ASHRAE Technology Awards

Application Form and Instructions

(Revised October 2021)

See Appendix for Additional Guidance and Helpful Information

Program Overview

Effective energy utilization is just one of several aspects of facility and building design. The ASHRAE Technology Awards program recognizes, on an international scale, successful applications of innovative design, which incorporate ASHRAE standards for effective energy management, indoor air quality, and good mechanical design. The ASHRAE Technology Award program is intended for built projects.

The purpose of the ASHRAE Technology Awards is threefold:

1. To recognize ASHRAE members who design and/or conceive innovative technological concepts that are proven through actual operating data.
2. To communicate innovative systems design to other ASHRAE members.
3. To highlight technological achievements of ASHRAE to others, including associated professionals and societies worldwide, as well as building and facility owners.

ASHRAE Technology Award applications are accepted in each of the following categories:

I. Commercial Buildings (New, Existing, EBCx)
II. Institutional Buildings (New, Existing, EBCx)
- Educational Facilities
- Other Institutional

III. Health Care Facilities (New, Existing, EBCx)
IV. Industrial Facilities or Processes (New, Existing, EBCx)
V. Public Assembly (New, Existing, EBCx)
VI. Residential

ASHRAE honors only buildings and industrial facilities or processes that are outstanding in design innovation. An award in a category is not given if entries do not meet the highest standards. The Award of Engineering Excellence is given at the judges' discretion.

Note: ASHRAE Technology Awards are the HVAC&R industry's most prestigious honor for efficient energy use in building and environmental system performance. While the awards do not certify responsible charge or professional license status, they do recognize outstanding design innovation and successful implementation.

Benefits of Winning a Society Award

ASHRAE Technology Award winners are recognized by peers as being innovative and capable of achieving a high level of competence. Winning projects are highlighted in articles in the *ASHRAE Journal.* The Society provides press releases to industry publications and *ASHRAE Insights.*

Recipients are honored at the Plenary Session of the Society's Winter Meeting where the first-place awards as well as the "Engineering Award of Excellence" are presented. One award plaque will be presented to an entrant representing the design team and another plaque will be presented to the building owner. The winning design firm may purchase additional plaques.

Instructions

1. The individual submitting the Technology Award Application must be a current member of ASHRAE who had a significant role in the design or development of the project.
2. Regional submissions must complete pages 1 and 2.
3. Society-level submissions must also submit page 3 with engineer of record and building owner signatures.

Regional Entry Requirements

1. Entries shall include:
    a. Application Form – pages 1 and 2 (entrant signature only required)
    b. System schematic drawing/diagram not larger than 11" x 17" in size (limited text)
    c. **Judging Criterion**: Brief narrative of up to 4 pages (font size 12, doubled-spaced, 1-inch margins, 8.5x11 inch paper). The narrative should include brief discussion regarding the following criteria (if a criterion is not applicable, state accordingly).
        i. Energy Efficiency (15 Points)
        ii. Indoor Air Quality (15 Points)
        iii. Innovation (15 Points)
        iv. Operation & Maintenance (15 Points)
        v. Cost Effectiveness (15 Points)
        vi. Environmental Impact (15 Points)
        vii. Quality of Presentation (5 Points)
    d. One year of operational data is not required for Regional submissions.
4. Submit your schematic, brief narrative, and completed form to your CTTC Chapter Chair for judging.

Society Entry Requirements

1. Entries shall include:
    a. Application Form – pages 1 and 2 from Regional competition
    b. Application Page 3 – engineer of record and building owner signatures
    c. **Judging Criterion:** May add up to 6 additional pages (font size 12, doubled-spaced, 1-inch margins, 8.5x11 inch paper) to expand upon the judging criteria (charts, schematics, and graphics are included in this page limit.) Maximum pages = 10.
    d. One year of operational data (must be included in the page limit)
    e. *All pages must be numbered*
2. The entrant must be willing to supply any additional information if requested by the judging panel.
3. The entrant must submit one completed application with signatures for the entrant, engineer of record, and building owner (electronic signatures are accepted).
4. The project must have been in successful operation for at least one year at the time of entry.
5. In order for an entry to be judged at the Society level, it must have received an award at the Regional level. All submissions to Society must be approved by the RVC and/or Regional Judging Panel recognizing the highest level intent of this prestigious award and are expected to be high level Region winners.

