence through board certification of environmental engineers and scientists.
- Providing professional development opportunities for students, engineers, and scientists.

Figure 3-1 shows the relationship between the plan goals and AAEEES's mission statement. The goals are prioritized according to the following criteria:

- How does the goal lead to progress toward the vision?
- What is the positive effect of the action on membership recruitment?
- What is the positive effect of the action on membership retention?
- How much does the activity add to the scope of activities of the Academy?
- What is the net financial benefit (additional revenue minus additional out of pocket costs) of the action to the Academy?

These factors were weighted and used to develop priorities. Priorities are applied as follows:

- It is assumed that the Academy will pursue all of the priorities.
- However, should money or personnel be constrained, the order of priorities will be followed from highest to lowest to determine allocation of resources.

- Whenever possible, the Academy will coordinate with other organizations with goals consistent with our Vision and Mission.

There are 12 goals, organized into 3 tiers (High, Medium, and Low respectively). The title line for each goal indicates the Academy Committee with responsibility for action in this area.

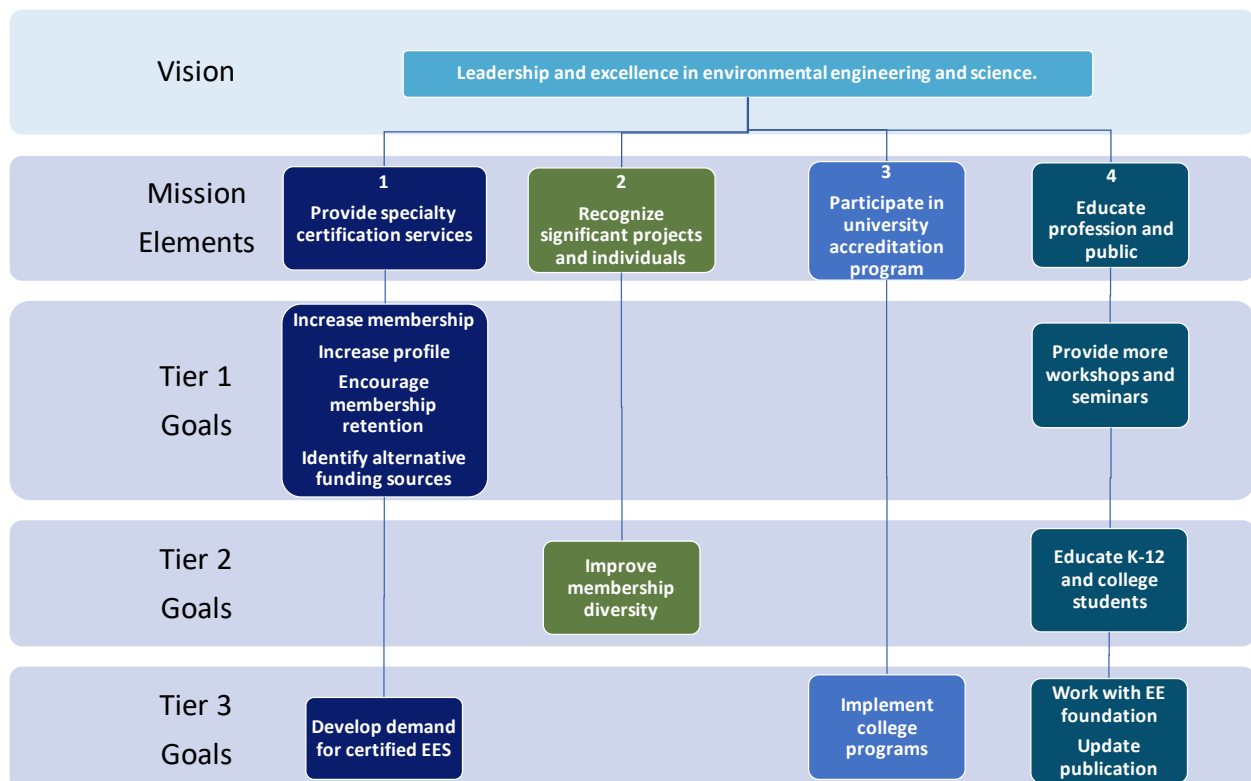
3 GOALS AND IMPLEMENTATION

This section provides general guidance to the AAEEs Executive Director (ED), Board of Trustees, Standing Committees, and Membership of the Academy on the methods to be used to reach each goal. This section of the Plan conceptually defines tasks and schedule with some guidance on resources needed to effectively implement each goal. The Academy’s Executive Committee along with the ED should review progress on implementation of this plan on a quarterly basis (concentrating on priority one goals) and recommend actions to keep the plan on schedule. These goals do not include routine activities as mentioned in section 1.2.

3.1 Tier 1 Goals

3.1.1 Goal 1: Increase Membership by 1,425. [Membership, Development, and Outreach Committee]

Figure 3-3: Strategic Plan Goals



An expansion in the membership of the Academy is considered to be the first priority. Incremental costs of supporting new members are less than their dues, allowing for the funding of additional programs and services for the membership and the environmental profession. Approximately 70 percent of the Academy's gross income is certification fees and dues. Because of the Academy's resource, constraints, goals are allocated as follows:

- The Membership Committee must work with the ED to develop effective outreach strategies for each membership classification and each target sector listed below in coordination with the Admissions and Eminence Committees. Increasing membership diversity is an important component in developing the outreach campaigns. Therefore, the Membership Committee should obtain input from the Diversity Work Group in the development and implementation of the campaigns.
- The ED and staff must provide support to the committees.
- The Eminence Committee must serve as the primary recruiter of Certified Engineers and Scientists by Eminence.
- The membership, Trustees, and State Representatives must be mobilized to help with all recruitment activities.

Target sectors include the following:

Consulting Firms - Historically the largest membership sector of the Academy. Some firms have programs to encourage their staff to obtain certification. A relatively large percentage of the Academy membership resides in a handful of firms. The Membership Committee must determine what makes the Academy attractive in certain firms and use this in developing outreach strategies to firms that have low participation in the Academy. Outreach materials must emphasize inclusivity and benefits through the duration of careers (sequence of membership classifications, e.g. Member followed by BCEE, BCES or BCEEM). Members of the BOT and State Representatives (SRs) can be used to make personal contacts with key consulting firm managers to stimulate interest. Consideration should be given to establishing a "speaker's bureau" consisting of volunteers who are willing to give short presentations to consulting firm staffs. The Membership Committee will provide a template for such presentations.

Academia - A substantial part of the membership base with room to grow, particularly with the inclusion of non-PEs and Environmental Scientists into Academy membership, an issue that was addressed by the creation of the BCEEM and the BCES. Closer coordination with AEESP and ASEE and outreach to professors will help in making them aware of these non-PE classifications.

Students - The Membership Committee, in coordination with the Students and Young Professionals Committee, must develop an informational program that is appealing to students (electronic and paper) that emphasizes the benefits to students, includes student testimonials, and information on how to form a chapter. Social networking mechanisms should be utilized. There should be regular articles in *The Environmental Engineer and Scientist* that address the student perspective. This could begin with inviting graduate students to describe their career objectives, projects, curricula, etc.

Additional student chapters need to be formed through the efforts of the Membership Committee. A mentoring service that pairs BCEEs/BCEEMs/BCESs and students must be developed. A program to provide BCEE/BCEEM/BCES speakers at student chapter meetings and possibly provide informal meals at student events should be developed.

Government and Public Agencies (Federal, State, and Local)- There is room to grow at the Federal level (EPA, DOT, DOD, FEMA, NASA, CDC), and State environmental regulatory agencies, transportation departments, and health departments; and at local/regional operating agencies. As in the case of consultants, a small number of agencies have a large AAEES presence. The Membership Committee must determine the factors that make AAEES attractive in those agencies and develop outreach materials that emphasize those factors. The viability of a local market is unknown, but large environmental departments in cities like New York, Chicago, and Los Angeles etc. should be explored. BOT members and SRs should be relied on to make personal contacts.

Private Industry - There are about 100 members in this category. The Membership Committee should evaluate the potential for growth in this area and, if appropriate, develop appropriate outreach materials.

The methods to be used for all of these target sectors include:

- Develop or improve a well thought out *What's In It for Me* message for potential members. The committee has created a video on the value of certification. This video needs to be updated and reshot to include a broader demographic range. The updating of this video should be annual or biennial. Greater effort should be placed on marketing this video and this should be carried out by staff.
- Annually, the period between October and the following March must be utilized intensely to provide outreach materials to all segments of the industry to stimulate interest in applying for certification (BCEE/BCEEM/BCES). Outreach to other member categories should continue throughout the year.
- Develop membership drive tagline and recruiting program that offers rewards for existing members who recruit new members. Use all AAEES resources (Environmental Engineer and Scientists, website, mass email) to advertise the competition.
- Place announcements in SOs national regional and state level electronic and hard copy publications.
- Use the BOT, State Representative, Committees, and members at large to actively participate in recruiting. Provide straightforward materials and actions that support effective recruiting. Provide easy access to links on AAEES website to enter names of individuals to be nominated for membership.
- Expand and re-emphasize the Professional Development Program
- Develop and use of non-member mailing lists, possibly provided by SOs.
- Simplify the application process at all membership levels.
- Use of State PE Boards to obtain lists of PEs who may be considered for certification- some of this information is publicly available.

- Advertising-Print and Web.
- Trade Shows.
- Periodic surveys of potential members.
- Lapsed member campaign.
- Development of recruiting activities with selected non-sponsoring organizations, e.g., Society of Military Engineers.

The increases in membership goals are broken down as follows:

<i>By end of Year</i>	<i>Net New BCEE/BCEEM/BCESs</i>
2019	150
2020	200
2021	275
2022	350
2023	450

The goal numbers must be met in addition to any attrition that may occur.

3.1.2 Goal 2: Significantly Increase the Academy’s Profile in the Professional Community [Seminars and Workshops Committee; Membership, Development, and Outreach Committee]

A key factor for the future success of the Academy will be to increase the Academy’s profile in the professional community. This community includes the municipal, industrial, consulting, academic, and governmental sectors. The Academy’s programs and value will be greatly enhanced by emphasizing the value of AAEEES publications such as the Environmental Engineering Body of Knowledge and the Selection and Career Guide and by testimonials and encouragement from visible and respected Environmental Engineers and Scientists and State Representatives. The Academy should also increase the involvement of senior leadership from the sectors above, increase regional activities and increase interaction to the extent possible with the Academy’s SOs and their regional chapters.

