

Building EQ Committee
Las Vegas Winter Conference Virtual Meeting
January 20, 2022
Meeting Minutes

ATTENDANCE

Participants: Rob Risley, Michael Deru, Trent Hunt, John Constantinide, Charles Eley, Daniel Redmond, Anoop Peediyakkan, Mahroo Eftekhari, Bruce Hunn, Doug Cochrane,

Not Available: Chris Balbach, Tim McGinn

Staff: Lilas Pratt, Stephanie Reiniche, Connor Barbaree

Guests: Bill Dean, Stephen Roth, Matthew Mullen

PRINCIPAL MOTIONS¹

Motion #1: Michael Deru moved, and Charles Eley seconded that the minutes from the October 29, 2021 meeting be approved.

Vote: 6-0-0, CNV

Motion #2: Business Development Subcommittee (BDSC) moves that the Building EQ Committee approve the updated Portal Survey to include an additional question on new features as shown below.

Vote: Motion passes 6-0-0, CNV

Motion #3: Business Development Subcommittee (BDSC) moves that the Building EQ Committee approve the Portal Spreadsheet Audit Report be made available to all users on the Portal for the existing \$50 fee.

Vote: Motion passes 6-0-0, CNV

NEW AND OPEN ACTION ITEMS

January 20, 2022 Las Vegas Virtual Winter Meeting

- ✓ **AI 1:** Lilas Pratt to work with Michael Deru and John Constantinide fill out form for Honors & Awards review and approval of the Energy Genius Award recipient.
- **AI 2: Technical Subcommittee** to review reward criteria for any needed tweaks for next year.

January 13, 2022 Technical Development Subcommittee Las Vegas Winter Meeting

- **AI 1:** Lilas Pratt to set up a call with Stephen Roth, Chris Balbach, and Michael Deru on the BETTER tool.

December 15, 2021 Business Development Subcommittee Web Meeting

¹ All votes are recorded as yes-no-abstain.

- **AI 2:** Lilas Pratt to work with Doug Cochrane to develop an “elevator speech” for outreach to ASHE.

November 9, 2021 Business Development Subcommittee Web Meeting

- **AI 1:** Lilas Pratt to reach out to Vicki Worden at GBI to ask about their partnership with GRESB
- **AI 4:** Lilas Pratt to reach out to Rick Hermans about a meeting with ASHE

October 14, 2021 Technical Development Subcommittee Web Meeting

- **AI 1:** Chris Balbach to put together a presentation for a NYSERDA FlexTech meeting in November (**on hold**).

October 12, 2021 Business Development Subcommittee Web Meeting

- **AI 6:** Lilas Pratt to reach out to ASHRAE Marketing about updates to the Building EQ webpage. **On-going**

February 2, 2020 Business Development Subcommittee Orlando Winter Meeting

- **AI 2:** Lilas Pratt to mine some data from the list of universities downloading course material and provide to the committee for follow-up by the committee. (*Note: Need to request a new list of downloads*) **On-going**

January 12, 2019 Business Development Subcommittee Meeting

- **AI 3:** Lilas Pratt to develop French Portal examples (screens/reports/etc.) for use on sales calls to Hydro Quebec. **On-hold**

MEETING NOTES

1. Call to Order – Meeting convened at 11:01am EST
2. Review of [Action Items](#)
3. Report from Staff (Pratt)
 - a. Life-to-date (LTD) Portal statistics as of January 5, 2021
 - Users: 1548 (*1416 at beginning of SY*)
 - Projects: 1035 (*958 at beginning of SY*)
 - Submitted/Approved projects: 60/60 (*57/57 at beginning of SY*)
 - Reports purchased: 10 (*9 at beginning of SY*)
 - Paid credentials: 66 (*56 at beginning of SY*)
 - b. Other Portal Updates since January 5, 2021
 - During the month of January, the Portal has seen an additional submission and report purchase.
 - A number of college user registrations suggests that the Portal is again being used in conjunction with a university course.
4. Approval of Oct 29, 2021 web meeting

(File: [bEQCommittee_29Oct2021_CC_MtgMinutes_Draft.pdf](#))

Motion #1: Michael Deru moved, and Charles Eley seconded that the minutes from the October 29, 2021 meeting be approved.

