

# 2022 Sustainability Report

We understand and embrace the global impact of our work



**GRUMMAN|BUTKUS**

ENERGY EFFICIENCY CONSULTANTS  
AND SUSTAINABLE DESIGN ENGINEERS



## EXECUTIVE SUMMARY

Grumman | Butkus Associates' Sustainability Report is an annual document prepared in the first quarter. GBA has four offices, which are described in this report. However, this report and its content pertain specifically to the business and sustainability efforts of the Evanston, IL (Chicago region) office. Throughout the report, the Evanston GBA office will be referred to simply as GBA.

During the past 49 years, sustainability has remained the guiding principle in GBA's practice and culture. While the firm has historically promoted and engaged in sustainability practices, the founding of the Sustainability Tracking Committee in 2013 represented the first formal effort to benchmark, document, and promote GBA's own practices.

This report is written to conform to and reference the Global Reporting Initiative (GRI) and was developed using the group's current GRI Standards. Information on GRI can be found [globalreporting.org](https://www.globalreporting.org). The report will not be registered with GRI and has not been reviewed by an independent committee; it is a collaborative effort of the GBA Sustainability Tracking Committee.

For questions regarding this report or its contents, please contact:

Julie Higginbotham  
Marketing Director  
Grumman | Butkus Associates  
847-328-3555, Extension 281  
[jhigginbotham@grummanbutkus.com](mailto:jhigginbotham@grummanbutkus.com)



## ENVIRONMENTAL COMMITMENT STATEMENT | GRI 2-22

Grumman | Butkus Associates (GBA) is committed to continually working toward a sustainable society and planet through the work we do, the services we offer our clients, and our internal corporate sustainability practices.



### SUSTAINABILITY IN THE WORK WE DO

GBA was founded in 1973 as an energy consulting firm at a time when most saw energy usage and expense as a cost of doing business. Since then, GBA has grown into a full-service engineering firm and has continued to specialize in energy efficient systems design, including infrastructure assessments and upgrades. Energy studies and related analytical work remain a fundamental component of our service offerings and account for approximately 15% of our business. GBA is also an industry leader in commissioning, retro-commissioning, and monitoring-based commissioning services that assist our clients in achieving maximum energy efficiency in systems performance.

Our sustainability commitment to the work we do involves:

- Offering hospitals involvement in our free annual [Hospital Energy and Water Benchmarking Survey](#)
- Specializing in engineering services for energy-intensive facilities
- Searching for energy- and water-efficient solutions to all MEP designs
- Striving to help our clients reduce electricity, natural gas, and water usage and costs through a variety of services
- Challenging and assisting our clients (building owners) and vendors to strive for more energy efficient policies
- Working to reduce greenhouse gas emissions with every project
- Membership in the U.S. Green Building Council
- Active in standards development and evaluations for Green Globes
- Participation in energy efficiency committees for professional associations

#### SUSTAINABILITY IN OUR CORPORATE ENVIRONMENT

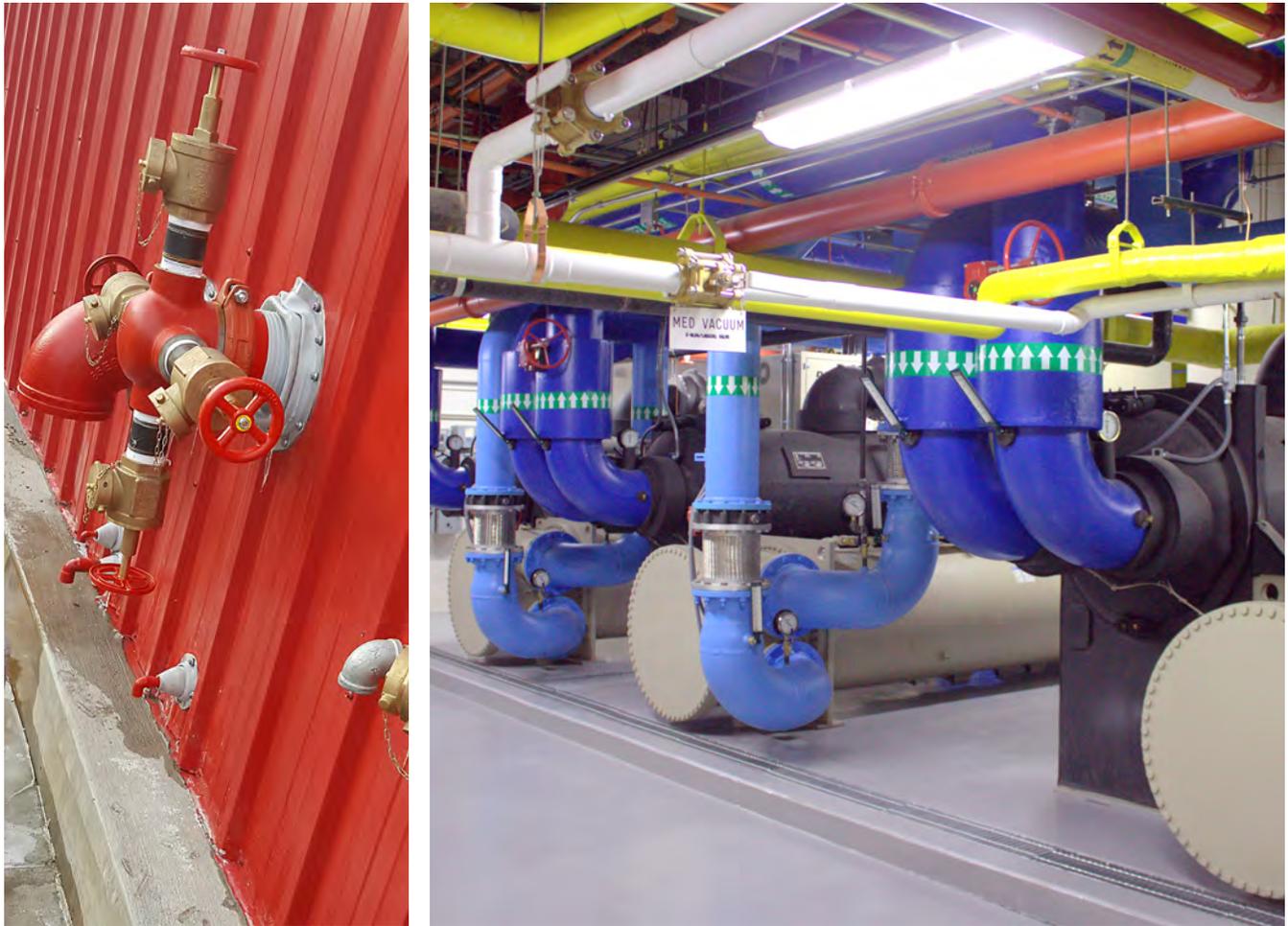
Our corporate environmental policy is supported by all employees. In addition, we have developed a Sustainability Tracking Committee to benchmark and monitor our internal sustainability efforts and to produce our annual Sustainability Report.

