

# **The ASHRAE GAME — A How-To Guide for Greening ASHRAE Meetings and Expositions (GAME), version 1.0**

## **Introduction**

Greening ASHRAE Meetings and Expositions is the new GAME for ASHRAE. This Society-wide effort is intended to reduce the total environmental impact of doing ASHRAE business, particularly of conducting ASHRAE meetings and expositions.

Applying the traditional scientific rigor that ASHRAE members expect to identify meaningful activities, GAME will motivate our members and the organization to reduce the environmental impact of conducting its affairs. These actions directly support the *ASHRAE Sustainability Roadmap*, which states that ASHRAE will “conduct our own affairs in a sustainable manner.” Successfully implementing these actions will have a beneficial effect on the host cities in which ASHRAE meetings and expositions are held.

There are many ways ASHRAE can conduct its affairs in a more sustainable manner, including:

- Selecting sites (e.g., hotels, convention centers, and restaurants) for holding ASHRAE meetings which have implemented sustainable practices for doing business.
- Selecting sites that are more centrally located to minimize travel impact of the members.
- Encouraging and facilitating members to use the most environmentally-friendly methods to travel to ASHRAE meetings.
- Reducing distribution of paper during ASHRAE meetings.
- Holding electronic meetings in combination with face-to-face meetings to reduce the number of face-to-face meetings.

It is important that ASHRAE develop methods for measuring reductions in our impact on the environment. It is recommended that ASHRAE baseline its current impact to provide a metric against which to compare new approaches. In the near term before this baseline is developed, there are accepted methods for quantifying the emissions contributions of activities associated with holding ASHRAE meetings and conducting other activities. Actions taken that either reduce or offset these emissions are considered to be on the path towards helping ASHRAE conduct its business in a more sustainable manner.

ASHRAE has a long history of supporting its technical positions and activities with meticulous research and a thorough evaluation of all factors impacting an area of interest. This same approach has been and will continue to be applied to the guidance provided in this document. The guidance will evolve as more is learned about how to reduce the environmental impact of doing ASHRAE business. Early versions of this document will describe general approaches and suggestions, while later versions will provide specific advice based on careful assessment of specific sustainable meetings practices.

Throughout its history, ASHRAE’s evolution has been driven by its members’ commitment to improve the environments in which humans live, work, and play. ASHRAE will succeed in reducing the overall environmental impact of conducting its business with continued commitment of its members to this goal. Chapters must implement programs for minimizing the environmental impact of conducting their business; regions must put into practice new ways of carrying out regional activities; and the Society must be committed to leading the way towards greening ASHRAE’s meetings and expositions.

### **ASHRAE's Emphasis on Sustainability**

In recent years, ASHRAE as an organization has begun to place a strong emphasis on sustainability. Recent examples of ASHRAE's sustainability efforts include:

- *ASHRAE GreenGuide* (2004)
- Advanced Energy Design Guide Series (first in series released in 2004)
- *ASHRAE Strategic Plan for Research* focuses on sustainability (2005)
- *ASHRAE Sustainability Roadmap* (2005)
- *ASHRAE Strategic Plan* focuses on sustainability (2006)
- "Sustainability in the Building Environment" satellite broadcast (April 2006)
- *SPC 189, High Performance Building Standard* (initiated in 2006)
- ASHRAE becomes a title sponsor of the 2007 Solar Decathlon (2006)
- ASHRAE short courses, Society meeting program topics, and chapter meeting presentations centered around sustainable building design and operation strategies
- ASHRAE website [www.EngineeringforSustainability.org](http://www.EngineeringforSustainability.org) (launched October 2005)

The *ASHRAE Sustainability Roadmap* states ASHRAE will "conduct our own affairs in a sustainable manner." In addition to the activities listed above, ASHRAE President Terry Townsend institutionalized a commitment to do this when he incorporated rewards for sustainability activities conducted at the Chapter level in the 2006/2007 Society Year PAOE point system. Chapters may now receive the following points within a "Sustainability Activities" PAOE category.

- 30 points for each chapter program and chapter sponsored educational seminar having a clearly identified sustainability theme
- 20 points for each chapter lunch or dinner meeting conducted in accordance with sustainable meeting guidelines
- 20 points for any chapter activity in its community that is sustainability-oriented (e.g. planting trees, restoring natural habitats, etc.)
- 10 points for each chapter newsletter having an article on a sustainability topic

The intent of this PAOE category is to encourage chapters to implement new methods of conducting their business in order to reduce the environmental impact resulting from carrying out their activities. There is no prescriptive set of criteria or minimum number of activities that must be done in order to receive the points. The objective is to persuade the chapters to: 1) become aware of the environmental impacts of their activities; and 2) creatively develop strategies to minimize those detrimental impacts.

### **Sustainable Meeting Guidelines for Chapters**

Chapters may earn PAOE points for having a sustainable breakfast, lunch or dinner meeting by doing any number of the actions listed below; however, it is recommended that chapters do as many of these actions as possible. Chapters having suggestions for actions in addition to those listed should report the new actions to their RVCs to verify that the action is acceptable for receiving PAOE points. If the new action is considered acceptable, it will be posted for other chapters to consider implementing as well.