Submission Deadlines

1. Regional entries are due March 1st. NOTE: Regional submission date may be adjusted by RVC.
2. RVC must submit winning Regional entries to ASHRAE Headquarters by September 1st. This is a firm date for Society.
3. The CTTC RVC will invite winners in each category from the Regional competition to submit for judging in the Society level competition. The Regional winners will be given the opportunity to incorporate new information or otherwise improve their submittal before submitting it to the Society level competition (e.g., by addressing comments from regional judges). At the discretion of the judging panels at the Chapter and Regional competitions, multiple entries may be elevated to Society in each category.

ASHRAE Technology Awards Application Form
(Page 1)

Application must be complete to be considered for judging

1. **Identification (0 Points)**
   - **a.** Name of building or project: _____
2. **Category – check one and indicate New, Existing, or Existing Building Commissioning (EBCx)**

Commercial Buildings	New	Existing	EBCx
Institutional Buildings	New	Existing	EBCx
Educational Facilities	New	Existing	EBCx
Other Institutional	New	Existing	EBCx
Heath Care Facilities	New	Existing	EBCx
Industrial Facilities or Processes	New	Existing	EBCx
Public Assembly	New	Existing	EBCx
Residential (Single and Multi-Family)	New	Existing	EBCx

3. **Project Description (0 Points)**
   - **a.** Type of building or process: _____
   - **b.** Size – gross floor area of building (ft. sq. or m. sq.): _____
   - **c.** Function of major areas (such as offices, retail, food services, laboratories, guest/patient rooms, laundry, operating rooms, warehouse/storage, computer rooms, parking, manufacturing, process, or industrial process description:

     _____
   - **d.** Project design period: _____ (Begin date (mm/yyyy)) to _____ (End date (mm/yyyy))
   - **e.** Project occupancy and operation period: _____ (Begin date (mm/yyyy)) to _____ (End date (mm/yyyy))
   - **f.** ASHRAE Standards reference during design (will not be shared with the judging panel):

     _____

     _____

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(Page 2)

4. Entrant (active ASHRAE member with significant role in project):

Name: _____

ASHRAE Member #: _____ ASHRAE Chapter: _____ ASHRAE Region: _____

Entrant's Design Firm/Company: _____

Address: _____

_____

Phone: _____ Email: _____

Entrant's role in project: _____

Design Team Members *Maximum of 3 and must be an ASHRAE member

1. _____
Name Company ASHRAE Member #

2. _____
Name Company ASHRAE Member #

3. _____
Name Company ASHRAE Member #

5. Certification of Entrant (0 Points)

I certify the information submitted is correct, and that this entry satisfies the requirements of the ASHRAE Technology Award competition.

Typed Name: _____ Title: _____

Signature: _____ Date: _____

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(Page 3)

6. Engineer of Record *Required unless a written explanation is provided as to why the EOR will not grant their consent.

I consent to the presentation of this project for consideration in the ASHRAE Technology Awards Program.

Typed Name: _____ Title: _____

Signature: _____ Date: _____

Company: _____

Address: _____

_____

Phone: _____ Email: _____

7. Building Owner's Release (Building Owner cannot be the same person as Entrant)

I certify I am the owner or authorized representative of this project and hereby grant ASHRAE permission to use all enclosed information in the judging and subsequent publicity of this project.

Typed Name: _____ Title: _____

Signature: _____ Date: _____

Company: _____

Address: _____

_____

Phone: _____ Email: _____

The topics below should be addressed on separate pages and formatted according to the requirements listed in the instructions.

1. **Energy Efficiency (15 Points)**
2. **Indoor Air Quality (15 Points)**
3. **Innovation (15 Points)**
4. **Maintenance & Operation (15 Points)**
5. **Cost Effectiveness (15 Points)**
6. **Environment Impact (15 Points)**
7. **Quality of Presentation (5 Points) – no response required**

Return completed application to your CTTC RVC.