Our sustainability commitment to our in-house, corporate environment involves:

- Monitoring and reducing our energy and water usage
- Reducing waste levels and actively recycling waste materials for reuse
- Establishing policies that assist employees in sustainable behaviors
- Raising employee awareness through activities and challenges
- Challenging and assisting other GBA stakeholders, including our landlord, to strive for more energy efficient policies
- Providing a safe and enjoyable work environment
- Striving to retain staff and providing continuing education and training
- Supporting the local community through volunteer and advisory efforts
- Certified Sustain Evanston Business and Bicycle Friendly Business

For a complete listing of the services GBA offers and a detailed description of our internal sustainability efforts, visit our website: [grummanbutkus.com](http://grummanbutkus.com).





**ORGANIZATIONAL PROFILE** | GRI 2-1, 2-6

Grumman | Butkus Associates (GBA) is a nationally recognized professional consulting firm specializing in sustainable design engineering and energy efficiency consulting. Dave Grumman founded the firm in May 1973 as Enercon, Ltd. As a one-person energy consulting firm in Evanston, IL (Chicago region), Enercon offered services to help building owners and managers reduce the operating cost of their buildings through energy conservation at a time when few were thinking about energy. In 1981, Enercon, Ltd. became Grumman | Butkus Associates with the promotion of Al Butkus to principal. That year, GBA opened an office in Wauwatosa, WI (Milwaukee region), which was later augmented by an office in Madison, WI.

The establishment of our Wisconsin-based practice significantly contributed to the firm’s growth through the 1980s. During that period, GBA expanded to offer a wide range of specialized consulting services, as well as full mechanical, electrical, plumbing, and fire protection design. In 2013, GBA celebrated its 40th anniversary and opened a New York regional office, which specializes in commissioning, retro-commissioning, monitoring-based commissioning, local law and code compliance, and analytical services.

GBA is an Illinois corporation. The Wisconsin and New York regional offices are separately incorporated in their respective states. GBA Services was formed as a subsidiary company in 2018 to offer construction management services, primarily for the firm’s commissioning and retro-commissioning clients. As of December 2022, the current number of employees in the Evanston (Chicago region) office was 89.



## PRIMARY SERVICES

GBA is a leader in MEP design that is sensitive to sustainability and the efficient use of energy and water. However, a majority of our business consists of our correlative services, including commissioning and retro-commissioning, energy and resource benchmarking, energy conservation studies, MEP infrastructure planning and upgrades, sustainability consulting, computerized building energy modeling, and local law and sustainability code compliance. These services are aimed at improving and maintaining the performance and efficiency of systems throughout the lifetime of a facility.

## ANALYTICAL SERVICES

Energy studies and related analytical work remain at our firm's foundation and currently amount to approximately 15% of our business. Our experience in energy efficiency and management has also aided the firm's technical consulting expertise for sustainable design certification programs such as LEED and Green Globes.

## DESIGN SERVICES

GBA offers full mechanical, electrical, plumbing, fire protection, and medical/specialty gas design engineering services, including infrastructure assessments and upgrades. While GBA provides state-of-the-art MEP design for large, new construction projects, the majority of our design work is in existing buildings. GBA has extensive experience in designing systems for spaces with demanding environmental requirements, including hospitals, data centers, laboratories and spaces dedicated to medical and animal research, and spaces designed to house environmentally sensitive items, such as museums and library rare book storage. Also critical in design work for existing buildings is our experience with spaces that need to remain occupied during the project.

## COMMISSIONING SERVICES

Commissioning (Cx) is the process of verifying and optimizing the ability of all or some of a building's subsystems to achieve the owner's project requirements (OPR), as intended by the building owner and as designed by the architects and engineers. Commissioned systems can include mechanical, electrical, plumbing, fire/life safety, building enclosures, interior systems, cogeneration, utility plants, sustainable systems, lighting,

wastewater, controls, and security. The firm also assists clients with monitoring-based commissioning, using building data analytics tools to promote persistent energy savings.

GBA has extensive experience and expertise providing Cx services for new building systems. Cx is a core service for GBA. The firm has received third-party validation from the Building Commissioning Certification Board as a Certified Commissioning Firm. In 2022, commissioning and retro-commissioning accounted for approximately 25% of the firm's gross billings.

## RETRO-COMMISSIONING SERVICES

Retro-commissioning (RCx) is a systematic process for improving an existing building's performance. Using a whole-building systems approach, RCx seeks to identify operational improvements that will increase occupant comfort and save energy.

GBA is a leader in the RCx industry and has been providing RCx services for more than 20 years on a diverse array of projects. Over a representative three-year period, GBA successfully completed 25 RCx projects resulting in:

- Total energy cost savings of over \$3 million
- Annual electricity savings of over 20 million kWh
- Annual natural gas savings of over 1 million therms

GBA is a qualified RCx service provider under these programs:

- |  |  |
|--|--|
| • AEP (OH)                             | • NIPSCO (IN)                              |
| • Ameren (IL, MO)                      | • NVEnergy (NV)                            |
| • ComEd Energy Efficiency Program (IL) | • NYSERDA (NY)                             |
| • Consumers Energy (MI)                | • OG&E (Oklahoma Gas and Electric)         |
| • DTE Energy (MI)                      | • Peoples, North Shore, and Nicor Gas (IL) |
| • Indiana Michigan Power               | • Southern California Edison (CA)          |
| • Indianapolis Power & Light (IN)      | • Xcel Energy (TX,CO)                      |
| • MidAmerican Energy Advantage (IA)    |  |



## MONITORING-BASED COMMISSIONING SERVICES

GBA works with a variety of third-party software platform providers to support our clients with the benefits of monitoring-based commissioning, or automated fault detection and diagnostics services. Capabilities include collection and analysis of utility usage information, as well as monitoring and analysis of data from equipment and systems. Our in-house Trend Sumo® and Energy Sumo<sup>SM</sup> platforms, developed by the GBA team, are also available to support our clients and help ensure persistent energy savings, usually in conjunction with retro-commissioning projects.



This page: The Albanese Organization, 50 West, New York, NY (LEED certification pending).

Opposite page, top: Northwestern University, Wirtz Center, Evanston, IL (LEED Silver).

Opposite page, bottom: Advocate Illinois Masonic, Sheffield Building, Chicago, IL (LEED Gold).