The tasks, schedule, and resource needs are described in the following table:

Task	Due Date	Resource Needs
Conduct regional meetings, conferences and workshops (PDHs and CEUs)	Jan 2019 -- Dec 2023	Workshops and Seminars Committee; Meetings are self-funded; Staff-4 weeks per year
Emphasize the Value of the AAES BOK and continue to upgrade the periodical	Dec. 2022	
Systematically pursue the development of AAES Student Chapters beginning with programs that have faculty active in AAES	Jan 2019 -- Dec 2023	
Obtain email lists, and begin offering webinars regionally and nationally	Jan 2019 -- Dec 2023	Workshops and Seminars Committee; Staff with assistance from SOs.
Poll the SO leadership to determine their perception of the value of Academy certification and how the Academy could increase its value to the SOs and their members.	Annually: Jan 2019 -- Dec 2023	Membership Committee and Staff Executive Director with input from various committees
Academy ED and President/Officers should meet with SO executive directors and presidents and attempt to establish personal relationships. Where appropriate, certify SO EDs and officials by eminence.	Jan 2019 -- Dec 2023	ED and President or available Officers
Maintain booths at SO conferences as budget allows. (e.g., WEF, A&WMA, AEEESP, AWWA, AIChE, ASCE, NSPE, etc). Try to get donated space.	Jan 2019 -- Dec 2023	~2k per conference; Volunteers when possible; Staff -3 days per conference
Advertise Academy opportunities in as many SO publications as possible and track opportunities and results to the extent possible.	Jan 2019 -- Dec 2023	Membership Committee; Sponsoring Organizations; Donated space; Staff-3 days annually. This needs to be coordinated with SOs publication schedules to allow space in the Jan/Feb timeframe each year
Increased involvement with senior leadership from the professional community in E3S Awards, Public Utilities and Professional Development Programs	Jan 2019 -- Dec 2023	Awards Committee; Officers; Staff- 2 weeks per year

Identify SOs with significant government affairs activities and offer to serve as a resource	Jan 2019 -- Dec 2023	Academy Staff to coordinate
--	----------------------	-----------------------------

SOs targeted for Governmental Affairs assistance would include any with a relevant need for Environmental Engineering or Environmental Science related expertise.

To increase the Academy’s profile in the professional community, it will be necessary to involve the senior leadership of these communities in Academy membership and activities, and to obtain positive testimonials from them. This effort will be greatly enhanced by increased emphasis on the Certification by Eminence Program. This program remains important, realistic, achievable, and necessary for increasing the Academy’s value to the professional community and to the society we serve.

Testimonials should also be obtained from eminent members to be used in the Academy’s standard recruiting materials.

A number of successful regional activities are already underway. With support from the Workshops and Seminars Committee, the Academy’s SRs, and staff, the Academy could greatly increase the involvement of its members and increase the value of the Academy by providing informal luncheons, dinners and technical conferences, seminars, and workshops where PDH’s could be awarded. These activities can be self-supporting.

The Academy should seek to enlist senior leadership support and participation from all AAEEES Sponsor Organizations.

Finally, in order to increase the Academy’s profile in the professional community, the Academy needs to strengthen its relationships with the senior leadership of the various sectors of the professional community. One of the Academy’s most prestigious and valuable activities is the annual awards ceremony. Inviting the leadership (including non-Academy certified) of the professional community to this event would provide an excellent opportunity to showcase the Academy and to increase the Academy’s profile. In addition, an increased profile in the professional community will be achieved by increased emphasis on the Public Utilities Program, which encourages public agencies to use AAEEES certification for employees and in selecting consultants. Similarly, strong support is needed for the Professional Development Program, which encourages consulting engineering and science firms to increase their membership. Involvement of the senior leadership from these sectors (including non-Academy members) would provide great dividends.

3.1.3 Goal 3: Maintain Membership Retention Rate [Membership, Development, and Outreach Committee]

The attrition rate for members is currently very low (2 ½ to 3% per year). The implementation of many of the actions defined by this plan will help maintain this low rate. Supplementary annual actions:

- Define the number of members lost each year in all categories.

- Contact each lost member and define the reason for the loss. Use an “exit interview” template to develop consistent information.
- Feedback results to the Membership Committee
- Develop appropriate actions.

3.1.4 Goal 4: Develop Alternate Sources of Funding [Revenue Generation Workgroup; Finance Committee; Seminars and Workshops Committee]

The Academy is funded through membership dues and admissions processing (67%), revenue from the Who’s Who and Selection Guide (11%), the E3S contest (8%), contributions (4%) and other miscellaneous sources (10%). There is considerable variability from one year to the next in both contributions and the E3S Awards sponsorships. Generally, the Academy’s budget is constrained and nearly three fourths of the revenue is received in the first quarter of the year. The fact that more than 90% of the Academy expenditures are on nondiscretionary line items inhibits it from providing additional member and professional community services.

Recognizing that the Academy should work to diversify its sources of funding away from heavy reliance on member dues, a Revenue Generation Workgroup was formed. This workgroup was tasked with identifying and evaluating potential revenue generation ideas (outside of member dues) that could be implemented to increase the funds available for furthering the Academy’s mission. This workgroup, which was initiated in the year 2010, completed their initial brainstorming and evaluation of potential workgroup ideas in 2012. Based on the group’s work, a detailed listing of revenue generation ideas was created and can be obtained from the chair of the Revenue Generation Workgroup. These concepts include seminars/webinars for sale on PDHonline.org, generation of online books from Academy members’ inputs, preparatory courses and webinars for AAEEES certification, pursuit of more sponsorship packages in support of major Academy events, and several other concepts.

Of these ideas, the concept that gained the most traction was the implementation of on-line webinars for professional development hour (PDH) renewals. An agreement with the company PDHOnline.org was reviewed and accepted by the workgroup, and was subsequently approved by the AAEEES Board in late 2012.

Given the progress made during the execution of the previous strategic plan, the strategic activities related to Goal #4 under the current plan are as follows:

- Maximize the PDHOnline.org concept
- Continue to convene the Revenue Generation Workgroup on at least a quarterly basis.
- Enact at least one (1) additional revenue generation concept for full use by AAEEES members per year.
- Increase net income to AAEEES by up to 10% per year, based on 2011 budget base year.

Management: Specific responsibility for goal setting, monitoring, evaluation and reporting needs to be assigned. The Finance Committee should work in conjunction with the Revenue Generation Workgroup.

A task of developing a plan for alternate revenue initiatives and revisions should be developed in advance of the budget. Then as the quarterly financial reports are reviewed by the Executive Committee, progress relative to the alternative revenue plans should be evaluated.

3.1.5 Goal 5: Develop More AAEES Workshops and Seminars [Seminars and Workshops Committee]

A Workshops and Seminars Committee has been formed to stimulate creation of events that provide training and networking opportunities for the environmental engineering and science community. These have taken the form of workshops and technical sessions in conjunction with Sponsoring Organization national conferences and stand-alone AAEES regional events. Subjects covered in these events have been broad so that multiple disciplines within the environmental profession have been served. These have included workshops at WEF conferences and AWWA conferences on the subjects including climate change, California's water crisis, reclaimed water, and environmental management in shale gas development.

AAEES workshops and seminars serve the environmental engineering and science community, enhance the reputation of AAEES, and potentially generate income for the Academy. Revenue generation should be an important consideration in planning these events.

The biennial AEESP conference involved participation by AAEES in developing the program and in conference attendance. The Academy should contribute by helping to develop one or more technical sessions at this conference. This would be a task for the Workshops and Seminars Committee. The membership of AEESP has strongly suggested that they would prefer more participation by practitioners in the conference, and AAEES is well positioned to fill that void. This conference may have access to NSF funding. AAEES should work with AEESP to develop an annual conference for Environmental Engineering Departments and Program Chairs with the goal of having the first conference in 2012. In even years this would be a stand-alone conference. In odd years it would become part of the AEESP Biennial conference.

If the experience and demonstration of capacity to develop workshops and seminars continues to grow within the Academy, consideration could be given to organizing a national Environmental Engineering and Science conference. This could possibly grow out of the successful E3S conference.

One of the major impediments to expanding the number of certified members of AAEES is the fear of taking an exam without adequate preparation, particularly late in a career. In contrast to PE exams where opportunities for training are plentiful, there is little material available from the Academy on how to prepare for the exam. The Academy has a rudimentary Study Guide that could be updated by adding more references and additional examples of exam questions. The Committee should also evaluate the feasibility of providing an exam preparation course in the form of a webinar, CD based internet download etc. These would be for sale, as is the current Study Guide. This would be a joint effort with each certification specialty's exam committee. Serious consideration should be given to doing this by webinar given the geographical dispersion of candidates for certification.

A major concern for these activities will be to provide PDHs and CEUs for the attendees. Many States now require engineers to earn a certain number of PDHs or CEUs during each licensure cycle. AAEES should make a concerted effort to be a standard source for these continuing education credits for environmental engineers.

Additional consideration should be given to organizing webinars or providing live web coverage of AAEES workshops and seminars to further leverage the benefits of these events to the environmental engineering and science community and to generate additional revenue. PDHs should also be offered when possible.

The workshops and seminars are considered to be in addition to the breakfast and lunch meetings that are presently held at national and regional conferences provided by AAEES SOs.

3.1.6 Goal 6: Make the Environmental Engineering and Science Foundation a Partner of AAEES [AAEES Members on the EEF Board of Directors/Trustees]

The Environmental Engineering and Science Foundation (EESF) is a publicly supported charitable organization that is exempt from income taxes under Section 501(c)(3) of the Internal Revenue Code. It exists as an adjunct supporting organization to the AAEES, and provides a mechanism for Members of AAEES, and other individuals and organizations to make tax deductible contributions for approved AAEES educational initiatives. Accordingly, the Foundation receive manage and invest funds for the benefit of Academy programs that relate to education. However, the funds disbursed by the EESF must interface with specific AAEES activities, which will utilize these funds. The EESF believes that fund raising will only be effective if the purpose and results are clearly articulated.