For additional information, please contact:
Rhiannon Masterson, ASHRAE Chapter Programs Manager
ChapterPrograms@ashrae.org
678-539-1128

Appendix

Supplemental Information for Submissions

General Instructions/Guidelines

1. A system schematic is strongly recommended (color-coded or black and white schematics are acceptable).
2. If a "judging criterion" is not applicable to the entry, a brief explanation should be provided.
3. Claims that are not sufficiently supported with verifiable technical evidence may receive little or no credit.
4. Information should be clear and concise.
5. If the project involves technology which is new and innovative, this feature should be clearly identified.
6. Commercialized items/notations are to be avoided. Brand names of equipment or processes should not appear in the entry.
7. Information may be submitted in IP or SI units or a combination of both.
8. All text must be in English.
9. Entries should be legible and uncluttered. Black font should be used for text (colored text should not be used, but color text for schematics is acceptable). The competition does not require nor encourage the entry be professionally produced.
10. Photographs are not necessary but are allowed if they can be incorporated within the maximum submission page length allowance.

Judging Criteria

If any of the scoring topics below are not applicable to the project, the entrant should state why. In such cases, judges are instructed to assign a "plug" score on the non-applicable topics so that the overall project score is on an equivalent basis with other entries.

1. Energy Efficiency (15 points)
    a. Entries must comply with the latest ASHRAE Standard 90.1 for new construction and Standard 100 series for existing buildings. The applicant is encouraged to use the computer modeling programs in Standard 90.1 and include summarized results to substantiate compliance. The entrant should list the type of energy modeling software used (i.e. DOE2, EQuest, etc.). Innovative ways to control, reuse or reduce energy consumption should be discussed. The entrant should specifically list the version of ASHRAE Standard 90.1 or ASHRAE Standard 100 that was used.
    b. One year's energy consumption data **is required for Society submissions**. Actual measured energy use for the building "In Operation" shall be stipulated in the entry report in CBECS EUI format (kBtu/ft^2/yr or S-I equivalent) or in ASHRAE Building Energy Quotient (bEQ) in operation format. In an industrial process, past energy usage may be compared to new, improved energy consumption.
2. Indoor Air Quality (IAQ) and Thermal Comfort (15 Points)
    a. IAQ encompasses indoor environmental quality, thereby including thermal comfort and, if appropriate to the project, other factors as well. Judges are interested in pertinent topics such as operating procedures (where, for example, pre-occupancy ventilation is a significant factor), source control of contaminants, system commissioning and evidence that design objectives have been achieved. Ventilation effectiveness could be an important aspect of the project (e.g., air distribution in auditoriums or with landscape office partitioning).
    b. While carbon dioxide, air velocity and other field measurements are impressive, they are not essential for making an award. Judges realize that such data may not be available and do not want to discourage a worthy entry. Descriptions of means of compliance with ASHRAE Standards 55 and Standard 62 are of value. Merely stating that ventilation and thermal comfort comply with these standards is superficial treatment.
    c. The information should show that the entrant has indeed addressed these standards in the design. For example:

Standard 55

- Assumed activity levels
- Clothing thermal resistance values assumed
- Air velocities measured
- Space air temperatures
- Radiant thermal control
- Humidity/condensation
- Version of Standard used

Standard 62

- Ventilation rate or IAQ criteria specified
- Ventilation effectiveness assumptions
- Methods of handling special pollutant sources
- Version of Standard Used

    d. Innovative approaches assuring good IAQ and thermal comfort in an efficient manner are of interest to judges. Support data or evidence of building performance claims might include:
        i. The rate of occupant complaints, if any
        ii. Objective measurements of ventilation, air pollution, and thermal comfort parameters (Carbon dioxide levels, measured outside air ventilation rates, pollutant concentrations measured)
        iii. Improvements in human performance such as decreased absenteeism
        iv. Building pressure relationships for odor or IAQ control