## LEED AND OTHER GREEN GUIDELINES



Developed by the U.S. Green Building Council (USGBC), Leadership in Energy & Environmental Design (LEED) is an internationally recognized green building certification system. LEED provides third-party verification that a building or community was designed and built using strategies aimed at improving performance across several metrics, including energy savings, water efficiency, CO<sub>2</sub> emissions reduction, improved indoor environmental quality, and stewardship of resources. To date, GBA has been involved in more than 95 LEED-certified or pending projects, including nine Platinum certifications, in the capacity of MEP designer, commissioning provider, or LEED consultant.

Related services include energy modeling for new construction projects and energy audits for existing buildings.

GBA has also been involved with projects using other guidelines, including active staff involvement with documentation and assessment for Green Globes. In fact, GBA staff authored the Assessment Guidance sections in the original Green Globes Technical Reference Manual. GBA Associate David Eldridge serves on the tools and development committee of GBI.



## MARKETS SERVED | GRI 2-6

GBA specializes in energy-intensive, mission critical facilities, and this expertise has led to a leadership position in the healthcare, higher education, pharmaceutical, and laboratory markets. GBA is also a leader in specialized, mission critical work for data centers, whether as stand-alone facilities or as a component of another project. Another significant market is composed of major resorts and hotels. Other commercial facilities, including corporate office buildings, multifamily residential buildings, cultural and religious facilities, retail sites, transportation facilities, and industrial facilities, round out the markets we serve.

Most of the work produced by the Chicago regional office is located in the Midwest, but many other markets are also served. GBA has provided services to clients in a large number of states and a few international locations. For more information about GBA's markets, services, and projects, visit [grummanbutkus.com](http://grummanbutkus.com)

## SIGNIFICANT CHANGES DURING THE REPORTING PERIOD | GRI 2-3

No significant changes were made to the organization during the reporting period.

## AWARDS

GBA has been nationally recognized for its work, having received Energy Innovation Awards from the United States Department of Energy; Technology Awards from ASHRAE; and an M/E Engineering Achievement Award from *Specifying Engineer* magazine. Since 1981, GBA has received more than 130 awards from ASHRAE at the state, regional, and international levels. In 2010, GBA received the Lab of the Year award from *R&D Magazine* for the Daniel F. and Ada L. Rice Plant Conservation Science Center at Chicago Botanic Garden.

During the 2022 reporting period, GBA received the following awards:

- ASHRAE – Society-Level Technology Award, Honorable Mention, Educational Facilities/Existing, University of Illinois at Urbana-Champaign, Holonyak Micro & Nanotechnology Lab (shown below), Urbana, IL (renovation design)
- ASHRAE – Region VI Technology Award, First Place, Healthcare Facilities, Existing Building Commissioning, SSM Health St. Mary's Hospital - Janesville (retro-commissioning and monitoring-based commissioning)
- Chicago Building Congress – Merit Award, Advocate Illinois Masonic Medical Center, Physical Therapy & Sports Health Center, Chicago IL (design)
- ComEd – Customer Impact Award, Exemplary performance across all ComEd Energy Efficiency programs
- ComEd – Energy Efficiency Service Provider of the Year, ComEd Energy Efficiency Program
- Electric Association of Chicagoland, Consulting Electrical Engineers Division – Charles Steinmetz Award for Technical Merit, Jordan Martin, PE, U.S. General Services Administration, John C. Kluczynski Federal Building, Switchgear Renovation, Chicago IL (design)
- International Institute for Sustainable Laboratories (I<sup>2</sup>SL) – Sustainable Laboratory Award, Renovation / Retrofit Category, Excellence in Energy Efficiency, University of Illinois at Urbana-Champaign, Materials Research Laboratory, Urbana IL (design)
- International Institute for Sustainable Laboratories (I<sup>2</sup>SL) – Sustainable Laboratory Award, Renovation / Retrofit Category, Excellence in Energy and Water Efficiency, University of Illinois at Urbana-Champaign, Holonyak Micro & Nanotechnology Lab (shown below), Urbana, IL (design)
- Walgreens – Execution Excellence Award: Store Planning and Design Development, Multiple Sites (analysis and design).



**GOVERNANCE STRUCTURE** | GRI 2-9

GBA is governed by a Board of Directors and managed by eight principals. The Board maintains organizational oversight, and the principals set strategy and manage the day-to-day operations. Each principal oversees certain office functions, and all principals are active with specific clients in a principal-in-charge capacity on projects. The principals attend an annual, three-day, strategic planning meeting in the fall. Outcomes of this meeting include analysis of the past year, strategies for the new year's market sector and client focus, and identification of firm needs or changes. The following is a description of the principals and their responsibilities to the firm during the reporting year of 2022.

**Daniel L. Doyle, PE, FASHRAE, LEED AP O+M – Chairman**

Mr. Doyle was responsible for the firm's marketing and recruiting activities. He was also principal-in-charge for numerous designs and studies.

**T. Chad Luning, PE, LEED AP O+M – President and Chief Financial Officer**

Mr. Luning was responsible for the general management of the firm, as well as management of financial and administrative activities. Project responsibilities included principal-in-charge and/or project manager for numerous designs, including several multimillion-dollar retrofit projects.

**Gerry Noorts, PE, LEED AP, HFDP – Vice President**

Mr. Noorts was principal-in-charge and project manager for numerous study and design projects and was responsible for the firm's staffing and project scheduling.

**James C. Shults, PE – Vice President**

Mr. Shults was responsible for maintenance of the firm's technical resources and safety. Project responsibilities included principal-in-charge for numerous projects and studies.

**John D. Villani, PE, LEED AP, CCP, QCxP, CEM, GBE – Vice President**

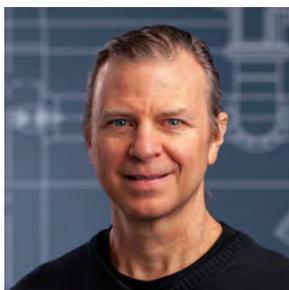
Mr. Villani was responsible for the standardization, management oversight, and execution of the firm's commissioning projects, and general management of the New York regional office. Project responsibilities included conducting all phases of commissioning, retro-commissioning, and monitoring-based commissioning with numerous clients.

---

**John E. Tsingas, PE, LEED AP – Vice President**

Mr. Tsingas was principal-in-charge and project manager on HVAC system design projects for new and existing facilities, energy and feasibility studies, and systems troubleshooting. Mr. Tsingas also managed staff training and continuing education.

---

**Jonathan E. Gehrt, PE, LEED AP – Vice President**

Mr. Gehrt was principal-in-charge and project manager for projects including design of mechanical systems for new and existing facilities, facility studies, master planning, and analysis of central plant operating problems. He is also responsible for management of the firm's technical master documents.

---

**Habib Shams, PE, LEED AP – Vice President**

Mr. Shams was principal-in-charge and project manager for projects including design of mechanical systems, including technical and quality review of projects. He designs HVAC and medical gas systems for new and existing facilities and also provides construction administration services. He is also responsible for overseeing the firm's quality assurance.