However, it should be understood that the EESF is not a funding agency but, rather, a vehicle for AAEES members to gain tax advantage with their charitable giving as it relates to the educational aspects of environmental engineering and AAEES activities. In short, EESF has no sources of funds beyond those provided by AAEES members, and restricted endowments. Accordingly, the Academy should more actively notify its members about EESF.

Currently, and specifically, donor funds received by EESF can be designated for general purpose use, or directed to the following:

Fund	Fund Purpose
Brewster Snow Fund	Funds support an annual award to a graduate student
W. Wesley Eckenfelder	Endowment, the investment proceeds of which are disbursed by direction of the Fund’s managing group
Fredrick G. Pohland Metal	Endowment, the proceeds of which are utilized to support the annual award of the Pohland Medal

Items of Mutual Agreement

Currently:

Foundation has received its IRS determination as a publicly supported charitable organization that is exempt from income taxes under Section 501(c)(3) of the Internal Revenue Code. According to the Foundation President, this determination will have far-reaching implications for the Academy, because the EESF can raise funds for the benefit of Academy programs that relate to education. However, the funds raised by the EESF must interface with specific AAEES activities, which will utilize these funds. The EESF believes that fund raising will only be effective if the purpose and results are clearly articulated.

For example, EESF funding could support university participation in the Excellence in Environmental Engineering Awards program, work of the Academy's Education Committee, and other activities including management of funds for the Brewster Snow award. Funds from this foundation can free up some existing AAEES funds for other non-educational purposes.

To date the Academy's BOT has agreed to promote the EESF as its "fund raising agent" for the K-12 initiative and include an EESF solicitation form in the annual AAEES renewal package. The EESF is also represented on the Academy's Strategic Planning Committee. This illustrates the integration needed between AAEES activities and the EESF. Other areas of collaboration based on this functional relationship need to be defined and further developed.

The Foundation has developed a website which links to the Academy's website. The Academy's Executive Director serves as a liaison to the Academy's BOT. The EEF Board of Directors and the Academy's Executive Director should work together to make the EESF more visible to academy members via enhanced representation on the AAEES website and increased representation at major Academy functions.

3.2 Tier 2 Goals

3.2.1 Goal 7: Develop Demand for Certified Environmental Engineers and Environmental Scientists in the User Community [Membership, Development, and Outreach Committee]

The demand for the services of Board Certified Environmental Engineers (BCEEs), Board Certified Environmental Scientists (BCES), and Board Certified Environmental Engineering Members (BCEEM) should be driven by the understanding of the user community that BCEEs, BCESs, or BCEEMs make a difference. At present, only a few organizations using consulting environmental engineering services recommend, that their consultants have a BCEE or BCEEM on the project team (The BCES program is too new for this at the present time). An example is the Sanitation Districts of Los Angeles County. Users include local, state, and regional governmental agencies (Sanitation Districts, regulatory agencies, DOE, DOD, EPA, Army Corp of Engineers, DOT), industry, and commercial enterprises.

The basic strategy is as follows:

- Work with well-placed Academy members to define how to approach each of these sectors. The objective is to provide preference to the use of BCEEs, BCEEMs, or BCESs.

- Develop language to be used in procurement documents (RFPs) that encourages the use of BCEEs, BCEEMs, and BCEs.
- Using this information, approach each sector in a methodical manner, and provide information on how to implement the use of RFP language provided by the AAEEs.

Task	Due Date
Form subcommittees of Membership Development and Outreach Committee to work on this goal	Complete
Update existing presentation on how to implement the Academy’s RFP language	Complete
Develop approach to Scientific/Science-focused professional groups	12/31/2021
Update approach to Public Agencies	12/31/2021
Implement face to face discussions, attend trade shows etc. to get education started	Ongoing
Develop an approach to regulatory agencies	06/15/2022
Develop a recruitment plan that ties into above initiatives	Ongoing

3.2.2 Goal 8: Educate K-12 and College Students on Environmental Engineering and Science Careers [K-12 Committee]

In order to fulfill its vision and mission statements, AAEEs needs to engage in STEM (i.e., Science, Technology, Engineering, and Math) programs at a local level through the state regional coordinators to promote the value of Environmental Engineering and Science and what it is, as well as to those college/university students enrolled in or contemplating Environmental Engineering the benefits of Environmental Engineering or Environmental Science as a career; this can be accomplished through printed and web based materials, availability of speakers, including working and coordinating with other organizations with similar goals and missions.

One goal is to make this educational effort known to all members so that if they know of or later become aware of some information beneficial to the committee, they will remember to contact the committee, either directly by e-mail or through an easy web link.

- Restart / reactivate / re-focus the committee and solicit assistance and participation from the general membership. This can be accomplished by:
 - Regular mention in AAEEs’s Highpoints and have link for easy response.
 - Article (or “ad”) in every issue of *Environmental Engineer and Scientist*

- Continue development of a page on AAEES web site and keep it up to date, with a link for easy response.

- Obtain information on other organizations which share the same or similar goals and missions as AAEES, especially if they have existing educational outreach programs [Note: This effort aids other AAEES goals too, e.g., increasing membership, increasing recognition.], e.g.:
 - Sponsoring organizations (such as APWA, WEF, ASCE), including any local or regional chapters.
 - Honorary societies (e.g., Chi-Epsilon, Tau Beta Pi, Phi Kappa Phi)
 - Colleges/universities with outreach programs into the communities
 - Mentoring Program
 - Possible ways to gather this information include:
 - Request specifically BOT members and SO's (via their BOT representative) for information
 - Request members for suggestions via Highpoints and Environmental Engineer, e.g.:
 - Does your employer have any type of educational outreach program?
 - What organizations [e.g., government (local, state, or national), authorities, educational institution (elementary, mid high or senior high public or private schools, college, etc.), honorary societies, private firms, non-profits, religious institutions, “grass-roots” organizations, others (e.g., Scouting)] do you know that presently do any type of educational outreach in the environmental field?
 - Do you have a contact in a local school administration? Your alma mater? Any of the preceding types of organizations, whether on national, regional, or local level?
 - Web searches
 - Either modify the AAEES application and renewal form or request submittal of a supplemental sheet with relevant information which would assist AAEES in fulfilling its Strategic Management Plan.

- Endeavor to develop rapport or relationship with “allied” organizations (national, regional, or local), either formally or informally. Have reciprocal web links. (The availability of free AAEES student memberships for qualified individuals may be construed as incentive by some organizations as they can offer it as a service to any student members.)
- Endeavor to develop rapport or relationship with existing educational programs, after assessing the applicability of their programs with AAEES’s vision and mission. [This should be easiest with SO’s, which should feel obligated to do so.] At a minimum, AAEES should strive to have existing relevant programs mention the words “Environmental Engineering”, “Environmental Engineers” and “Environmental Scientists”. A more intense relationship would be to actually co-author programs or actively assist in promoting them. AAEES could have reciprocal web links with these programs.
- Develop comprehensive listing of available resources from all sources that promote Environmental Engineering and Science and place on AAEES web site.
- Develop list of educational speakers, whether from AAEES or other organizations.
 - Solicit volunteers from members

- Publicize AAEES’s availability of speakers among; “Allied” organizations, organizations presently with environmental educational program, SO’s and regional, chapters, and Members.
 - “Allied” organizations
 - Organizations presently with environmental educational program
 - SO’s and regional/local chapters
 - Members
- Participate in special events, e.g., USA Science & Engineering Festival, Engineering Week programs, when possible.
- Coordinate activities with AAEES’s Engineering Foundation.
- Develop educational information, e.g.:
 - If there appears to be a “gap” in availability of information after researching existing programs, whether age or topic related.
 - If there is a specific demand from members, meet it.

3.2.3 Goal 9: Improve Membership Diversity [Diversity Task Force]

This goal can be achieved by following a set of guidelines designed to achieve balanced membership with respect to gender and ethnicity. Currently, it is estimated that the Academy has about 234 female members. The number of African Americans, Hispanic Americans etc. is simply unknown. The Eminence process since 2004 has added female, African Americans, and Hispanic Americans to the Academy’s ranks.

The Academy staff should develop a simple methodology for capturing accurate statistics on these diversity demographics.

The following tasks and resources will be needed to develop the requisite diversity information:

- Reestablish the Diversity Task Force.
- Work with minority focused societies as potential Sponsoring Organizations, e.g., National Society of Women Engineers, National Society of Black Engineers, National Society of Hispanic Professional Engineers.
- Modify communications with the Sponsoring Organizations to encourage nomination of minorities to AAEES Board.
- Add optional lines for gathering minority and gender data on applications and renewal forms.
Note: This action should be reviewed and approved by an Attorney with Civil Rights expertise to avoid misunderstanding and contention.
- Request Trustees to provide contact information for diversity committee/task/force/office or officer for each Sponsoring Organization to enable the AAEES diversity team to learn what other organizations are doing.
- Examine AAEES publications for inclusiveness, modify if necessary.
- Survey membership on thoughts about diversity, why they chose to become Board Certified, what do they expect from AAEES membership, demographic information, etc.
- Develop and publicize compelling reasons to recruit minorities.

The resources needed to accomplish the necessary tasks include inputs from the ED, AAEES staff, the new (to be named/appointed) Task Force/Work Group/Committee, the Publications Committee, and access to AAEES teleconferencing capabilities.

Since the Academy has recently upgraded its IT capabilities, it is possible that the system can be programmed to collect some or much of this diversity data.

The Diversity Task Force should then develop recruitment goals and the means to obtain them.

3.3 Tier 3 Goals

3.3.1. Goal 10: Upgrade of the Environmental Engineer and Scientist Publication [Publication Committee]

The *Environmental Engineer and Scientist* quarterly currently is organized into two sections, News and Current Topics and the peer reviewed Applied Research and Practice Section. The Applied Research and Practice Section include papers that emphasize case studies and topical reviews and fill a missing niche for peer-reviewed environmental technical journals: The emphasis is on practical, hands-on use of technology to solve real world environmental problems.