Vote: 6-0-0, CNV

5. Technical Development Subcommittee Report

Michael Deru provided an update of the activities of the Technical Development Subcommittee (TDSC). Meeting notes from the Subcommittee Virtual Annual Meeting are shown in [Attachment A](#) and include additional details.

- **The PRM Methodology update** to the As Designed rating is nearly complete and will be demonstrated at the in-person/hybrid meeting in Las Vegas. The launch will follow the Winter Conference in February or March. The deliverables are the Portal changes, updated help and instructions, the As Designed API, documentation for the API.
- A draft of the BEQ Portal In Operation API documentation should be available by the end of January and will be discussed at the in-person Las Vegas meeting. The As Designed API will follow the launch of the PRM methodology
- The Task Force for Building Decarbonization (TFBD) had asked if Building EQ could **add carbon metrics to the Portal**. Charles Eley developed a proposed methodology that would allow for a carbon metric to be developed internationally by country or region. The locations outside the U.S. will be more challenging than the US in regard to getting the data for the mix of the electricity in that country or region.
- Bill Dean reported the data would be available for Canada and most of Europe.
- LBNL had developed a flow chart that details the mix of fuel sources for every country. They are a little old (2010) but would be one possible source for the data. There are likely more current sources as well.
- The TFBD continues to monitor the situation and is looking for funding. The Task Force is meeting in Las Vegas on Tuesday at 12pm PST.
- The TDSC has discussed the **use of Building EQ for 179D tax deductions** (<https://www.energy.gov/eere/buildings/179d-commercial-buildings-energy-efficiency-tax-deduction>). The tax deduction was extended permanently at the end of 2020, which allows it to be used more consistently when planning projects.
- There is a push from DOE to encourage use of 179D to encourage more energy efficient construction. This language adds a path for retrofits, increases the deduction to \$5 per square foot, and incorporates a sliding scale. The tax deduction is really geared towards private buildings although it does include language for government buildings.
- A procedure has been developed to incorporate the **Site-Source Change in ZeroTool** methodology. The ZeroTool is what is used to emulate ENERGY STAR for the ENERGY STAR eligible buildings for the In Operation rating. Because any change to the site-source factor affects all projects, this change needs to include a provision to freeze the factors for completed projects.
- The draft **Final Report for RP-1771** is being reviewed by the PMS now, but this committee will need to approve the final report once finalized by the PMS and Principle Investigator. That final report is expected within the next two months.

6. Business Development Subcommittee Report

Trent Hunt provided an update of the activities of the Business Development Subcommittee (BDSC). Meeting notes from the Subcommittee Virtual Annual Meeting are shown in [Attachment B](#) and include additional details.

- The case study **Journal Article** was published in the January issue. John Constantinide worked with Hamidreza Najafi and Bruce Lindsey on the article which details the work of Florida Institute of Technology and Brevard Public Schools.
- The article is available in the ASHRAE Technology Portal and in the bookstore here: (https://www.techstreet.com/ashrae/standards/ashrae-building-eq-empowers-schools-teaches-students?product_id=2243612)
- ASHRAE has signed and sent the **Letter of Intent to Green Building Institute (GBI)** in regard to collaborative work and the use of Building EQ for Green Globes. The next step will be to reach out for a follow-up meeting.
- The Portal [Value Propositions by Market Segment](#) has been updated and will be added to the Building EQ web page.
- A [Portal User Survey](#) was developed some time back but was never distributed. In light of the on-going discussions on using the BETTER tool and how that might allow for potential enhancements to the Portal reporting information, the BDSC wanted to update the survey to acquire feedback on these potential enhancements.
- Note that question #5 on the survey is the new question that was added.
- The subcommittee approved the changes to the Portal 4-0-0, CNV.