## STAKEHOLDER ENGAGEMENT | GRI 2-29

The stakeholder groups engaged by the organization include GBA staff, clients, consultants, product suppliers, professional organizations, and the community.

### GBA STAFF

GBA views its staff as its most important asset. GBA strives to make employment at the firm an exciting and important part of life and not just a job. GBA considers its staff “family.” Official events like the holiday party and summer picnic, as well as unofficial events like office after hours and an annual chili potluck, add to the enjoyment of working at GBA.

GBA strives to create a supportive environment for its employees, helping them to develop in their jobs and empowering them with the ability to make independent decisions. Annual training goals are established for all personnel, including formal out-of-office training sessions, recommended reading lists, and in-house training. GBA maintains an aggressive continuing education program for employees to assist in training goals established with GBA and to provide the continuing education requirements of professional licensure.

GBA believes in teamwork. Process-oriented teams are assigned to all GBA projects. Principal involvement in each project is significant. The project managers, project engineers, designers, and administrative staff work closely together to ensure the quality of the final product.

Weekly scheduling meetings for project managers are held to communicate about efficient use of personnel. The firm holds semi-annual office meetings at which communication is facilitated between all employees and management. At these meetings, financial information is shared and discussed; the future goals and prospects of the firm are presented and discussed; and employee anniversaries, special achievements, and promotions are recognized.

Life-work balance and healthy living are key company values. In 2022, corporate health support activities included a bike-commuting challenge, provision of an employee bike storage and dressing room, financial support for health club memberships and bike commuting, a full range of medical/dental/vision care insurance plans, and company-provided stand-up desks for each employee who desires one.





## BICYCLE FRIENDLY BUSINESS

Expanding upon the firm's commitment to health and wellness, GBA became a League of American Bicyclists recognized Silver Bicycle Friendly Business in 2017. The firm joined a cutting-edge group of nearly 1,400 Bicycle Friendly companies and local governments across the United States. The League scores organizations according to their activities in cycling-related encouragement, engineering (including equipment accommodations), education, and evaluation and planning. The firm is one of only 28 Bicycle Friendly Businesses in Illinois listed by [Ride Illinois](#).

In 2022, GBA celebrated Bike to Work Week by fielding a team of riders and holding a Bike Safety and Maintenance Presentation for all staff. The presentation was held in collaboration with Wheel & Sprocket, a local Evanston business, and included advice for safer commuting.

### CLIENTS

GBA has built a reputation of meeting or exceeding our clients' expectations every time. GBA's success is born in the commitment to meeting the needs of clients by providing quality consulting services. By listening closely to our clients and incorporating solutions specific to their needs, we develop long-term relationships based on trust, commitment, and quality. GBA is committed to helping our clients improve operations. This requires working closely with our clients to understand their businesses and the challenges they face so that we can respond knowledgeably to their strategic plans.

GBA uses a digital tool for collecting client feedback. Results are used to further improve our service to our clients.

### CONSULTANTS

GBA strives for consistency and quality when teaming with subconsultants. We work with a short list of subconsultants in specialties where we do not have in-house staff, such as civil engineering, structural

engineering, architecture, acoustical consulting, building enclosure commissioning, and cost estimating. GBA's goal is to offer the client a seamless, unified team whose work is coordinated by the project manager. Sometimes, GBA serves as a subconsultant to an architecture firm or another engineering firm. We strive to give these firms the same high-level attention and high-quality work that we offer to any other client.

### PRODUCT SUPPLIERS

State-of-the-art engineering demands state-of-the-art product specification. GBA maintains strong relationships with product suppliers. Our suppliers are active in our staff's continuing education efforts to ensure that GBA staff has current knowledge of products and trends. GBA strives to specify products with outstanding performance, stellar reputation, and a good customer support structure.





## PROFESSIONAL ORGANIZATIONS | GRI 2-28

GBA actively supports participation in professional societies such as ASHRAE, ASPE, ASHE, HESNI, ISPE, BCxA, I²SL, IEEE, GBI, IBPSA, and USGBC. Firm members frequently serve in leadership positions and on technical committees at both the local and higher levels. Among the notable positions held by GBA staff during 2022 were the following:

**Chairman Dan Doyle**, PE, FASHRAE, served on the Board of Directors and was Chief Financial Officer for the International Institute for Sustainable Laboratories (I2SL) for the last 12 years; he recently retired from the position. In 2020, he was named a Fellow of ASHRAE.

**Vice President John Villani**, PE, CCP, CEM, LEED AP, actively participated in the Best Practices, Training, and Education committees of the Building Commissioning Association.

**Associate David Eldridge**, PE, LEED AP BD+C, BEMP, BEAP, HBDP, provided services as a Green Globes Assessor and served on the GBI's ANSI Consensus Body. He was a voting member of ASHRAE Technical Committees TC 7.6 (Building Energy Performance) and TC 9.6 (Health Care Facilities), as well as a member of the ASHRAE Epidemic Task Force healthcare team. He was a co-chair of ASHRAE's Alternate Care Sites Task Force, which produced the Alternate Care Site HVAC Guidebook. David served as a senior verifier with the local USGBC and ASHRAE chapters in providing pro-bono facility benchmarking assistance to community organizations.

**Associate Joe Ficek**, CPD, GPD, FASPE, served as Ambassador and Historian for the ASPE Chicago Chapter. He also served on an ASPE International committee developing ASPE Series 400: Professional Qualifications Standard for Legionella Water Safety and Management Personnel.

**Project Manager Heather Beaudoin**, PE, LEED AP BD+C, CEM, BEMP, GBE, was a voting member of the ASHRAE committee for Standard 209 (Energy Simulation Aided Design for Buildings Except Low Rise Residential Buildings).

**Associate David Cohen**, PE, CCP, DCEP, served as Treasurer of the Building Commissioning Association's Central Region. He was active in the BCxA's Professional Development Committee.

**Associate Fiona Martin McCarthy**, PE, QCxP, BEAP, LEED AP, was a member of the ASHRAE Illinois Chapter Board of Governors and was Chapter Historian and Holiday Party Events Chair. She also participates in Women in ASHRAE and the YEA Group, and started a term as ASHRAE Region VI Vice Chair for Membership Promotion in July. In addition, Fiona sits on UIC's Master of Energy Engineering Advisory Council.

**Project Manager Jason McDonald**, CPD, FASPE, was Society Vice President, Membership for ASPE. He is active with the group's Membership Commit and Long Range Planning Committee, and is an Ambassador for the ASPE Chicago Chapter. In 2022, he was inducted into ASPE's Kenneth G. Wentink College of Fellows.

**Project Manager Frank Sanchez**, CPD, GPD, was active on the ASPE Technical and Research Committee as well as the ASPE Society Education Committee, and served as an Ambassador for the ASPE Chicago Chapter.