Another opportunity is to explore how AAEES can increase advertising revenue and its subscription base with our existing outside publishing contractor, staff, and Publications Committee. Part of this discussion in year two might include moving from a quarterly to a bimonthly or monthly schedule.

The publication changed from a print format to a digital format in 2012. This will eventually save \$20,000 per year in expenses. Members who choose not to adopt an on-line electronic format will be provided a print version.

Some suggested tasks include:

- Arrange semi-annual conference calls between staff, outside contractor, and Publications Committee leadership to discuss annual schedule of topics and content with a goal of building content, increasing advertising revenue and growing readership. Calls should be arranged to coincide with publishing schedule.
- Continue to recruit technical papers (2 per issue) for the 4 issues each year. Strongly consider the E3S competition as a source of submissions.
- Publish papers from any AAEES sponsored conferences.
- Publish each issue on the Academy's Web site.

3.3.2 Goal 11: College Programs

Development of well-educated Environmental Engineers and Scientists is vital to the continued existence and growth of the Academy. It is very important for the long-term success of the Academy to ensure that young professionals are aware of the Academy and its goals and missions. Environmental

engineers and scientists must be prepared to eventually accept the responsibilities of the BCEE, BCEEM, or BCES certifications. Achieving this goal requires strengthening environmental engineering education by providing appropriate input to the education system through ABET activities, recruiting ABET program evaluators from industry and academia, interaction with AEESP, and continual updating of the Environmental Engineering Body of Knowledge.

Support of Tau Chi Alpha, an environmental engineering honor society sponsored by the Academy, is also important to engaging student environmental engineers. The bylaws of Tau Chi Alpha state that it was founded to advance the environmental engineering profession by identifying and placing a mark of distinction on those environmental engineering students and engineers who have demonstrated high scholastic achievement, ethical character, practicality, and sociability or significant achievement in the environmental engineering profession; and contributing to continuing development and improvement of the profession.

By promoting Tau Chi Alpha and developing chapters at colleges and universities that have environmental engineering programs, young professionals will be part of and understand the role of the Academy in ensuring the highest quality Environmental Engineers. As of fall 2009, there were three chapters of TXA. The goal is for a total of 12 chapters by the end of the planning horizon. This will require the development of an information packet including a check list for chapter creation, example chapter bylaws, and details regarding the initiation ceremony. The goal is for a total of 12 chapters by the end of the planning horizon. This will require the development of an information packet including a check list for chapter creation, example chapter bylaws, and details regarding the initiation ceremony. AEESP is a critical partner in achieving this goal.

AAEES has formed a Students and Young Professionals Committee. One of the goals of this committee is to assist university students in forming Student Chapters of AAEES. A metric should be established related to this goal.

3.3.3 Goal 13: Support Volunteers

State representatives are the “boots-on-the-ground” of the Academy. They will be coordinating student outreach (i.e., STEAM, STEM, contests, etc.). As well as, coordinating exams. Support these volunteers. Without them the Academy will not survive.

Prepare incentives for them for the work they do in support of the Academy. A “*Volunteer of the Year*” award might be nice, but what about continuing education credits for the work they do for the Academy. Preparing to administer an exam, scoring it, and the work that is involved should be recognized with tangible value that in turn supports their individual credential. Maybe they are not audited for a period of time after serving in this capacity. In General, look to provide incentives for volunteers that promote the Academy. They are our ambassadors and the “face” of the Academy.

3.4 Performance Metrics

The progress of the Academy in meeting the goals of this plan will be tracked using the metrics shown in the following table. These will be reviewed once per year in a BOT meeting.

AAEES Strategic Plan Implementation Metrics

No.	Metric (s)	Comment (s)	Annual Timing	Responsibility For Success
1	Total number of members with breakdown (BCEE, BCEEM, BCES, student members, M.AAEES/AAEES Member)	Tracks membership growth vs targets and shows improvement in each category.	April	Students and Young Professionals, Tau Chi Alpha, and Membership Committees, and ED
2	Number of Sponsoring Organization (SO) Activities per year by type (Obligations and responsibilities of SO are being recommended now.)	Tracks number of events, visibility opportunities afforded AAEES via our SO's.	December	ED and each SO BOT member
3	Members lost annually	Show success at membership retention. Includes drop outs, resignations, individuals changing careers.	April	Membership Committee and ED
4	Revenue dollars by category	This should be tracked by revenue category, with revenue categories in 2021 being the baseline (including membership broken down by sub-categories, webinars, workshops, seminars, patron and affiliates programs and grant funds). Example: Revenue earned from conferences. Possible example: Grant revenue.	February ??? <i>(end of year accounting)</i>	Revenue committee and ED

5	Number of AAEEES Webinars, Workshops and Seminars, award events; total attendance (broken down between members and non-members)	Includes all events convened, sponsored or co-sponsored, by the Academy	October	Workshops and Seminars, AAEEES/AEESP Joint Awards Sub-Committee, E3S Awards Committees, SO BOT members, and ED
6	Number of organizations that request BCEE/BCEEM/BCES involvement in their projects that are put out for RFP		January	ED, User Workgroup, or Membership Committee
7	Educational speaking or working engagements (K-12); number of students reached	Track progress in reaching out to K-12 students	January	K-12 Committee (inactive)
8	Number of Certified Academy members who are members of 6 U.S. Governments's 6 preference groups.	Track progress in diversifying membership	September	Admissions, Membership and Eminence Committees and ED
9	Number of Certified Members who live and work overseas	Track progress on international certification	September	International Relations Committee and ED
10	Annual donation amount from EES foundation to AAEEES for EESF support of AAEEES activities (Note- the EESF can theoretically make some donations to organizations other than AAEEES)	Track the Foundation's progress	February	ED, AAEEES representative on the EESF board and EES Foundation Chair
11	Number of Technical papers published in AAEEES publication (Environmental Engineer)	Track continuing success with the new "second part" (applied research and practice) of the magazine.	January	Publications Committee
12	Number of AAEEES members who receive publication by email only. Everything is digital now.	Track progress on this cost saving item. Currently is zero.	January	ED and Publications Committee

13	Number of Tau Chi Alpha honor societies, number of student chapters, and number of young professionals	Track progress in attracting students	January	Education Committee, Membership Committee, TCA Board and ED
14	Profile in the Professional Community- annual survey of SO leadership regarding the value of Academy certification- number of new benefits or programs created??	Track results of survey; create action items based on feedback, create new programs/benefits ???		Membership Committee and Staff with input from various committees
15	Student Chapters	Track number of chapters		Educational and Students and Young Professionals Committees

4 FIVE YEAR FINANCIAL PROJECTIONS

4.1 Status Quo

Table 4.1 presents the financial profile of the Academy since 2016.

	2016	2017	2018	2019	2020	2021*
Income	564,400	585,900	517,225	526,000	452,600	480,000
Admin Expense	113,300	113,500	118,200	106,300	69,500	50,000
O/H Expenses	451,205	464,400	463,158	449,400	417,000	345,000
Surplus	(105)	8,000	(64,133)	(29,700)	(33,900)	85,000
As a % of Revenue	0.0%	1.4%	-12.4%	-5.6%	-7.5%	17.7%

Note: 2020 does not include PPP1 Loan of \$59, 282; 2021 does include PPP1 loan of \$59,282 forgiven in 2021 but does not include PPP2 loan in the amount of \$59,678.

4.2 Sensitivity Analysis

Table 4.2.1 presents a three-year projection, (2021, 2022 and 2023) assuming 47 new members for 2021 and 30 new members per year NET of withdrawals for 2022 and 2023, was performed. This assumed no new expenses.

Member Growth	2019	2020	2021	2022	2023
Extra Members	35	7	45	30	30
Cum. Extra	35	42	87	117	147
Fee/Member/yr. (\$)	200	225	225	225	225

Table 4.2.2. presents the financial picture of the Academy by 2023 assuming presents the financial picture of the Academy by 2023 assuming: 1) only income sources are membership fees, and 3 municipal patrons and 3 corporate patrons; 2) annual 5% increase in base expenses; 3) modest net increase in membership of 30/years; 3) 2022 includes \$59,000 in PP1 loan/grant revenue, ED cost of \$90,000; and 4) 2023 shows revenue drop due to no PPP loan, addition of \$165,000 ABET expense offset by rent reduction of 50%. And base expense increase of 3% annually, the modest increase of 30 members per year leads to continuing decline in surplus revenues.

Table 4.2.2

Financial Growth	2019	2020	2021	2022	2023
Extra Income	na	na	na	6,750	6,750
Base Income (\$)	526,000	452,600	480,000	486,750	434,500
Total Income (\$)	526,000	452,600	480,000	486,750	434,500
Base Expenses (\$)	555,700	486,500	395,000	454,800	450,000
Additional Member Expenses * (\$)	na	na	na	1,200	1,200
Total Expenses (\$)	555,700	486,500	395,000	456,000	451,200
Surplus (\$)	(29,700)	(33,900)	85,000	30,750	(16,700)
As a % of Revenue	-5.6%	-7.5%	17.7%	6.3%	-3.8%

* At \$40/member/year

APPENDIX A

AAEES Strategic Plan Implementation Metrics (July 2021)

No.	Metric (s)	Comment (s)	Annual Timing	Responsibility For Success
1	Total number of members with breakdown (BCEE, BCEEM, BCES, student and young professional members, members, etc.)	Tracks membership growth vs targets and shows improvement in each category.	December of each year	Membership and IRC committees and ED
2	Number of Sponsoring Organization (SO) Activities per year by type (Responsibilities and obligations of SOs being recommended now.)	Tracks level of sponsoring organization support and identifies need to reach to new sponsoring organizations.	March of each year	ED, SO BOT member, President
3	Members lost annually	Show success at membership retention. Includes resignations, individuals changing careers, retirements, deaths, etc.	June of each year annually (should track monthly as well)	Membership, Admissions, IRC Committees, President, and ED
4	Revenue dollars by category	This should be tracked by revenue category, with revenue categories in 2021 being the baseline Example: Revenue earned from Major Partners Program, Webinars, Conferences, Paraphernalia, etc.	February <i>(end of year accounting and should be maintained on a monthly basis.)</i>	Revenue committee and ED
5	Number of AAEES Webinars, Workshops and Seminars and other events convened, co-sponsored, etc. by Academy; total attendance (broken down between members and non-members)	Includes webinars, workshops, conferences, seminars, short courses, etc.	December of year	Workshops and Seminars Committee, SO BOT members, president and ED