3. Innovation (15 Points)
    a. The innovative aspect of the project design must be clearly described—especially innovative application of technologies (both old and new) to a particular situation. New technology or innovation itself is not sufficient unless the needs of the facility are truly met. The uniqueness of the application is the basis of judgment. It should be indicated, for example, how the innovations are key to overall building performance.
4. Operation and Maintenance (15 Points)
    a. The intensity of required maintenance for the installed system should be addressed as compared to those non-selected options and/or previous systems. The building commissioning process, if thought to be innovative, shall be included in this category.
5. Cost Effectiveness (15 Points)
    a. One-year's data demonstrating the performance of the design or process should be provided. Data from prior years should be included if the project is a retrofit situation. Payback periods (in years) should be established. Entrant shall fully explain the basis for all cost savings, including utility rate schedules (off-peak rates and other charges).
6. Environmental Impact (15 Points)
    a. Design shall address items on reduction of global climate change gases (i.e. carbon dioxide emissions), elimination of CFCs, reduction in waste discharge and other environmentally favorable items, if applicable.
7. Quality of Presentation (5 Points)
    a. Entries are judged for logical presentation with good features clearly highlighted. Simple-to-read system schematics, charts and graphs are advantageous and are encouraged as the most effective tool in concise presentation of a system and its performance. Points may be deducted for failure to follow type size, spacing and format instructions. All pages should be numbered.
8. Judges' Prerogative (5 Points)
    a. Judges may award up to 5 additional discretionary points.

Helpful Hints

Entries which fail to receive recognition frequently do not address important items relative to the project. The following items are among those cited by the judges. Not all the items shown would necessarily apply to all entries.

1. Energy Efficiency Category
    a. No actual or projected energy use data
    b. Efficiency not addressed
    c. Project, *as presented*, is not feasible
2. Indoor Air Quality
    a. Claims unsubstantiated with any supporting evidence
    b. Ventilation rate not in compliance with current ASHRAE standard at the time project was designed; indicate time frame of design process
    c. No discussion of occupant comfort or IAQ complaints or lack of complaints
    d. No discussion of ventilation effectiveness
3. Cost Effectiveness
    a. No cost payback figures
    b. Incorrect calculations
    c. Unsubstantiated payback claims
4. Presentation
    a. Font size is too small
    b. Spacing or margins are not per instructions
    c. Flow charts are illegible or unclear
    d. Schematics are vague or incorrect
    e. Excessive pages (10 pages plus the 3-page application form for Society submissions)
5. Innovation
    a. Innovative aspect of project is not discussed or explained
6. General
    a. Project description is too general
    b. Excessive use of brand names giving the appearance of a sales brochure
    c. Old project with no new work performed
7. Maintenance and Operation
    a. Maintenance and operation were not discussed

Frequently Asked Questions

1. If not all the scoring topics apply to the project, can the entry be considered in the competition?
    a. Yes. Judges are instructed to use a "plug" score for a project that is innovative and good in most respects, but does not lend itself to all criteria. For example, a wood-drying operation may not have an impact on indoor air quality. However, points will be deducted from the scoring where the topic definitely applies to the project but was ignored.
2. Do Society competition rules apply to Chapter or Regional competitions?

    a. Chapter competitions may develop their own criteria, as long as it *clearly* states that the recognition is an ASHRAE *Chapter* Award. Regions are encouraged to follow the Society criteria to facilitate easy "clean-up" and entry for Society competition.
3. Can changes be made to an entry after the Regional competition prior to submitting to Society judging?
    a. Yes. A Regional winner may make changes to the entry to incorporate comments from Regional judges or to improve the submittal.
4. Can an entry be considered if one year's operating data are not obtainable?
    a. Yes. A reasonable explanation must be included as to why the data are not available. The results of a nationally recognized computer modeling program showing one year's energy use must be provided. However, the project must still have been in operation for at least one year.
5. Is professional registration required to be an entrant?
    a. No. Entrants must simply be a member (any grade) of ASHRAE.
6. What is the difference between an Existing Building project and an Existing Building Commissioning (EBCx) Project?
    a. Existing Building Commissioning (EBCx) is a process for investigating, analyzing, and optimizing the performance of building systems through the identification and implementation of low/no cost facility improvement measures and ensuring their continued performance. EBCx is intended to be a comprehensive term defining a process that encompasses the more narrowly focused process variations such as retro-commissioning, re-commissioning and ongoing commissioning commonly used in the industry. Entrants should check the EBCx box on their applications instead of the Existing box if the scope of the project did not include significant upgrades of the existing systems.