Motion #2: Business Development Subcommittee (BDSC) moves that the Building EQ Committee approve the updated Portal Survey to include an additional question on new features as shown below.

Discussion:

- The survey would go to all Portal Users. ASHRAE Marketing has asked that we limit the survey to that group.

Vote: Motion passes 6-0-0, CNV

- The **Portal Spreadsheet Audit Report** is required by Standard 211 but does not contain the Building EQ Performance Score information that would require it to be available to only approved projects. The BDSC wanted a report that would not compromise the integrity of the Building EQ Performance Score to be available to all users as this may lead more users to get reports from the Portal. All reports in the Portal are linked to the specific project so that only users on that project are able to access reports.
- This option may be attractive to universities using Building EQ for student projects but might also be welcomed by users doing projects but not looking for ASHRAE approval.
- The subcommittee approved this motion 4-0-0, CNV.

Motion #3: Business Development Subcommittee (BDSC) moves that the Building EQ Committee approve the Portal Spreadsheet Audit Report be made available to all users on the Portal for the existing \$50 fee.

Discussion:

- This option opens up a huge market for potential revenue and there is no associated downside as no scores are in this spreadsheet.

- The spreadsheet is for Standard 211 compliance, and that compliance also requires the credentialed professional, so there is no loss of credibility associated with this.

Vote: Motion passes 6-0-0, CNV

- **MTG. EBO Committee** met yesterday and discussed **Building EQ collaboration** possibilities. The committee is in the process of rewriting their scope to better explain what they are trying to achieve. The goal is to provide a resource for buildings to use for better building operations connecting with organizations like BOMA and IFMA.
- Building EQ would be a very useful tool for MTG.EBO to support and would like to cosponsor a live demo in either Toronto or Atlanta. There would seem to be a lot of synergy between MTG.EBOs efforts and Building EQ.
- In October, **an informational letter on Building EQ** was sent out from the committee to Chapter Program Chairs. Trent Hunt has been working with Chad Smith, GAC chair, about sending an email out to all the Chapter GAC Chairs. The committee is also looking at sending a letter to Chapter Student Chairs and Chapter Presidents.

7. Other Business (Risley)

- a. Review of 21-22 SY MBOs (File: [Building EQ 21-22MBO Tracking 27Oct21.xlsx](#))
 - The MBOs will be updated based on activity through today and sent out with the meeting minutes.

8. EXECUTIVE SESSION

- a. Energy Genius Award
 - The committee reviewed and voted on the award recipient recommended by the Technical Development Subcommittee.
 - The recommendation was approved unanimously: 6-0-0, CNV

AI 1: Lilas Pratt to work with Michael Deru and John Constantinide fill out form for Honors & Awards review and approval of the Energy Genius Award recipient (Note: Form completed and sent to Honors & Awards).

AI 2: Technical Subcommittee to review reward criteria for any needed tweaks for next year.

9. Upcoming Meetings

- BEQ Business Development SubC, 2nd Tuesday at 11:30am
- BEQ Technical Development SubC, 2nd Thursday at 11:00am

10. Adjourn – **Meeting adjourned at 12:25pm EST**

Attachment A – Technical Development Subcommittee Meeting Notes

Building EQ Technical Development Subcommittee Las Vegas Virtual Meeting January 13, 2022, 11:00am-12:30pm

SubC Members: Michael Deru (chair), Charles Eley, Mahroo Eftekhari, Bruce Hunn, Chris Balbach