6	Number of Organizations that request BCEE/BCEEM/BCES involvement in their projects that are put out for RFP		January	ED, President, and a taskforce with this targeted mission.
7	Educational speaking or working engagements (K-12); Kappe Lecture, other engagements; number of students reached	Track progress in reaching out to K-12 students and students in colleges and universities	Monthly, starting January of each year	K-12 Committee (non-functional); Students and Young Professionals Committee, Seminars and Workshop Committee, ED and President (K-12 committee is inactive)
8	Number of Certified Academy members by gender, ethnicity, and the diversity of leadership positions in the Academy	Track progress in diversifying membership	June of each year on annual basis	Membership, Admissions, and Eminence Committees, ED and president
9	Number of Certified Members who live and work overseas	Track progress on international certification	April	International Relations, Admissions, and Membership Committees, president and ED
10	Annual donation amount from EES Foundation to AAEEES for EESF support of AAEEES activities (Note- the EESF can theoretically make some donations to organizations other than AAEEES) (Need to add line item on ABET account and Google Grants)	Track the Foundation's progress in supporting AAEEES activities where appropriate	June of each year	ED, AAEEES representative on EESF Board, and Foundation Chair
11	Number of Technical papers published in AAEEES publication (Environmental Engineer)	Track continuing success with the new "second part" (applied research and practice) of the magazine.	December of each year	Publications Committee, ED and President
12	Number of AAEEES members who receive publications by email only. All publications are digital. If anyone wants "papers" they will have to request it and pay extra for it.	Track progress on this cost saving item. Currently is zero.	December of each year	ED and Publications Committee

13	Number of TCA honor societies, number of student chapters, number of student members (included in 1 above) (TCA is inactive)	Track progress in attracting students	June of each year (TCA appears to be dormant)	Education, Membership, and Student and Young Professionals Committees, Committee, TCA Board and ED
14	Profile in the Professional Community- annual survey of SO leadership regarding the value of Academy certification- number of new benefits or programs created. No surveys are currently being done, and SOs obligations and responsibilities are presently being defined.	Track results of survey; create action items based on feedback, create new programs/benefits	Discussions need be held on this survey and a discussion on sponsoring organizations	Admissions, Membership, Planning, Bylaws, Policies and Procedures Committees, President, and ED and appropriate staff
15	Student Chapters and Number of Young Professionals.	Track number of student chapters and young professionals		Educational, and Students and Young Professionals Committees, ED, Membership and President

LIST OF ACRONYMS

AAEES	American Academy of Environment Engineers and Scientists
SOs	Sponsoring Organizations
ED	Executive Director
BCEE	Board Certified Environmental Engineer
BCES	Board Certified Environmental Scientist
BCEEM	Board Certified Environmental Engineering Member
EPA	Environmental Protection Agency
DOT	Department of Transportation
DOD	Department of Defense
FEMA	Federal Emergency Management Agency
CDC	Center for Disease Control
NASA	National Aeronautics and Space Administration
PE	Professional Engineer

BOT	Board of Trustees
SRs	State Representatives
ESEF	Environmental Engineering and Science Foundation
PDHs	Professional Development Hours
CEUs	Continuing Education Units
AEESP	Association of Environmental Engineering and Science Professors
EEF	Environmental Engineering Foundation
E3S	Excellence in Environmental Engineering and Science
TCA	Tau Chi Alpha Environmental Engineering and Science Honor Society
RFPs	Request for Proposals

5 ADDENDA

Addendum 1 to the AAEES Strategic Plan

In order to determine the organization’s fulfillment of actions and activities in support of the Strategic Plan, the Planning Committee recommended that there be an annual review of the plan to ascertain progress toward achieving the specific goals contained in the plan. The items on the pages following this cover sheet are an effort to provide this information.

The mechanism employed was to work in the context of the Academy’s volunteer- led committee structure since individual committees were represented in the overall planning process as both the source of ideas and as agents for implementation of the plan over time. That being the case, the individual committee chairs were asked to update their committee’s actions in their role as drivers of the actions called for in the Plan.

The item below is the text of the note that was sent asking for input, specifically for input that related directly to the Plan goals that fell under the purview of that individual’s Committee.

Greetings **Name:**

*I am sending you this note at the behest of the AAEES Planning Committee and your status as the Chair of the **Name of Committee.***

The attached form is being used to create a document that updates the Academy’s strategic plan on an iterative committee-by-committee basis. We plan to add this review to the individual committee reports that we are preparing in advance of the Board meeting in October.

Please take a look at the attached item and please fill in the right-hand box under the heading of “Status and Actions” and return the completed item. Fill in as much information as you want.

We look forward to your input and say thanks, as always, for your efforts on behalf of the Academy.

Committee Goals: To update the Strategic Plan bi-annually. The mission of the Strategic Plan is to “Provide AAEES with the guidance and flexibility in its growth strategy to obtain optimum results.”

Summary of Strategic Plan Updating Process: The Strategic Plan was updated prior to the November 2013 BOT meeting and was adopted. No additional updates are required until 2015 or unless otherwise directed by the Executive Committee: *It is the responsibility of the Executive Committee and Executive Director to review this plan annually and direct the Planning Committee to make changes where appropriate. Otherwise, it is the responsibility of the Planning Committee to review and update the Plan no less frequently than bi-annually. On March 19, 2020, the state of California issued orders to close non-essential businesses to reduce the spread of the novel coronavirus. Recognizing the need to continue in their essential functions, the Planning committee adapted to these new conditions and held virtual meetings via Zoom for 6 months. Out of this effort the 2020 Planning Committee Recommendations were assembled in September 2020 and submitted to the BoT at their October 2020 meeting (see Addendum 3 Road Map). In January of 2021, the Academy’s leadership requested that the 2018 plan be updated for submittal to the BoT at their May 22, 2021, meeting. This document is the result of the 2018 Strategic Plan refresh.*

The responses that were received from the various committees are displayed below.

Membership, Development and Outreach Committee (Strategic Plan Goals 1, 2, 3, 7)	
Goal	Status and actions
1) Increase Membership by 800	<p>Developed and implemented strategies to recruit academia, consulting firms, students, local, state, federal governmental agencies.</p> <p>Mobilized members, Trustees, State Representatives to recruit</p> <p>Increase membership with attention to Membership Diversity</p>
2) Significantly Increase the Academy's Profile in the Professional Community	<p>Poll SO's to determine perception of value of certification and how to attract more SO members to certification – limited activity in this area</p> <p>Advertised Academy events/ activities/ certification in SO publications – ongoing</p> <p>Development of Speakers Bureau for local and Student Chapter events</p>
3) Maintain Membership Retention Rate	<p>Developed member retention publications such as Member Activity Report and Member Savvy</p> <p>Define the number of members lost each year in all categories and contact members and define reason for loss. Encourage them to re-up – ongoing effort.</p>
7) Develop Demand for Certified Environmental Engineers and Environmental Scientists in the User Community	<p>Developed language to be used in procurement documents (RFP) that encourages the use of BCEEs, BCEEMs, and BCEs – ongoing RFP Workgroup reaching out to local, state, federal organizations to expand implementation</p> <p>Work with well-placed Academy members in consulting firms, industry, public agencies to encourages the use of certified engineers and scientists – calls to Principals, calls to public officials, recruitment testimonial brochure.</p>
<i>Committee Chair - Nuggehalli (NC) Vasuki</i>	

Seminars and Workshops Committee (Strategic Plan Goal 2,4,5)	
Goal	Status and actions
2) Significantly Increase the Academy's Profile in the Professional Community	<p>Conduct regional meetings conferences and workshops (PDHs and CEUs)</p> <p>Advertise Academy opportunities in as many SO publications as possible and track opportunities and results to the extent possible.</p>
4) Develop Alternate Sources of Funding	<i>No input provided on this item</i>
5) Maintain Membership Retention Rate	Poll the SO leadership to determine their perception of the value of Academy certification and how the Academy could increase its value to the SOs and their members.
<i>Committee Chair – Shuang (Sharon) Yin</i>	

Revenue Generation Workgroup (Strategic Plan Goal 4)	
Goal	Status and actions
4) Develop Alternate Sources of Funding	<ul style="list-style-type: none"> • Seminar/Webinar/Lecture/Courses - Pending • Generate/Sell Books - shelved • Certification Preparation and Practice Test – started, but received limited response • Sponsorship Packages – in development • Advertising Sales – deferred • Magazine Revamp – on hold • Engineers without Borders – dropped due to lack of funding • International Certification – under consideration
<i>Committee Chair -</i>	

Finance Committee (Strategic Plan Goal 4)	
Goal	Status and actions
4) Develop Alternate Sources of Funding	Input for this item was not received in time for inclusion in this document.
<i>Committee Chair – Vinio Floris</i>	

AAEES Members on the EES Foundation Board of Trustees (Strategic Plan Goal 6)	
Goal	Status and actions
6) Make the Environmental Engineering (and Science) Foundation a Partner of AAEES	<p>The issues that need updating are: membership development, the EES Foundation web site, and the components of a structured giving program.</p> <p>Recently some questions were raised about the membership of the foundation, e.g., the composition, and its responsiveness to issues of interest to the Academy.</p> <p>Today, the AAEES is very well represented on the Board of the Foundation, as is evidenced by the following profile.</p> <p><i>Membership size and Composition</i></p> <p>In 2013, the Board increased its membership to 11, with the AAEES Executive Director continuing to serve as Secretary to the Board. Prior to 2013, the Bylaws were revised to allow the Immediate Past-President of AAEES to serve as a voting member of the Board from January 1 through December 31 of each year. If the Immediate Past-President is unable to serve, the position is filled by the most recent Past-President</p> <p>Currently, 2014, all of the 11 members are AAEES Board Certified. The present membership composition is, 6 AAEES Past-Presidents are regular voting members, one AAEES Immediate Past-President is a voting member, three members are</p>