**Associate Chris Sbarbaro**, PE, LEED AP BD+C, GPD, CPD, served on the ASPE Chicago Chapter's Board of Governors.

**Project Engineer Natalia Dankanich** was Women of ASPE (WOA) Chicago Chapter Liaison and Region 5 Liaison.

**COMMUNITY** | GRI 413-1



GBA was part of the inaugural class of 17 Sustain Evanston businesses in 2019 and was one of only four firms to successfully renew in 2021. The recognition assesses sustainability in the areas of energy, water, resources, and community. GBA's Sustainability Tracking Committee keeps this membership current.

The committee also promoted community service and the responsible use of recycled materials with its annual in-office clothing drive for Evanston's Connections for the Homeless, an Evanston-based nonprofit. The successful 2022 drive marked the eighth time GBA has staged this charitable effort.

Many GBA firm members are active in local community organizations promoting conservation issues. Of note, Eric Rosenberg has served two four-year terms on the City of Evanston's Utilities Commission. GBA founder David Grumman and GBA Project Manager Joel Freeman have each previously served as Chairman of the Commission.

The Utilities Commission addresses issues related to electrical and natural gas systems reliability; energy benchmarking policy for the city; energy procurement for city buildings and municipal power aggregation; renewable energy considerations, water consumption, and conservation in city buildings; policies for stormwater management; and capital improvements for the city's water and sewer infrastructure. Freeman previously served on the working group that developed an energy and water benchmarking ordinance for the city, which was adopted by the City Council at the end of 2016. Evanston is now one of 44 cities nationwide with such a policy. Freeman led the team to assist the City of Evanston's Office of Sustainability with benchmarking verification of the city's own buildings.



GBA has also provided energy and water benchmarking assistance to local Evanston entities (McGaw YMCA and Free Market Ventures) for compliance with the ordinance.

Joel Freeman also served as co-chair of the Mayor's Climate Action Resilience Plan (CARP) Working Group. The new [CARP](#) was passed by the City Council in December 2018.

Freeman also served on the Mayor's Wind Farm Committee for the City of Evanston in 2011 to evaluate responses to the City's Wind Farm Request for Information and to provide comments to the City Council. This work helped facilitate the creation of the Lake Michigan Offshore Wind Energy Advisory Council and the [report](#) prepared by the Illinois Department of Natural Resources.



Other community activities by GBA members include participation with [Climate Action Evanston](#) (formerly Citizens' Greener Evanston) for events, advocacy, and sustainability assistance with others in the community and with the City of Evanston.

As a further sign of its sustainability focus, Evanston is among 18 Bicycle Friendly Communities in Illinois as listed by [Ride Illinois](#).

## ECONOMIC VALUE GENERATED AND DISTRIBUTED | GRI 201-1

As a private company, GBA does not reveal its financial information publicly. Cash contributions for calendar year 2022 are estimated at \$25,000, including sponsorships of events, as well as various other charity efforts.

## RISKS AND OPPORTUNITIES DUE TO CLIMATE CHANGE | GRI 201-2

As an energy consulting company, many of GBA's activities are closely aligned with reducing climate change through energy consumption reduction. Growing awareness of the implications of climate change present an opportunity for GBA to assist more building owners by analyzing their energy consumption and providing engineering solutions to help reduce their impact on climate change.



Of course, climate change also poses a risk to overall financial health of the national and global economy, which tends to have an accentuated impact on the construction industry and could greatly reduce demand for GBA's engineering services that are not directly related to energy conservation.



## RETIREMENT PLAN COVERAGE | GRI 201-3

GBA does not offer a defined benefit plan. Employees have the option to participate in a 401(k) plan, for which the firm makes a discretionary matching contribution. An annual discretionary profit-sharing contribution is also usually made, depending on firm performance.

## GOVERNMENT ASSISTANCE | GRI 201-4

GBA has not directly received financial assistance from any government entity.

## WAGE COMPARISON | GRI 202-1

GBA maintains competitive compensation practices, with both hourly and salaried entry-level employees receiving total compensation packages well above local and U.S. federal minimum wage requirements.

## LOCAL PURCHASING | GRI 204-1

As a professional services company, GBA does not purchase large quantities of consumable goods. To the extent possible, local sources are preferred for our purchases, which mostly consist of office supplies, technology equipment, and food/catering for events. Our office supplies are sourced through a privately held, third-generation family-owned business in Chicago. The firm transitioned in 2019 to a small, local vendor that supplies locally roasted coffee.

We also select locally based services firms, including our banking and accounting providers.

**DIRECT ENERGY CONSUMPTION** | GRI 302-1

GBA uses no direct energy in its facility operations. Natural gas or direct renewable energy sources are unavailable for use at the building in which GBA's leased office space is located.

**INDIRECT ENERGY CONSUMPTION** | GRI 302-2

All of GBA's facility energy consumption is indirect and consists of electric energy. The building in which GBA's leased office space is located is an all-electric building. When originally constructed, ComEd's electric heat rate offered a significant discount on the cost of electric service charges. All building electric energy costs are allocated among the tenants, as tenant submetering does not currently exist.

Electric energy consumption attributable to GBA's office activities for 2022 is estimated to be approximately 414,108 kWh. This quantity is based on our percentage of the total building square footage; our third and fourth-floor spaces occupy an estimated 30% of the total. 2022 usage was about 6% lower than in 2021.

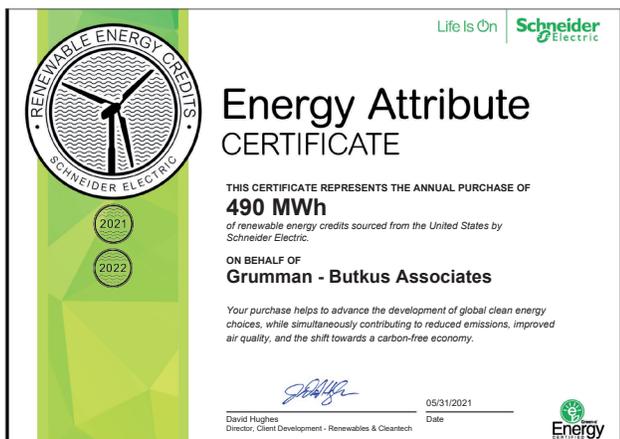
Beginning in 2014, GBA has purchased Renewable Energy Certificates (RECs) to cover its estimated portion of the building electric energy consumption. These RECs are Green-e Certified and represent wind generation with high carbon power displacement in the Midwest (MN, IA, Dakotas, NE, KS, MO). RECs are understood to claim the clean energy generating benefits of renewable power generation. Costs provide a supportive revenue stream to renewable power generators that helps foster growth of the renewable power generating industry.



The firm's purchase of its current certificate (bottom left), covering 2021 and 2022, was based on pre-Covid energy usage. It will be renewed in 2023.