It is suggested that a chapter record its actions, including date the action was taken, when the action was implemented, and how successfully it was implemented. The reason for this record keeping is so the chapter can track progress towards reducing the environmental impact of holding its meetings.

**Sustainable Actions for Chapter Meetings**

- Hold meetings with a sustainability or green practices theme to raise the awareness level of ASHRAE members about these issues.
- Conduct ASHRAE event in “green” facilities (e.g., a LEED rated facility or facility designed and operated to have less of an environmental impact than conventional, code-compliant buildings).
- Select sites (e.g., hotels, convention centers, and restaurants) for holding ASHRAE meetings that have implemented sustainable practices of doing business.
- Reduce the amount of paper distributed during ASHRAE events. For example, distribute material and information electronically.
- Reduce water use directly associated with conducting ASHRAE events (e.g., only serve the water/tea or other drinks upon request instead of having glasses at every plate when meals are served during an ASHRAE event).
- If disposable service items are used during meals served in conjunction with ASHRAE events, use bio-based products.
- Select menu items that minimize resources to prepare, store, and serve meals and dispose of the leftovers.
- Find a use for the meal leftovers (e.g., is there a homeless shelter or soup kitchen down the street who may like to have the unused food immediately after the meeting is over? Is there a hog farm close by that would like to have the scraps returned from the attendees and the kitchen scraps?).
- Purchase emission credits to offset all types of emissions produced as a result of conducting an ASHRAE event (ASHRAE will provide information about one method for purchasing offsets).
- Use an alternative mode of transportation other than single-occupant vehicles or taxis with only one passenger to travel to ASHRAE events (e.g., carpools, public transportation, or riding a bike). Encourage carpooling to ASHRAE chapter meetings. Consider instituting a carpooling program for your chapter. Set goals for reducing the number of single-occupant vehicles used for travel to the ASHRAE event.
- Select a meeting facility that is centrally located to minimize travel distances for those attending the meeting.

**General Sustainable Actions Recommended for ASHRAE Society, Regional, Chapter and Individual Member Levels**

Table 1 summarizes actions ASHRAE may pursue at the Society, Regional, Chapter, and individual member levels.

It is suggested that actions taken be recorded, including the date the action was taken, when the action was implemented, and how successfully it was in implementing. The reason for this record keeping is so the Society, Regional, Chapter, and individual member can track progress towards reducing the environmental impact of conducting ASHRAE business.

Table 1. General Sustainability Actions ASHRAE May Pursue

<b>Sustainable Action</b>	<b>Society</b>	<b>Region</b>	<b>Chapter</b>	<b>Individual</b>
Hold meetings with a sustainability or green practices theme to raise the awareness level of ASHRAE members about these issues.	X	X	X	

<b>Sustainable Action</b>	<b>Society</b>	<b>Region</b>	<b>Chapter</b>	<b>Individual</b>
Conduct ASHRAE business in “green” facilities (e.g., a LEED rated facility or facility designed and operated to have less impact on the environmental impact than conventional, code-compliant buildings).	X	X	X	
Select sites (e.g., hotels, convention centers, and restaurants) for holding ASHRAE meetings which have implemented sustainable practices for doing business.	X	X	X	X
At the ARI/ASHRAE Expo or when transportation is provided for regional and chapter events, request shuttles that are powered by alternative fuels or are electric-powered.	X	X	X	
Reduce the amount of paper distributed and used during ASHRAE events. For example, distribute material and information electronically.	X	X	X	X
Use paper containing recycled content and print two-sided when paper documents are distributed.	X	X	X	X
Hold electronic meetings for conducting some ASHRAE business (e.g., conference calls or web meetings) that are intended to reduce the number of face-to-face meetings that are held.	X	X	X	X
Participate in ASHRAE e-learning opportunities and satellite broadcasts to learn about ASHRAE-related issues without having to travel long distances to attend meetings.			X	X
Implement a recycling program within your place of business and at chapter, regional, and Society meetings and events to recycle paper, glass, plastic, and other waste products.	X	X	X	X
Reduce water use directly associated with conducting ASHRAE business (e.g., only serve the water/tea or other drinks upon request, instead of having glasses at every plate when meals are served during an ASHRAE event).	X	X	X	
If disposable service items are used during meals served in conjunction with ASHRAE events, use bio-based products.	X	X	X	X
Select menu items that minimize resources to prepare, store, and serve meals, and dispose of the leftovers.	X	X	X	
Purchase emission credits to offset all types of emissions produced as a result of conducting an ASHRAE event (ASHRAE will provide information about one method for purchasing offsets).	X	X	X	X