	<p>BCEEs, and one member is a BCES. Membership professional affiliations are:</p> <p>Consulting - 6, Academia - 2, Government - 2; and Industry - 1. There are 3 female Board members.</p> <p><i>Website</i></p> <p>The Foundation’s website is up and running satisfactorily and is updated by the Academy’s production manager regularly. The last major update occurred within the last two years and was conducted to streamline the website to account for the change from Environmental Engineering Foundation to Environmental Engineering and Science Foundation. Linkage to the Academy’s website is working satisfactorily.</p> <p><i>Giving Program</i></p> <p>The Foundation recently named a working group to evaluate and make recommendations regarding a giving program. The group is in the very early stages of developing a program which will be designed to accommodate virtually all classes of potential givers.</p> <p>The Foundation believes that by creating a sustainable financial base it will be better able to support education related Academy programs.</p>
<i>Committee Chair – Cecil Lue-Hing</i>	

K-12 Committee (Strategic Plan Goal 8)	
Goal	Status and actions
8) Educate K-12 and College Students on Environmental Engineering and Science Careers	Input for this item was not received in time for inclusion in this document.
<i>Committee Chair – Isreal Hodges</i>	

Diversity Task Force (Strategic Plan Goal 9)	
Goal	Status and actions
9) Improve Membership Diversity	Input for this item was not received in time for inclusion in this document. There have not been any meetings of this Committee or any efforts to revitalize it with new members or programs.
<i>Committee Chair – Nancy Love and Andrew Shaw</i>	

International Relations Committee	
Goal	Status and actions
Develop International Certification Program	<p>Progress on this item has been limited due to a series of significant health issues which have befallen the Chairman of the Committee.</p> <p>Earlier in the year the committee met several times to discuss the development of a limited ‘pilot program’ of certification to be conducted in India. There were some connections made with potential collaborators in India, and some research efforts to determine what an Indian certification would be called and what areas it would cover.</p>
<i>Committee Chair - Veera Gnaneswar Gude</i>	

Publications Committee (Strategic Plan Goal 10)	
Goal	Status and actions
10) Upgrade the Environmental Engineer and Scientist Publication	<p>A special initiative will be organized to broadly solicit one or more articles for the Applied Research and Practice section of each issue of the EE&S magazine. The Academy will place unpaid “Ads” in relevant publications of societies/organizations such as AEESP and ASCE to boost readership of these scholarly pieces.</p> <p>However, owing to the fact that the EE&S magazine has no “Impact Factor” in the rankings of research-based publications, potential authors may be reluctant to submit since publishing with AAEES does not enhance their careers or promotion potential.</p>
<i>Committee Chair – Rhonda Harris</i>	

Student and Young Professionals Committee (Strategic Plan Goal 11)	
Goal	Status and actions
11) College Programs	<p>Input for this item was not available as the chair of the Committee resigned at the beginning of the year. A search is being conducted for a replacement and there are two candidates who have indicated an interest in serving on this committee.</p>
<i>Committee Chair – David Vaccari</i>	

Addendum 2 -- Summary of AAEEES Committees

Listing of Responsibilities

1) Name of Committee: Audit Committee
Committee Responsibilities:
To provide for the operations on behalf of the BoT, and independent of the BoT, for providing an independent and unbiased annual review or audit of the Academy's financial condition.

2) Name of Committee: Awards Committee
Committee Responsibilities:
To select annually individuals for the Edward J. Cleary Award, Gordon Maskew Fair Award and Stanley E. Kappe Award whose contributions to the Academy, and to the protection of the environment and public/human health, are notable and worthy of recognition.

3) Name of Committee: Brewster Snow Student Selection Committee
Committee Responsibilities:
Committee selects an outstanding environmental engineering graduate student to receive the award.

4) Name of Committee: Bylaws, Policies & Procedures Committee
Committee Responsibilities:
The BPPC has responsibility for the stewardship of all Academy Bylaws, Policies and Procedures. Jointly, organizational elements, staff, the BPPC and the BoT are responsible for ensuring that the development of bylaws, policies and procedures, and their implementation, is done in an open forum to ensure full participation and mutual commitment to conform to the provisions of all Academy Bylaws, Policies and Procedures.

5) Name of Committee: Admissions Committee

Committee Responsibilities:

The admissions committee is authorized to exercise management and operational responsibilities to assess, examine, and recommend to the BoT applicants for receipt of either a certificate for Board Certified Environmental Engineer or Board-Certified Environmental Scientist. The Admissions Committee is charged with ensuring that the two certified programs authorized by the BoT are structured to present candidates to the BoT for review of their qualifications to receive the Academy's certificate signifying that they have attained the required level of knowledge and practice in environmental engineering or science. All committee members shall be certified. The Admissions Committee is comprised of a chairperson, a minimum of two deputy chairs, and committee members.

6) Name of Committee: Certification by Eminence Committee

Committee Responsibilities:

The Certification by Eminence Committee's function is to recruit, evaluate, and recommend suitably qualified candidates to the BoT for Certification by Eminence. Suitably qualified candidates include individuals with and without P.E. licenses.

7) Name of Committee: Membership Development and Outreach

Committee Responsibilities:

The purpose of the Membership Development and Outreach Committee is

- to develop and help implement programs to support membership categories
- to establish a presence in universities where environmental engineering and science programs and curricula are present
- to grow the Academy membership numbers through an aggressive and continuing effort to increase the Academy membership base by significant and measurable increases in these two membership categories, and
- to manage and provide oversight over the growth and development of these two membership categories.

8) Name of Committee: Re-Certification Committee

Committee Responsibilities:

This committee's primary responsibility is for the oversight and conduct of the re-certification process. It is charged with developing and maintaining re-certification procedures consistent with the Academy's Bylaws, Policies and Procedures.

9) Name of Committee: Development & Upgrading of Examinations Committee

Committee Responsibilities:

This Committee oversees and manages the process for the development and upgrading of examinations to establish the competency of candidates for Academy certification. The committee consists of the chairs of the Air Pollution Control Committee, Environmental Sustainability Committee, General Environmental Engineering Committee, Hazardous Waste Management Committee, Industrial Hygiene Committee, Radiation Protection Committee, Solid Waste Management Committee and Water Supply and Wastewater Committee.

10) Name of Committee: Air Pollution Control Committee

Committee Responsibilities:

The APCC's role is to develop new materials so that the oral and written examination processes will test the knowledge of the applicant to a level commensurate with the standards of competency established by the BoT. As a guiding principle, the committee is required to review the examination questions and procedures not less than once every two years.

11) Name of Committee: Environmental Sustainability Committee

Committee Responsibilities:

The ESC's role is to develop new materials so that the oral and written examination processes will test the competence of the applicant to a level commensurate with the standards of competency established by the BoT. As a guiding principle, the committee is required to review the examination questions and procedures not less than once every two years.

12) Name of Committee: General Environmental Engineering Committee

Committee Responsibilities:

The GEEC's role is to develop new materials so that the oral and written examination processes will test the competence of the applicant to a level commensurate with the standards of competency established by the BoT. As a guiding principle, the committee is required to review the examination questions and procedures not less than once every two years.

13) Name of Committee: Hazardous Waste Management Committee

Committee Responsibilities:

The HWMC's role is to develop new materials so that the oral and written examination processes will test the competence of the applicant to a level commensurate with the standards of competency established by the BoT. As a guiding principle, the committee is required to review the examination questions and procedures not less than once every two years.

14) Name of Committee: Industrial Hygiene Committee

Committee Responsibilities:

The IHC's role is to develop new materials so that the oral and written examination processes will test the competence of the applicant to a level commensurate with the standards of competency established by the BoT. As a guiding principle, the committee is required to review the examination questions and procedures not less than once every two years.

15) Name of Committee: Radiation Protection Committee

Committee Responsibilities:

The RPC's role is to develop new materials so that the oral and written examination processes will test the competence of the applicant to a level commensurate with the standards of competency established by the BoT. As a guiding principle, the committee is required to review the examination questions and procedures not less than once every two years.

16) Name of Committee: Solid Waste Management Committee

Committee Responsibilities:

The SWMC's role is to develop new materials so that the oral and written examination processes will test the competence of the applicant to a level commensurate with the standards of competency established by the BoT. As a guiding principle, the committee is required to review the examination questions and procedures not less than once every two years.

17) Name of Committee: Water Supply & Wastewater Committee

Committee Responsibilities:

The WSWC's role is to develop new materials so that the oral and written examination processes will test the competence of the applicant to a level commensurate with the standards of competency established by the BoT. As a guiding principle, the committee shall be required to review the examination questions and procedures not less than once every two years.

18) Name of Committee: Engineering Education Committee

Committee Responsibilities:

The Engineering Education Committee has responsibility for recommending:

- one or more of its members - or other Academy members - for appointment by the President as the Academy's Representative Director and Alternate Representative Director on the Board of Directors of ABET;
- recommending one or more of its members - or other Academy members - for appointment by the President as members of various ABET commissions and committees representing the Academy;
- recruiting and training ABET Program Evaluators to participate in evaluations of accredited environmental engineering technology programs at institutes of higher education that are applying for ABET certification.

19) Name of Committee: Excellence in Environmental Engineering and Science Award Committee

Committee Responsibilities:

The E3S Committee is responsible for promulgating specific rules and procedures governing the conduct of this program. Among these are:

- selecting a panel of judges annually
- providing advice and assistance in the Academy's public education efforts related to the program; and
- seeking financial support for the program.

20) Name of Committee: Finance Committee

Committee Responsibilities:

The Finance Committee is authorized and directed by the BoT to:

- exercise general supervision of the Executive Director as he carries out the financial affairs of the Academy;
- prepare an annual budget for approval by the BoT; and,
- report to the BoT on the financial status of the Academy.

21) Name of Committee: K-12 Committee

Committee Responsibilities:

The mission of the K-12 Committee is to educate K-12 students on environmental engineering. The committee's goals are to provide information to students in K-12 programs about the satisfaction of environmental engineering careers, and to encourage students to matriculate in environmental engineering and science through the preparation of educational printed and web-based materials. The Committee is also responsible for the provision of speakers to make presentations at schools or other venues that are aligned with the Committee's educational activities.