GBA's electric energy consumption consists of the following categories:

- HVAC: Supply and return fan motor energy, mechanical cooling, and electric reheat energy for zone terminals. A single air-handling system and associated air conditioning system serves the entire building. Our usage also includes an allocated share of energy used by unit heaters and cabinet heaters in unleased spaces, such as the loading dock and stairwells.
- Lighting: General lighting, emergency lighting, and task lighting.
- Computers: Desktop computers and network equipment.
- Kitchen appliances: Refrigerators, dishwashers, coffee makers, microwave ovens, and toasters located in break room kitchens.
- Domestic water heating: Used for sinks in restrooms (one domestic water heater serves the entire building). In 2015, instantaneous hot water heaters were installed by GBA in its third- and fourth-floor kitchen/break rooms. This equipment reduces standby losses attributable to domestic water heating.
- Office equipment: Plain paper printer/copiers and drawing plotter/printers.
- Miscellaneous occupant power receptacles.
- Miscellaneous core services: Allocated share of energy use attributed to elevators, lighting in unleased spaces, exterior lighting, temperature control air compressor, unleased receptacles, and so on.





## CONSUMPTION DETAILS BY CATEGORY | GRI 302-2

### LIGHTING

Most general lighting in the office consists of 2x4-foot recessed fluorescent fixtures. When GBA moved into the space, these fixtures consisted of four T12, 40-Watt lamps with magnetic ballasts (base building standard at the time). GBA spent its own money to convert each fixture in our offices to two T8 lamps, an electronic ballast, and a specular reflector, cutting our lighting energy consumption by nearly two-thirds.

Approximately seven of the 2x4-foot fluorescent fixtures have been retrofitted with tubular LED lamps. These further reduce the fixture wattage. They primarily serve as test areas to evaluate different LED lighting retrofit products.

Other lighting fixture types include 1x4-foot fluorescent fixtures in the two restrooms and 2x2-foot fluorescent fixtures in the high-bay atrium space. The seven restroom fixtures each have a single T8 lamp, electronic ballast, and specular reflector. The eight atrium fixtures each have three biax lamps to provide sufficient light levels from a ceiling height of approximately 30 feet. The atrium fixtures utilize photocells to reduce power when ambient light levels allow (see Section GRI-302-4).

The third-floor office has approximately 310 total fixtures with an estimated total lighting power of 18.2 kW using a floor area of about 16,200 square feet, which results in an overall lighting power density of 1.1 watts per square foot for the third-floor office space. The fourth-floor office has 121 light fixtures with an estimated total lighting power of

7.5 kW using a floor area of about 6,160 square feet. The light fixtures in the main open office plan are manually controlled by 11 wall switches. While this control has no automation, it does permit selective light use for areas that have occupancy. Occupants use these switches as needed in the evenings and on weekends. This switching arrangement helps limit the lighting energy consumed.

Annual lighting energy consumption is estimated to be 47,500 kWh/yr. The owner of the base building in which we rent space has adopted our strategies for lighting.

### COMPUTERS

Annual desktop computer energy consumption is estimated to be 54,000 kWh/yr. Users can power on, and log into, their computers from off-site.

### OFFICE EQUIPMENT

Annual energy consumption by office equipment is estimated to be 4,000 kWh/yr and continues to be less than historic usage, due to a continued reduction in the number of employees in the office in the aftermath of the COVID-19 pandemic.

### KITCHEN EQUIPMENT

Annual energy consumption by kitchen equipment is estimated to be 4,000 kWh/yr in a “normal” year and was likely less in 2022 because of the continued reduction in the number of employees in the office, due to COVID-19 pandemic response.



## ENERGY CONSERVATION AND EFFICIENCY IMPROVEMENTS | GRI 302-4

### LIGHTING

Annual lighting energy savings from the retrofits listed below are estimated at 115,000 kWh/yr, with a CO<sub>2</sub> reduction of approximately 110.8 MTCO<sub>2</sub>e/yr.

- As discussed in section GRI 302-2, all of GBA's general office lighting has been retrofitted from the initial lighting in the building, which had four T12 fluorescent lamps and a magnetic ballast in each fixture. These retrofits reduced the lighting power usage to about one-third of the initial wattage. GBA subsequently convinced our landlord to retrofit lighting throughout the building, with new standards serving as the basis for additional space build-outs by building management.
- Approximately seven of the 2x4-foot fluorescent fixtures have been retrofitted with tubular LED lamps, which further reduce the fixture wattage.
- Wall switch occupancy sensors: This type of automated control replaced the standard manual wall switch in all of the third-floor private offices. They are also installed in third-floor support areas, such as the copy room, break room, kitchen, and plotter room. GBA recently added this sensor type to the two private offices in our fourth-floor suite.
- Ceiling-mounted occupancy sensors: The third-floor men's restroom uses this sensor type with wireless communication to the wall switch. This control prevents lights from being left on at night, weekends, and extended periods during the day when unoccupied.
- Integrated occupancy sensors: Two fixtures near the main third-floor printer area have occupancy sensing built into the tubular LED retrofit lamps. These lamps operate at two light levels. The lower light level is the default setting. Upon occupancy detection, the fixture tubes go to full power.
- Photocells: The atrium light fixtures have three operating levels that depend on the amount of light detected through the atrium skylights. Two photocells are located in the ceiling of the fifth-floor office space. During full sun, only the center lamp of the three biax lamps is powered in each fixture. At moderate light levels, only the two outboard lamps are powered. With low ambient light levels, all three lamps are powered in each fixture.
- Bi-level switching: This type of manual control is used by the network administrator for control of lighting in the network server room.
- The fourth floor utilizes lighting controls to help reduce energy consumption. The design includes a daylight harvesting zone, occupancy sensors in private offices and conference rooms, and dimming controls in conference rooms.

**OFFICE EQUIPMENT**

Pursuant to our Sustainability Policies, the workstation printers are ENERGY STAR and Ecologo CCD 035 certified. Additionally, all personal computers are custom-made by our in-house IT staff, and, although they cannot achieve certification, we have confirmed that they meet all of the ENERGY STAR guidelines.

The two third-floor main scanner/copier/printers have energy efficiency modes that have been adjusted to best allow for efficient use of the equipment. Annual energy savings from this office equipment improvement is expected to be about 1,000 kWh/yr, with a CO<sub>2</sub> reduction of approximately 0.96 MTCO<sub>2</sub>e.

**KITCHEN AND RESTROOM EQUIPMENT**

Efficiency improvements for kitchen appliances are prioritized when appliance replacements are necessary.



The most recently purchased refrigerator (fourth floor) is ENERGY STAR certified. Dishwashers in the third- and fourth-floor break rooms exceed ENERGY STAR requirements for water by at least 20%, and also have energy reduction features.