Other Committee: Rob Risley, John Constantinide, Trent Hunt, Doug Cochrane

Guests: Stephen Roth, Jarrod Tandy, Gabriela Gomez

Staff: Lilas Pratt, Connor Barbaree

1. Call to Order – **Meeting convened at 11:02am EST**
2. Development Updates
 - a. BEQ Portal API Documentation –
 - The In Operation API is functional as it was created as part of the SBIR grant, but the documentation needs to be completed. The timeline is to have a draft completed by Las Vegas.
 - The development of the API for the new As Designed methodology is still in progress. Chris Balbach noted that he is available for user testing of these changes.
 - b. Use of BETTER Tool with Building EQ Portal –
 - No updates at this time
 - c. System Level KPIs
 - No new developments at this time. As previously reported, there is a very good method that PNNL developed that could be rolled into the Portal.
 - The question is whether or not that would add value and if that is the most pressing priority for the Portal.
 - d. Reporting Operational Carbon Usage in the Portal
 - No new developments. AS previously reported, a document outlining how to add carbon to the Portal was sent to Bill Dean to share with the Decarbonization Task Force. The committee has not heard back from then.
 - Charles Eley is on the Operational Carbon Working Group of that Task Force. They wrote a report on carbon metrics with several other ASHRAE members.
 - That metrics report was approved by the subcommittee and is moving up through the main task force. The feedback so far is that it wasn't international enough. The document will be updated by mid-February.
 - This will likely relate to what may be done with Building EQ.
 - e. Building EQ in Green Globes
 - The draft of a letter of intent has been completed and shared with GBI. Some feedback was received back. This is now waiting on review and approval by Jeff Littleton and ExCom. The goal is to have it completed by Las Vegas.
 - Once completed, everything else should start to move forward.
3. Postponed Business
 - a. Building EQ for 179D tax deduction (<https://www.energy.gov/eere/buildings/179d-commercial-buildings-energy-efficiency-tax-deduction>)

- Michael Deru had previously brought up the 179D tax deduction as a possible application for Building EQ.
 - The deduction has been made permanent and is tied to Standard 90.1. There are some things in the Build Back Better legislation that would expand some of the credits which are likely to be passed one way or another as the changes are not considered politically controversial.
 - The deduction is becoming more relevant, and DOE is pushing for this to be a significant lever to encourage energy efficiency in new buildings and in retrofits.
 - If there is an easy way to show energy performance as compared to 90.1 in the Portal then it could be used to demonstrate 179D qualification.
 - This ties in with the work on the As Designed rating that could possibly show a comparison to Standard 90.1. The new PRM methodology basically compares the rated building to a 90.1 baseline (which is now stable in Standard 90.1 and roughly based on the 2004 version of 90.1).
 - Right now, 179D is based on cost data, which should not be a problem..
 - NREL has supported the technical guidance for 179D and has some money to look into some of this later in the spring.
- b. Incorporating the Site-Source Change in ZeroTool methodology
- A procedure exists to make this change, but it does require some new programming to the Portal to address the ZeroTool methodology.
 - The Portal also needs a system that freezes the scores of previous projects that go with the year of the measured energy data, especially for all submitted/approved projects. Any issued rating should be locked into the site-source that matches the measures data.
 - The site-source factor for electricity is somewhat dynamic as utilities continue to make changes to the fuel sources for the grid. Standard 189.1 updates those site-source factors every three years with updates to the standard. An addendum is coming out for review with the latest updates.
 - The committee needs to think about whether or not they want to continue to track the 189.1 changes every three years.
4. Update on Technical Questions Received
- a. Air Velocity Limits Warning Values (from Slovenia)
- The current validation warning is backwards and needs to say normally lower rather than normally higher. This is an easy fix that will be addressed.
- b. Wood/biomass IP units (from Slovenia)
- Should weight be included as a metric for biomass? One would expect the auditor to convert the biomass into energy units rather than enter the weight.
 - An informational item (help note) may need to be added on the start date/end date for biomass fuel noting that it should be based on usage, not shipments. If shipping and inventory information is available, usage should be easy to calculate.
 - It is easy to add new fuel units that will be addressed.
5. Research and Other Project Updates – Discussion deferred.
- a. RP-1836 Developing a Standardized Categorization System for EEMs (Balbach)
- b. 1771-RP Energy Modeling of Typical Commercial Buildings in Support of ASHRAE Building Energy Quotient Energy Rating Program (Deru)