22) Name of Committee: Nominating Committee

Committee Responsibilities:

The role of the Nominating Committee is to select two candidates for vice president and four candidates for trustee-at-large annually from among the body of the Academy's membership.

23) Name of Committee: Planning Committee

Committee Responsibilities:

The Planning Committee is charged with establishing, guiding, and providing assistance in the short, intermediate, and long-range planning activities of the Academy as required to best serve the Academy's constituencies. The committee has a mandate to engage in preparation of both the annual and the long-range plans.

24) Name of Committee: Publication Committee

Committee Responsibilities:

The Publications Committee serves as:

- the Editorial Board for *Environmental Engineer and Scientists* and
- the Peer Review Panel for *Environmental Engineer and Scientist: Applied Research & Practice*.

As the need arises, the committee may also be tasked with solicitation of articles and peer-reviewed papers for publication in Academy journals.

25) Name of Committee: Seminars and Workshops Committee

Committee Responsibilities:

The Seminars and Workshops Committee is charged with developing and implementing seminars and workshops throughout the year. Its focus is to create as many as is practical, as well as doing what it can to cross-pollinate the activities in one part of the country with other regions that would have similar interests.

26) Name of Committee: Students & Young Professionals Committee

Committee Responsibilities:

The basic purpose of the Student and Young Professionals committee is to develop and help implement practices that will result in a significant increase in the number of non-BCEE/BCES members (Student Members and Members). The goal is to increase the total number of individuals in these classifications.

Addendum 3 -- Summary of 2020 Planning Committee Road Map

Road Map

At the April 24, 2020, Board of Trustees (BOT) meeting it was suggested that the 2018 AAEEES Five-Year Strategic Plan should be updated to keep pace the current and future needs of the practice. The BOT recommended a Five-Year Strategic Plan refresh to support a viable and growing organization.

- Background – Clarify the roles and responsibilities of the BOT, Executive Committee, and elected leadership to support timely action.
- Five-Year Strategic Plan – Targeted guidance from January 1, 2014, to December 31, 2018.
- Vision – Leadership and excellence in environmental engineering and science.
- Mission Elements – The Plan also identifies four mission elements (1) Provide specialty certification services (2) Recognize significant projects and individuals (3) Participate in university accreditation program and (4) Educate profession and public.

Task Force Objective – From May to September of 2020 the task force reviewed the Academy's Five-Year Strategic Plan and identified short-term strategies, goals, objectives, and action plans to help provide value to the environmental profession.

Action Plan

- Action Item 1 – Review of Certification Model Relevance – Fundamental to the Academy's history and future. Current revenue model (dues paying membership via certification or other types of dues paying membership).
- Action Item 2 – Evaluate Accreditation Program Model – Important component of the mission. Activity represents the Academy's largest non-employee/office expense. Are there ways to reduce this expense and/or create some revenue to offset the expense?
- Action Item 3 – Sponsoring Organization Roles and Responsibilities – Clarify the roles and responsibilities (including, financial and activities) of sponsoring organizations and determine if all sponsoring organization need to be on the BOT.
- Action Item 4 – Academy Administrative Model – Academy needs a long-term effective administrative model that provides required services in a cost-efficient manner. One-time cash infusions do not address the fundamental annual revenue decline associated with lower numbers of dues paying members.

- Action Item 5 – Academy Committee Structure – Academy activities are primarily “delivered” by volunteers (with support from administrative staff) by various Committees. Committees must focus on the future not the past. Committees must be active and provide value. Committees may need to be restructured to serve future needs.
- Action Item 6 – Clarify Academy Leadership Roles – Clarify and update to support timely action.

These recommendations represent fundamental and critical decisions we are entrusting our leaders to make to direct the future of the Academy. Of concern to the task force is that expenses remain the same, while revenue continues to decline. Several “virtual” monthly one-hour BOT meetings are suggested to discuss and formulate a plan to address these issues.

Detailed Action Plan (attached)

2020 AAES Planning Strategy Task Force Recommendations

Prepared September 2020

**Wendy Wert, James D. Fitzgerald, Benson Pair, Dr. Mary DeFlaun, Dr. Charles Haas, Dr. Lilia A. Abron,
Dr. Christian Davies-Venn, Vinio V. Floris, Steve Kadivar, Rick Watson**

VISION			
Leadership and excellence in environmental engineering and science.			
MISSION			
Drive continual improvement in environmental engineering and science education and practice.			
CORE VALUES			
Treat all fairly and respectfully. Behave ethically. Support demographic and disciplinary diversity. Sustain the environment for future generations. Continual adaptation to changing needs. Life-long learning.			
GOAL 1	GOAL 2	GOAL 3	GOAL 4
Create Sustainable Academy Structure to Support Updated Mission	Update Academy Mission and Value-added Proposition based on Current and Future Market Needs	Participate in University Accreditation Program	Educate Professionals and Public
OBJECTIVES	OBJECTIVES	OBJECTIVES	OBJECTIVES
Financial Management - Balanced Budgets - Revenue Diversification and Enhancement - Expense Control Communication/Transparency - Timely communication of information - Open, frank and respectful communication model Review Administrative Model - Evaluate Effectiveness of Existing Administrative Model - Evaluate Existing Committee Organization Board of Trustees - review role and organization model - review role of Sponsoring Organizations	Define and Communicate Value-added Proposition to Next Generation of Candidates - Relevance of Specialty Certification Model - Relevance of Accreditation Model - Volunteer Programs - Other Value-Added Components Academy Structure to Support Academy Mission/Value-added Proposition - Appropriate Administrative Model to Support Mission - What should Academy focus on to maximize effectiveness of efforts? - Can Academy effectively provide services primarily as a volunteer organization?	Review Academy's role in Accreditation Program - Does Accreditation Program Provide Value to Academy? - Are There Ways to Reduce Academy's Expenses Associated with Accreditation Program? - Can Academy Support Additional Expenses Associated with Accreditation Program Growth?	Professional CEU Programs - Enhanced Webinar Programs - Identify Other CEU Opportunities - Work with Sponsoring Organizations to Support Joint Seminars/Conferences Public Education - Identify and Create Opportunities to Provide News Organizations with Technical Experts Volunteer Programs - Create Volunteer Opportunities to Attract Younger Members

Additional Information	Additional Information	Additional Information	Additional Information
<p>See attached Excel file with detailed action plan.</p> <p>Financial Management</p> <ul style="list-style-type: none"> - Make necessary adjustments to ensure balanced budgets for 2021 forward. - Annual budgets to reflect unpaid past and future liabilities. - Rebuild cash accounts by 2023 such that available cash represents 50% of anticipated annual budget expenses. - Diversify revenue sources by 2023 such that >50% of annual revenue is from sources other than membership dues. - Increase membership by 1,000 (net increase above 2020 dues paying members) by 2025. <p>Board of Trustees</p> <ul style="list-style-type: none"> - Review BoT configuration and role of Sponsoring Organizations. <p>Communication/Transparency</p> <ul style="list-style-type: none"> - Incorporate "core values" into Academy bylaws and policies and procedures. - Ensure timely and efficient communication between BoT and Academy leadership team. 	<p>See attached Excel file with detailed action plan.</p> <ul style="list-style-type: none"> - Update Academy's value-proposition including market need for certification program. - As appropriate retire/update certifications to match current and future market needs. - As appropriate update program to identify and recognize practice leaders. - Define and implement "branding" program to create market awareness of Academy's value-added components. - Develop programs and recruit to ensure demographic and disciplinary diversification in membership. - Evaluate effectiveness of college programs. 	<p>See attached Excel file with detailed action plan.</p>	<p>See attached Excel file with detailed action plan.</p> <ul style="list-style-type: none"> - Review awards program benefits/costs - Review webinar program benefits/costs - Evaluate Academy's role in educating public

**American Academy of Environmental Engineers and Scientists (AAEES)
Five-Year Strategic Plan
Action Item Summary Table**

Action Item 1		Review Certification Model Relevance		
	Background	Academy membership (individuals with certifications) has been decreasing over time (pre COVID-19) due to retirement etc. of individuals and the inability to attract younger candidates to seek certification. Reduced membership has resulted in decreased Academy revenue (fewer members paying annual dues). Membership renewals traditionally represents over 80% of Academy's annual revenue.	Goal Primary	Goal 2 - Academy Mission
			Goal Secondary	Goal 1 - Sustainable Academy Structure
		The exact cause(s) of the inability to recruit new members for certification is difficult to determine, but is believed due to the following factors:	Priority	Near Term
		- availability of undergraduate degree programs in environmental engineering and professional engineering licensing in environmental engineering which were not available in 1950s and 1960s	Responsible Individual	Name
		- availability of undergraduate degree programs in environmental science	Team	Name 1 Name 2
		- inability to attract science candidates to seek certification	Start Date	15-Jan-20
		- industry consolidation resulting in decreased company support for certification programs	Due Date	31-Jan-21
		- market (i.e., employers and clients) not assigning value to current certification program	Action Item Duration	60 days
		- certifications not aligned with current and future market needs	Update Provided	15-Dec-20
		- inability of Academy to define and communicate value-proposition with potential certification candidates	Status	Delayed
		- younger candidates seeking other benefits (volunteer, social, etc.) not incorporated into value-proposition		
	Action Item Summary	Conduct review to better understand current and future market needs and value proposition for certification model. In addition, need to review current Academy certifications and determine if they are aligned with current and future needs. Specifically, should Academy continue offering certifications going forward, and if so, what certifications.		
	Resources	Certification Committees, Membership Committee		
	Deliverable	Memorandum to Executive Committee/Board of Trustees summarizing: - background - purpose and scope of action item - methodology - findings - conclusions and recommendations Memo supported by appropriate appendices.		
	Status Update/ Issues	Provide status update and list any issues/concerns impacting successful completion of action item.		