The third-floor men’s and women’s restrooms have a electric hand dryers, reducing paper towel waste. (The fourth-floor office uses restrooms that are outside the GBA suite.)

**VEHICLES**

In addition to its efforts to reduce building energy consumption, GBA is striving to operate an environmentally responsible fleet of company vehicles. Vehicles include one fully electric vehicle, one hybrid vehicle, and six high-MPG gas-powered vehicles.





**SUSTAINABILITY STRATEGIES  
RECYCLED AND SUSTAINABLE  
MATERIALS** | GRI 301-2; GRI 304-4

All small-format office paper used in 2022 contained at least 35% post-consumer recycled content and was Forest Stewardship Certified. This paper is chlorine-free. Larger-format paper is Sustainable Forestry Initiative certified. Plotter paper is provided by our plotter supplier; we do not have control of plotter paper purchasing. However, our technical staff is increasingly using digital files rather than printed plans with its clients. When paper copies are desirable for in-house reviews, staff members are encouraged to output in smaller sizes rather than using the plotter.

Coffee service is provided as a benefit to GBA staff. The firm purchases several coffee blends that are organic, Fair-Trade Certified, or Rainforest Alliance Certified. All coffee blends are produced with sustainable farming methods.

The firm also purchases sustainable cleaning products.



## ENVIRONMENTAL PERFORMANCE MATERIALS AND UTILITY USAGE | GRI 302-1; GRI 303-1

In 2022, the firm purchased 96,500 sheets of paper for our small-format workstations, compared with approximately 161,000 sheets in 2019 (the last "typical" pre-Covid year). Because numerous employees continued to telecommute at least part-time in the wake of the Covid-19 pandemic, it is not possible to accurately assess how many sheets were actually used during 2022, since many workers used their own printers and paper supplies.

GBA's printers all default to double-sided printing, and the firm continues to emphasize digital documents for communication with both internal and external clients.

Our estimated water usage for 2022 (using industry standard assumptions and currently installed fixtures) was 221,780 gallons/year. This includes both the third-floor and fourth-floor office areas.

## BENCHMARKING OUR CARBON FOOTPRINT | GRI 305-2

2022 was the ninth year in which GBA tracked data related to our corporate carbon footprint. Due to restrictions in our office building, we are presently only able to estimate our direct utility usage. Energy usage is based on our percentage (based on square footage) of the overall building's actual electricity use. Our office building is 100% electric. Water consumption is based on calculations performed using installed plumbing fixtures and industry assumptions. The direct emissions that we were able to track included small-format paper usage. In future years, we hope to be able to track additional emissions sources such as employee work-related travel, employee commuting travel, and waste (including recycling).

The pie chart below shows that the majority of our currently reported emissions come from energy usage.

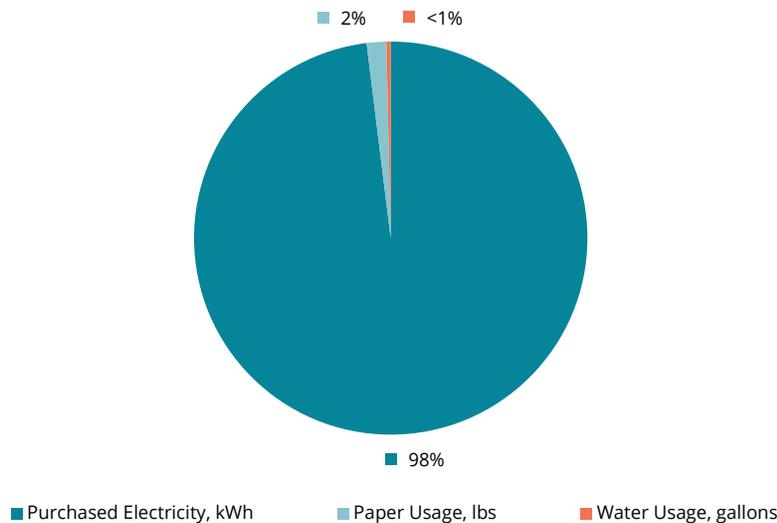
GRUMMAN | BUTKUS CARBON FOOTPRINT 2022

	2022 MTCO <sub>2</sub> e	2013 MTCO <sub>2</sub> e (baseline)
Electricity	197.70	194.68
Paper <sup>1</sup>	3.25	7
Water <sup>2</sup>	0.705	0.59

<sup>1</sup> Calculated using the Environmental Paper Network (including recycling)

<sup>2</sup> Calculated based on the EPA's GHG Conversion Tool

GRUMMAN | BUTKUS 2022 GHG EMISSIONS MTCO<sub>2</sub>E



## OFFICE WASTE & WATER MANAGEMENT | GRI 303-1; GRI 303-5; GRI 306-2

In addition to promoting the use and purchase of sustainably-produced goods, GBA encourages the recycling of waste whenever possible. In 2013, GBA initiated a building-wide recycling program for non-paper goods (metal, plastic, glass, cardboard) to supplement the existing paper recycling program already in place; this program has remained in place.

We offer rechargeable battery, small-electronics, and compact fluorescent lamp (CFL) recycling that employees may use to dispose of used items generated both in their homes and in the workplace. Signage indicating the location of available recycling receptacles is posted throughout the office.

All of our e-waste is disposed of through trusted services or given away to our employees in periodic raffles.



In May 2017, GBA contracted with Evanston firm Collective Resource for commercial composting services. Collective Resource picks up and delivers the

compostable materials to a commercial facility, which can handle “anything that was once alive.” Weekly delivery and pickup of a 32-gallon tote was initially provided for the third-floor suite, with GBA staff collaborating to fill the tote from smaller containers in the third- and fourth-floor break rooms. In 2019, the firm expanded its composting program, adding a 32-gallon tote to its fourth-floor suite and positioning it in a shared corridor so other building tenants can deposit compostable waste. (Collective Resource also periodically offers fully composted material at no charge for pickup or delivery so that staff can make use of the material in their personal gardens.)

Calculations for the Sustain Evanston program in 2019 indicate that, in a “typical” year, the firm composts about 10% of its total waste stream and recycles more than 55% of the total.

Due to the company's continuing pandemic-related telecommuting policies during 2020, the composting program was temporarily discontinued. It was resumed at a smaller scale during 2021, reflecting continued reduction in office attendance. In 2022, the original composting program was resumed, doubling in frequency from 2021.



GBA also strives to reduce the amount of waste we generate. Double-sided printing is the default setting for all of our in-house printing, and we have encouraged the digital transmission of documents using cloud-based services wherever possible to reduce the amount of paper required.

Third-floor restrooms both have hand dryers that reduce paper towel use. (The fourth-floor office uses restrooms that are outside the GBA suite.) Receptacles are provided in bathrooms to separate paper towel waste from other waste. When composting is available, paper towels are composted through our commercial composting program (described above).