6. Demonstration of PRM Methodology Beta
 - Stephen Roth demonstrated the latest changes to the As Designed rating with the PRM methodology updated.
 - During the discussion, it was noted that once a project is submitted, the information is locked. That project could be copied using the copy project button, and the data reentered as an update or fresh project.
 - The energy data inputs will be API entry points so as to allow for automatic population from the modeling software tools in the future.
 - This methodology will also be demonstrated at the in-person Las Vegas meeting with the goal of launching the update in mid to late February.
 - This update will replace the old methodology.
 - Once this update launches and the API is finished, the committee can go back to DOE to talk about how Building EQ relates/interacts with the DOE Asset Score.
 - The translations for French and English will be done after the launch.
 - The help text also needs to be updated to reflect the changes to the methodology.

7. Review of Energy Genius Award Submissions (**Executive Session**)
 - The committee reviewed submissions and approved one for recommendation to the full committee to receive the award. The vote was 5-0-0, CV.

8. Parking Lot Issues – Discussions Deferred
 - a. NYSERDA FlexTech Discussion on Level 1+ Functionality (Balbach)
 - b. Digital Twins / MTG.BIM (Eftekhari)
 - c. Data Center Methodology (Deru)
 - d. Std 62.1 Tables for ventilation quantities and measurements (COMNET)
 - e. DOE / ORNL Model America Update ([10.13139/ORNLNCCS/1774134](https://www.ornl.gov/info/press-releases/2021/01/13/10.13139/ORNLNCCS/1774134))
 - f. DOE Better Source Engine
 - https://github.com/LBNL-ETA/BETTER_analytical_engine
 - https://better.lbl.gov/media/template/BETTER_Handout_4.16.2021.pdf

9. Review of AD/IO Spreadsheet Methodologies – Discussion Deferred

Adjourn – **Meeting adjourned at 12:30pm EST**

Attachment B – Business Development Subcommittee Meeting Notes

Building EQ Business Development Subcommittee Las Vegas Virtual Meeting January 11, 2022, 11:30am-1:00pm

SubC Members: Trent Hunt (chair), Daniel Redmond, Anoop Peediayakkan, John Constantinide, Doug Cochrane

Other Committee: Rob Risley, Chris Balbach, Michael Deru, Mahroo Eftekhari

Guests: Stephen Roth

Staff: Lilas Pratt, Connor Barbaree

1. Call to Order - **Meeting Convened at 11:32am EST.** Quorum was established.
2. Announcements
 - a. Updated Disclosure Report now includes metric version and has also been updated to reflect changes to the As Designed rating.
 - b. Publication of Journal Article in the January Issue – the web page will now link to this article in the books store.
3. New Business
 - a. Review of [Portal User Survey](#) to ask about additional functionality
 - The committee reviewed the proposed updates to the portal survey, specifically the addition of a new question asking about possible new features.
 - One item was added during that conversation in regard to comparing the candidate building to Standard 90.1.

Motion #1: John Constantinide moved, and Dan Redmond seconded that the subcommittee recommend that the full committee approve the proposed updated Portal User Survey.

Vote: Motion passed 4-0-0, CNV

- b. Correspondence to Chapters and Letter for outreach to local municipalities and universities
 - GAC was asked to distribute the standard procedures information on Building EQ to the government affairs chapter chairs. Emily Porcari forwarded the information to the RVCs asking them to send it to their chapter chairs.
 - A follow up email to Chad Smith, Sonya Pouncy, and Emily Porcari was suggested to see if that was accomplished and if Building EQ Committee could help that effort.
 - Another suggestion was to send to information (like the CTTC email) to Chapter Presidents and Chapter President-elects.
 - The committee may want to update the previously sent CTTC email and send it out in February after the Energy Genius award and the PRM methodology update have been implemented.
 - Another idea is to send a new letter specifically about the Journal article and ask them to mention their article in their chapter newsletter.
 - Any correspondence should also note that Building EQ could help chapters work towards sustainability awards.