Five-Year Strategic Plan
Action Item Summary Table

Action Item 2	Evaluate Accreditation Program Model			
	Background	Currently the university accreditation program is the largest non-employee Academy expense. In addition, this expense is expected to increase as more undergraduate engineering programs seek accreditation. Current opinion is that this is an important Academy activity and ways should be investigated to either reduce Academy expenses and/or attempt to create a revenue stream associated with this activity with the hope of making this activity cash neutral/cash positive.	Goal Primary	Goal 3 - Accreditation Program
		Possible expense reduction/revenue creation options include, but are not limited to: - negotiation with ABET to reduce fees - reduce/eliminate Academy's participation in accreditation program - create "roundtable" where interested parties (patrons?, Sponsoring Organizations?) pay an annual fee (say \$5,000 per company) to participate in "shaping" undergraduate environmental engineering programs (as a way to ensure talent pool is appropriately educated to enter workforce), Depending on interest the roundtable could be divided into various subprograms (water, wastewater, site remediation, sustainability, natural resources management, etc.) to address various engineering and science programs. Any roundtable would require the appropriate administrative support to ensure meetings are scheduled, agendas prepared and meeting materials distributed, meeting minutes prepared, action items distributed and tracked, etc. Anticipate most meetings would be "virtual meetings" to reduce participant travel and expenses and time commitment. Would also require a "strong" roundtable facilitator to proactively drive meetings.	Goal Secondary	Goal 1 - Sustainable Academy Structure
			Priority	Long Term
			Responsible Individual	Name
			Team	Name 1 Name 2
			Start Date	15-Jan-20
			Due Date	31-Jan-21
			Action Item Duration	60 days
			Update Provided	15-Dec-20
			Status	Delayed
	Action Item Summary	Conduct evaluation to identify and evaluate ways to make accreditation program cash neutral/cash positive. In addition, interest in "roundtable" would need to be discussed with "industry leaders" to gauge interest. Possible pilot program to work out administrative issues.		
	Resources	Engineering Education Committee		
	Deliverable	Memorandum to Executive Committee/Board of Trustees summarizing; - background - purpose and scope of action item - methodology - findings - conclusions and recommendations Memo supported by appropriate appendices.		
	Status Update/Issues	Provide status update and list any issues/concerns impacting successful completion of action item.		

Five-Year Strategic Plan
Action Item Summary Table

Action Item 3		Sponsoring Organization Roles and Responsibilities		
	Background	<p>There are currently twelve (12) Sponsoring Organizations (SO's) associated with the Academy. ASME has notified the Academy by email that they will not continue as an SO after December 31, 2020, and that will leave eleven (11).</p> <p>SO's are addressed in Article VII of the Academy Bylaws. Each SO is allowed to appoint a representative to serve on the Board of Trustees (BoT). The roles and responsibilities of the SO's will be specified by the BoT. No written description of such for any SO has been made available. The only support provided by any of the SO's at this time is participation in joint activities. No financial support has been requested of an SO, and no financial support has been volunteered by an SO. The SO's have not been approached to participate in the Patron's Program. There is no know instances of an organization approaching the Academy to become an SO, and the only SO to ask to withdraw is the ASME.</p>	Goal Primary	Goal 1 - Sustainable Academy Structure
			Goal Secondary	
			Priority	Near Term
			Responsible Individual	Name
			Team	Name 1 Name 2
			Start Date	15-Jan-20
			Due Date	31-Jan-21
			Action Item Duration	60 days
			Update Provided	15-Dec-20
			Status	Delayed
	Action Item Summary	Conduct evaluation to define the roles and responsibilities of the SO's. This would entail assessing the current status of the SO's, documenting recent history, current interactions and the extent of joint efforts of each SO with the Academy. An assessment would be made of the likelihood of an SO being open to an enhanced or alternative model of Academy participation, including changes to the BoT, financial support to the Academy by the SO, etc. This evaluation should be coordinated with an effort to determine the optimum size of the BoT, since the Academy BoT 23 members is not typical of the governance model for organizations as small as the Academy.		
	Resources	Academy Bylaws Article VII: Sponsoring and Affiliated Organizations		
	Deliverable	<p>Memorandum to Executive Committee/Board of Trustees summarizing;</p> <ul style="list-style-type: none"> - background - purpose and scope of action item - methodology - findings - conclusions and recommendations <p>Memo supported by appropriate appendices.</p>		
	Status Update/ Issues	Provide status update and list any issues/concerns impacting successful completion of action item.		

**Five-Year Strategic Plan
Action Item Summary Table**

Action Item 4		Academy Administrative Model		
	Background	The Academy has seen decreased revenue for several years (pre COVID-19) and current revenue doesn't support the expenses associated with the current administrative model. In addition, concerns have been raised about the "effectiveness" of the current administrative staff to "proactively" address Academy needs.	Goal Primary	Goal 1 - Sustainable Academy Structure
			Goal Secondary	Goal 1 - Sustainable Academy Structure
		The Board of Trustees during the 18 October 2019 Board meeting created a "task force" (given 30 days to prepare report) to identify and summarize alternative Academy administrative structures for consideration. The task force findings were reviewed with Academy leadership team in late November/early December 2019. To date, the leadership team (Executive Committee) has not reported their actions to the Board of Trustees.	Priority	Short Term
			Responsible Individual	Name
			Team	Name 1 Name 2
			Start Date	15-Jan-20
			Due Date	31-Jan-21
			Action Item Duration	60 days
			Update Provided	15-Dec-20
			Status	Not Started
	Action Item Summary	Review the short-term and longer-term revenue projections (dues paying membership renewal and expected patrons program payments) and expenses projections. Prepare scope of work to obtain bids on outsourcing options, review submittals and make recommendation to Board.		
	Resources	AAEES Financial Task Force Spring 2020 Memorandum and Supporting Information AAEES Administrative Staff - Alternative Identification and Preliminary Evaluation Memo - dated 14 November 2019		
	Deliverable	Memorandum to Executive Committee/Board of Trustees summarizing; - background - purpose and scope of action item - methodology - findings - conclusions and recommendations Memo supported by appropriate appendices.		
	Status Update/ Issues	Provide status update and list any issues/concerns impacting successful completion of action item.		
Action Item 5		Academy Committee Structure		
	Background	The Academy has numerous committees including: - Administrative: Audit; Awards; AAEES/AEESP Joint Awards Sub-Committee; Bylaws, Policies & Procedures; Admissions; Certification by Eminence; Membership, Development & Outreach; Re-Certification; Engineering Education; Excellence in Environmental Engineering and Science Award; Finance; International Relations; K-12; Major Partners; Nominating; Publications; Seminars and Workshop; Students & Young Professionals - Specialty Certification: Development and Upgrading of Examinations; Air Resources and Pollution Control; Environmental Chemistry; Environmental Life Sciences; Environmental Sustainability; General Environmental Engineering; Hazardous Waste Management and Site Remediation; Industrial Hygiene; Radiation Protection; Solids Waste Management; Surface and Groundwater Resources; Water Supply and Wastewater	Goal Primary	Goal 1 - Sustainable Academy Structure
			Goal Secondary	Goal 1 - Sustainable Academy Structure
		In addition, the Academy has several task forces addressing short-term issues/questions.	Priority	Short Term
			Responsible Individual	Name
			Team	Name 1 Name 2
			Start Date	15-Jan-20
			Due Date	31-Jan-21
			Action Item Duration	60 days
			Update Provided	15-Dec-20
			Status	Not Started

**Five-Year Strategic Plan
Action Item Summary Table**

	Action Item Summary	Are these Committees still needed (based on the Academy's future needs)? Should some be "retired" and new ones "activated"? Does each Committee have a defined set of responsibilities? Are these Committees active? If not, why not? Technical Committees need to reorganized to reflect updated certifications (provided certification model is confirmed).		
	Resources	Academy's Policies and Procedure Manual, specifically Section I Committees, Working Groups and State Representatives. This policy is authorized under Section 9.2, ARTICLE IX - Committees, Working Groups and State Representatives.		
	Deliverable	Memorandum to Executive Committee/Board of Trustees summarizing; - background - purpose and scope of action item - methodology - findings - conclusions and recommendations Memo supported by appropriate appendices.		
	Status Update/ Issues	Provide status update and list any issues/concerns impacting successful completion of action item.		
Action Item 6		Clarify Academy Leadership Roles		
	Background	The Academy has defined the leadership roles and responsibilities in the Academy's Bylaws and Policies and Procedures Manual. In summary, the Article VII of the Academy's Certificate of Incorporation, dated 21 October 1955 indicates: " <i>The activities and affairs of the Corporation shall be managed by a Board of Trustees.</i> " By preparing Bylaws and creation of an Executive Committee the Board of Trustees has established a policy delegating certain duties and powers to the Executive Committee. Board of Trustees has delegated per the Academy's Bylaws (per Section 3.2.1 Authority): consistent with direction from the Board of Trustees, the Executive Committee shall be responsible for budget control, operations, and management of the Academy, and through the President shall provide direction to the Executive Director (ED). Duties and powers not specifically delegated to the Executive Committee remain with the Board of Trustees. The President presides at all meetings of the Board of Trustees and the Executive Committee.	Goal Primary	Goal 1 - Sustainable Academy Structure
			Goal Secondary	
			Priority	Short Term
			Responsible Individual	Name
			Team	Name 1 Name 2
			Start Date	15-Jan-20
			Due Date	31-Jan-21
			Action Item Duration	60 days
			Update Provided	15-Dec-20
			Status	Not Started
	Action Item Summary	Review the requirements/expectations of the Executive Committee and make recommendation for updating the Bylaws and Policies and Procedure Manual to further clarify roles and responsibilities.		
	Resources	Academy's Bylaws (Article III: Board of Trustees and Article IV: Officers of the Academy) and Academy's Policies and Procedures Manual (Policy C-2 Delegation of Authorities to the Executive Committee and Executive Committee - Responsibilities and Policy D-1 Duties of the Officers - Policies and Procedures)		
	Deliverable	Memorandum to Executive Committee/Board of Trustees summarizing; - background - purpose and scope of action item - methodology - findings - conclusions and recommendations Memo supported by appropriate appendices.		
	Status Update/ Issues	Provide status update and list any issues/concerns impacting successful completion of action item.		