<b>Sustainable Action</b>	<b>Society</b>	<b>Region</b>	<b>Chapter</b>	<b>Individual</b>
Find a use for the meal leftovers (e.g., is there a homeless shelter or soup kitchen down the street who may like to have the unused food immediately after the meeting is over? Is there a hog farm close by that would like to have the scraps returned from the attendees and the kitchen scraps?).	X	X	X	
Coordinate Distinguished Lecture (DL) visits within a region to maximize the value of DL travel. Schedule meetings in two chapters on the same day (i.e., lunch and dinner) or on adjacent days. This may require some chapters to reschedule their meetings.	X	X	X	
Use an alternative mode of transportation other than single-occupant vehicles or taxis with only one passenger, to travel to ASHRAE events (e.g., carpools, public transportation, or riding a bike). Encourage carpooling to ASHRAE chapter meetings. Institute a carpooling program for your chapter. Set goals for reducing the number of single-occupant vehicles used for travel to the ASHRAE event.			X	X
Encourage members to talk to their friends, relatives and neighbors concerning issues important to a sustainable society, and encourage them to take at least one positive step to contribute to improving one of those issues.				X
Requests members to do an energy audit of their houses, place of business, and/or the facility in which your chapter meetings are normally held. Encourage members to act on the recommendations of the audit of their personal homes. Prepare a list of recommendations for your place of business and ASHRAE chapter meeting facility to reduce energy consumption, and include the anticipated energy cost savings.			X	X
Compare monthly energy and water utility bills to track the results of efforts to conserve resources.			X	X
Encourage the development of alternative transportation choices in your local community, and use them yourself (if available).			X	X
Become active in your local ASHRAE chapter to encourage that group to follow the sustainability principles and practices listed in this document.				X

<b>Sustainable Action</b>	<b>Society</b>	<b>Region</b>	<b>Chapter</b>	<b>Individual</b>
Check out the relevant technical committees and working groups that exist within ASHRAE and be active in those in which you have an interest.				X
Become an informed citizen. Do your own research into the issues and problems associated with consumption of energy, water resources, materials, etc. For example, ASHRAE members typically deal with the technical issues of consuming energy and resources on a daily basis. By learning more about the political, societal, and environmental aspects of these issues, ASHRAE members can help others focus on these components as well. Solutions to these issues must consider all aspects of our available knowledge and technology.				X
Participate in educational and public outreach activities that teach sustainability principles or promote events related to sustainability. For example, participate in school activities that help students learn about sustainability and place public announcements (radio, local cable TV, newspapers, etc.) about ASHRAE events that focus on sustainability, such as a chapter technical conference.	X	X	X	X
Become active in the Green Power program offered by your electric utility. Purchase an equivalent amount of Green Power for conducting specific ASHRAE activities (e.g., holding a chapter meeting). If your utility does not currently have a program, contact a utility representative to ask why not and encourage your utility to jump on board.		X	X	X
Take advantage of the tax credit benefits offered by the recent Energy Policy Act of 2005 (EPACT). EPACT offers potential benefits to homeowners, home builders and commercial businesses. Research the tax breaks and give serious consideration to what you can do as a consumer and professional take advantage of these incentives. A summary of the benefits available is given on the DOE website at: <a href="http://www.energy.gov/taxbreaks.htm">http://www.energy.gov/taxbreaks.htm</a> .	X			X

Sustainable Action	Society	Region	Chapter	Individual
Replace incandescent or other less efficient lighting in your home or office with compact fluorescents. Do your own calculations to determine not only the energy savings but also the net reduction in CO <sub>2</sub> emissions (due to the reduced energy consumption) and the reduced disposal issues) due to the extended life of the alternative lamps). Average CO <sub>2</sub> emissions factors from electricity generation are given by state in <a href="http://www.eia.doe.gov/pub/oiaf/1605/cdrom/pdf/e-supdoc.pdf">http://www.eia.doe.gov/pub/oiaf/1605/cdrom/pdf/e-supdoc.pdf</a> .				X
Share success stories describing how your chapter, region, and self have contributed to conducting ASHRAE business in a more sustainable manner. (Upon CTTC advice, this may include a display at CRCs, regular updates (e.g., bi-annually) to a website containing suggestions from all chapters, a note in the in RVC Annual and Winter meeting report, or other outlets for this information.)	X	X	X	X
Recognize chapters and individuals who have successfully implemented a significant number of changes to reduce the total environmental impact of doing ASHRAE business.	X	X	X	X

**What you can do as a member?**

Adapting to a ‘sustainability mindset’ is something that not just ASRHAE as an organization should pursue; but that we, as individual members, can pursue as well. Consider incorporating as many of the items as possible from Table 1 into your daily activities. On your next professional project, do a life-cycle cost analysis on the energy consuming systems where you compare the installed costs and energy usage for different system components with different levels of efficiency. If this is not something your company would normally do, you might have to find time to do so on your own. Summarize the results and do what you can to encourage the owner or project managers to select the choice that first minimizes energy usage and secondly results in the lowest life-cycle cost. (Evaluate the total picture and be prepared to make a recommendation to install the more energy efficient unit, even if the life-cycle cost is not as good as the less efficient unit. As the products are used in greater volume, the initial cost will also reduce; therefore, that product will become the one with the lowest life-cycle cost.) Information on equipment owning and operating costs will be posted on ASHRAE website in the fall of 2006.