- c. Feasibility of subscription service for Portal reports
 - This idea behind this is that you pay an annual fee which would allow for unlimited reports for that year or for a specific number of reports for that year.
 - This would apply to Assessors who are doing a lot of reports for different buildings or to energy managers responsible for a large portfolio of buildings.
 - This change would require a programming change because this is a different way to approach billing and payment for reports.
 - The committee agrees that this is an option worth exploring.
 - This option may appeal to users as it creates a defined cost that can be budgeted over a specific period of time.
 - They prefer the unlimited reports during the annual period as a way to generate more report purchases. It was noted that the unlimited amounts could be adjusted to fees for specific numbers of reports in the future.
 - The committee also agreed that more information from users on this option would be helpful. Adding this feature to the survey was suggested.

Motion #2: John moved, and Dan Redmond seconded that options on the annual report fees be added to the new features question on the previously approved updated survey.

Vote: Motion passed 4-0-0, CNV

- f. Offering Spreadsheet Audit report to all users
 - The idea here is that this specific report is required by Standard 211 but does not contain the Building EQ Performance Score information that needs to be allowed for only credentialed users.

Motion #3: John Constantinide moved, and Anoop Peediayakkan seconded that the subcommittee recommend that full committee approve the Portal Spreadsheet Audit Report be made available to all users on the Portal for the existing \$50 fee.

Discussion:

- It was noted the reports are linked to the projects so that only users on that project would be able to access the report.
- The committee agreed that this was a great idea to lead people to getting reports from the Portal. It may be especially attractive to universities using Building EQ for student projects but might also be welcomed by users during projects but not looking for ASHRAE approval.
- University faculty may want to opt for a subscription to get reports for all their students.

Vote: Motion passed 4-0-0, CNV

4. Business Development Updates

- a. Collaboration with MTG.EBO (Effective Building Operations)
 - This committee is next meeting is a virtual Las Vegas meeting on Wednesday, January 19 at 4pm-6pm EST.
 - Dan Redmond was asked to bring updated information on this item to the full Building EQ Committee meeting on January 20.
- b. Update for outreach to ASHE – Elevator Speech for outreach to ASHE
 - Discussion deferred. Work on the elevator speech is still in process.
- c. Building EQ in Green Globes
 - ASHRAE is still working on the Letter of Intent to codify collaboration between ASHRAE and GBI. A draft of that letter has been sent to GBI for review.

- GBI is waiting on that letter before taking the next steps in the collaboration.
 - The collaboration benefits both parties because ASHRAE gets promotion of their (e.g., Building EQ), and GBI gets a highly credible tool for Green Globes compliance as well as access to chapters to help them grow internationally.
- d. Additional Case Studies
- The completed case study will be posted on the Building EQ webpage.
 - Options for new case studies include the winner of the Energy Genius Award and the University of Central Florida.
 - Another option is to send an email out to all submitted and approved projects to see if any are interested in
- e. Incorporating [Talking Points](#) into Building EQ Web Page and documents
- The generalization of the talking points has been completed and the updated talking points will be posted to the web page as per the action item.
5. Parking lot Items
- a. GRESB (<https://gresb.com/>)
 - b. NYSERDA Flexible Technical Assistance Program
6. Next Meetings
- Full Committee web meeting: Thursday, January 20, 2022, 11:00am-12:30pm EST
 - Full Committee Las Vegas Mtg: Sunday, January 30, 2022, 8:00am-10:00am PST
 - Business Development SubC: Tuesday, February 8, 2022, 11:30am-12:30pm EST

Adjourn – **Meeting adjourned 1:01pm EST**

Building EQ Portal Value Proposition by Market Segment

General Benefits of Building EQ:

- Building EQ helps building owners/operators understand their building's current energy usages and more importantly how they can improve their building's energy performance, either through physical renovation or changes in operating practice.
- Building EQ builds upon and goes beyond ENERGY STAR Portfolio Manager benchmarking by offering actionable recommendations and concrete energy conservation measures as part of the Level 1 Energy Audit.
- Building EQ helps ASHRAE members offer valuable services to their clientele through benchmarking and energy auditing
- When used in conjunction with Standard 211 (*Standard for Commercial Building Energy Audits*), Building EQ empowers building owners to understand the value and efficiency of their building assets and, more importantly, how they can improve their buildings' performance, reduce costs, and comply with the state's energy regulations with concrete building solutions.
- Through the projects entered, the Building EQ Portal is developing a database that can support ASHRAE committees and ASHRAE research with the use of aggregated/anonymized data on building energy performance.
- Access to the aggregated/anonymized data on building energy performance will also provide valuable information to policy makers, building developers, and equipment manufacturers.

Benefits for state and local municipalities

- Building EQ supports sustainability mandates and goals to reduce energy and carbon use by providing a consistent approach and standardized reports for an ASHRAE Level 1 Energy Audit as defined in ASHRAE Standard 211 Standard for Commercial Building Energy Audits.
- When used in conjunction with Standard 211, Building EQ empowers municipalities to understand the energy performance and efficiency of the building assets in their jurisdiction and, more importantly, how to improve those buildings' performance, reduce costs, and comply with any energy regulations and mandates in force, either through renovation or changes in operational processes.
- Building EQ provides a rigorous and effective process to implement building energy disclosure and energy efficiency regulations in a systematic and coordinated way.
- Building EQ builds upon and goes beyond ENERGY STAR Portfolio Manager benchmarking by offering actionable recommendations and concrete energy conservation measures as part of the Level 1 Energy Audit.
- Building EQ connections to the DOE Asset Score Audit Tool via BuildingSync allow information from the Audit tool to be pulled into the Building EQ Portal to and to utilize standardized reports that meet the Standard 211 reporting requirements for a Level 1 Energy Audit.
- With a customizable platform licensed from Building EQ. the processes and reports can be further customized to meet the municipalities specific energy regulations and mandates.
- A customized platform allows Building EQ to be integrated more seamlessly into existing state platforms and requirements.

Benefits for hospital/medical organizations

- Building EQ supports the ASHE Energy to Care program as it builds upon and goes beyond ENERGY STAR Portfolio Manager by offering actionable recommendations as part of the Level 1 Energy Audit.
- Building EQ supports ASHE goals to improve energy performance while optimizing health care by providing a consistent approach and standardized reports for an ASHRAE Level 1 Energy Audit as defined in ASHRAE Standard 211 Standard for Commercial Building Energy Audits
- Building EQ helps health care facility owners and users to better understand their building's energy performance and how they can reduce consumption without sacrificing quality of patient care.
- The Building EQ Portal provides concrete energy conservation measures that can be adapted to any health care facility environment.
- Building EQ allows building projects to be grouped by campus and/or portfolio to better track information between buildings and over time.

Benefits for higher education organizations:

- The Building EQ Portal is a tool to engage young members and to connect with students and colleges/universities by providing the following benefits:
 - Education –colleges and universities can expand their course offerings in building energy auditing/assessment, while engaging local ASHRAE chapters. This is of great value to students, faculty, and local ASHRAE members.
 - Hands on experience– students can study and evaluate the buildings on their campuses (both to apply what they have learned and to gain valuable networking experience in the industry...right at their front door)
 - Improved operation – campus building operators can reduce school operating costs and enhance the credibility and visibility of the school as "green" organizations
- Building EQ allows building projects to be grouped by campus and/or portfolio to better track information between buildings and over time.

Benefits for multi-building owners, commercial property managers, and developers:

- Building EQ helps building owners and users to better understand their building's energy performance and how they can reduce consumption without sacrificing operation or occupant satisfaction.
- Building EQ builds upon and goes beyond ENERGY STAR Portfolio Manager benchmarking by offering actionable recommendations and concrete energy conservation measures as part of the Level 1 Energy Audit.
- Building EQ supports sustainability, carbon reduction goals, and "green" credibility through the conducting of an ASHRAE Level 1 Energy Audit as defined in ASHRAE Standard 211 Standard for Commercial Building Energy Audits.
- Building EQ allows building projects to be grouped by campus and/or portfolio to better track information between buildings and over time.
- Building Owners can more effectively promote their Building EQ scores across their management portfolio while customizing their display/presentation of these energy efficiency credentials.

Benefits for utilities:

- Building EQ supports state sustainability mandates and goals to reduce energy and carbon use and provides a consistent approach and standardized reports for an ASHRAE Level 1 Energy Audit as defined in ASHRAE Standard 211 Standard for Commercial Building Energy Audits.
- Building EQ builds upon and goes beyond ENERGY STAR Portfolio Manager benchmarking by offering actionable recommendations and concrete energy conservation measures as part of the Level 1 Energy Audit.
- When used in conjunction with Standard 211, Building EQ helps utilities understand the energy performance and efficiency of the building assets in their territory and provides information on how to improve those buildings' performance, reduce costs, and comply with any energy regulations and mandates in force, either through renovation or changes in operational processes.
- The information collected in the Building EQ Portal can be used in conjunction with utility sponsored incentives to help further energy and carbon reduction goals.
- With a customizable platform licensed from Building EQ, the processes and reports can be further customized to meet a utility's specific energy reporting requirements.
- A customized platform allows Building EQ to be integrated more seamlessly into existing utility platforms and requirements.

Building EQ Portal User Survey Questions

1. For projects that you were you are working on, are you looking to:
(click all that apply)
 - a. Recognize the energy performance of your building
 - b. Recognize the energy performance of a customer's building.
 - c. Compare energy performance to other similar buildings to see if your building needs to be improved
 - d. Compare a energy performance to other similar buildings to see if a customer's building needs to be improved
 - e. Assess energy performance with a Level 1 Energy audit for your building
 - f. Assess energy performance with a Level 1 Energy audit for a customer's building
 - g. Compare modeled design options for your building
 - h. Compare modeled design options for a customer's building

2. Do you do energy audits as part of your work?
 - a. Yes
 - b. No

3. Does the jurisdiction you are working in require:
(click all that apply)
 - a. Benchmarking
 - b. Level 1 Energy Audit
 - c. Level 2 Energy Audit
 - d. Building Energy Use Reporting (i.e., government)
 - e. Building Energy Use Disclosure (i.e., real estate)
 - f. Building Energy Use Label/Certificate
 - g. Unknown

4. What features in the Building EQ Portal do you find most valuable for enhancing your work?
(click all that apply)
 - a. Building EQ Building Performance Score
 - b. Importing Data from ENERGY STAR Portfolio Manager
 - c. Multi-use Property Building Type
 - d. Energy Efficiency Measures
 - e. IEQ Survey and spot measurements
 - f. The Portal as a repository for historical building data
 - g. Energy Audit Reports
 - h. Building EQ Label Report
 - i. Other (please specify)

5. What features would you like to see added to the Building EQ Portal
(click all that apply)
 - a. Annual emissions reduction potential
 - b. Report on the impact of converting the building to electricity
 - c. Comparison of building to Standard 90.1

- d. High level cost data for improvements to the building
- e. Annual utility costs and savings breakdown by load type
- f. Annual fee for a set number of reports from the Portal
- g. Annual fee for unlimited reports from the Portal
- h. A system performance indicator as a supplement to the Building EQ Performance Score for identifying HVAC system retrofit options

6. What other tools have you used?

(click all that apply)

- a. ENERGY STAR Portfolio Manager
- b. DOE Building Energy Asset Score
- c. DOE Audit Template
- d. DOE Building Performance Database (BPD)
- e. BOMA 360
- f. ASHE Energy to Care
- g. APPA Facilities Performance Indicators
- h. GRITS for APPA
- i. SimuWatt
- j. Other proprietary software program (please specify)