To reduce water consumption, we have worked with our landlord in providing low-flow fixtures in third-floor restrooms.

The dishwasher installed as part of a 2016 fourth-floor remodeling project exceeds ENERGY STAR requirements for water consumption by more than 20%. The unit in the third-floor break room also significantly exceeds ENERGY STAR requirements for water consumption. We will continue to purchase water-conserving and energy-efficient dishwashers for all future needs.

All new employees were issued a company-provided water bottle in 2022 (continuing employees had already received them), complementing filtered water dispensers in our break rooms and a hallway bottle-filling station offering chilled, filtered water. These amenities are part of our ongoing effort to discourage employees from buying bottled water.





### **WORKFORCE SIZE AND DEMOGRAPHICS |** GRI 401-1; GRI 405-1

GBA strives to hire, train, develop, promote, and retain minority and female staff. We currently have 19 women on our Evanston (Chicago region) staff, including engineers and technical and administrative support staff.

At the end of 2022, the Evanston office had 89 total employees. The firm enjoys a culturally diverse staff with people from a variety of ethnic backgrounds.

### **NEW HIRE AND TURNOVER RATE |** GRI 401-1

In 2022, GBA Evanston hired eight new full-time staff. During the year, we also employed four college interns.

GBA successfully retains our staff and typically enjoys a very low turnover rate. In 2022, five employees left the Evanston office.

### **CONTINUING EDUCATION |** GRI 404-2

GBA seeks to create a supportive environment for its employees that develops them in their jobs and empowers them with the ability to make independent decisions.

GBA has an aggressive continuing education program for employees. Employees are encouraged to attend seminars and technical training sessions and to join technical and professional organizations and attend their meetings. Licensed professional engineers are required to maintain bi-annual Professional Development Units (PDUs). GBA and its suppliers provide ample in-house seminars to assist the engineering staff in maintaining this continuing education requirement. GBA also has a tuition reimbursement program for employees who wish to pursue additional formal educational training.

All GBA training and educational policies are spelled out and available to all staff through the Employee Handbook.

### **PERFORMANCE REVIEWS |** GRI 404-3

All GBA staff receive an annual performance review. The review is an interactive event in which the employee can discuss job performance and goals with a GBA Principal. The Principal has the opportunity to identify effective performance, address work-related problems, and establish goals for future performance, growth, and career development. A confidential peer-feedback component is also part of the performance review process, bringing broader understanding to employees and their supervising Principals.

## HOSPITAL ENERGY AND WATER BENCHMARKING SURVEY | GRI 416-1

Every year since 1995, GBA has compiled data for its annual Hospital Energy and Water Benchmarking Survey (HES). Hospitals are invited to participate in the survey by submitting responses to a short list of questions regarding their usage of electricity, natural gas, oil, purchased steam, purchased chilled water, and domestic water/sewer.

GBA provides this benchmarking service free of charge to aid the healthcare market in evaluating performance. The HES has helped hundreds of hospitals benchmark their energy performance against others in an anonymous format. Participants are provided with graphic comparisons to all hospitals in the survey as well as numeric comparisons to their facility's overall average usage and costs. The data graphed in the survey includes:

- Fossil fuel energy consumption in Btu/sf/yr
- Fossil fuel energy cost in \$/sf/yr
- Average fossil fuel energy cost in \$/therm
- Electric energy consumption in Btu/sf/yr
- Electric energy cost in \$/sf/yr
- Average electric energy cost in \$/kWh
- Total energy consumption in Btu/sf/yr
- Total energy cost in \$/sf/yr
- Average water and sewer cost in \$/thousand gallon
- Carbon footprint in lbs/sf/yr

GBA is able to assist the participating facilities in analyzing the data and determining measures to reduce energy consumption, and ultimately, carbon footprint.

Results of the survey are also available free to the public at [grummanbutkus.com/hospital-energy-water-survey](http://grummanbutkus.com/hospital-energy-water-survey).

## ADHERENCE TO CODES | GRI 416

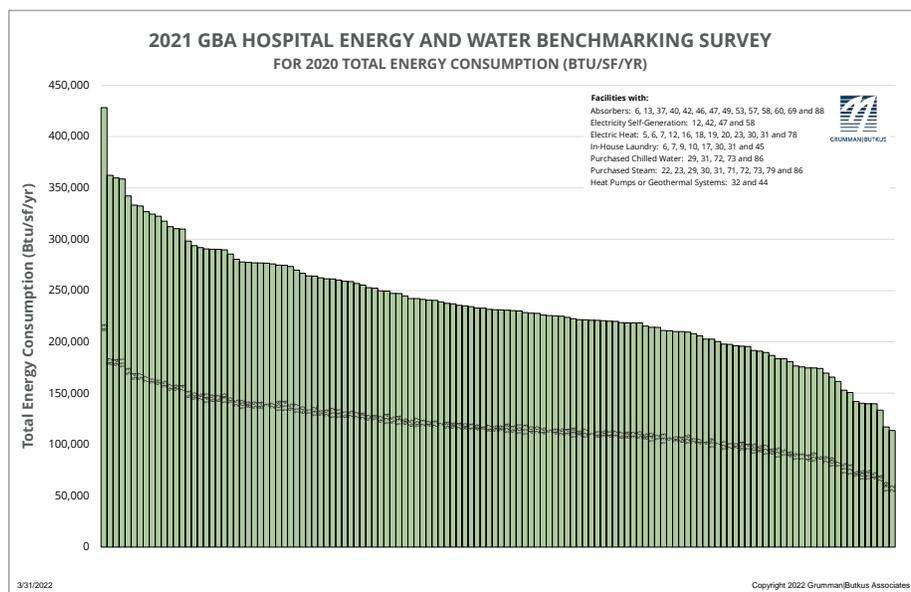
Professional engineering services must adhere to a number of codes, including building codes and energy codes. Also, engineering work in hospitals includes regulations established by the Illinois Department of Public Health and other states' health departments.

GBA views all codes, especially the energy codes, as a minimum requirement and strives to design systems that exceed the requirements.

## CUSTOMER SATISFACTION | GRI 2-6

GBA's quality management program consists of four key elements: ensuring client satisfaction, creating a supportive environment, developing a team concept, and using effective procedures. Not only does our quality management program help to ensure the highest standards of engineering product output and client satisfaction, but our employees are also invested in the process, and their longevity with GBA attests to their satisfaction.

In 2018, GBA developed and launched a digital tool for collecting client feedback. Results are used to further improve our service to our clients.



## THE GBA SUSTAINABILITY TRACKING COMMITTEE

GBA started our in-house Sustainability Tracking Committee in 2013, and the group has remained active. The committee engaged staff in events throughout the year to promote in-house sustainability efforts and to make the efforts fun.

On April 22, 2022, GBA celebrated Earth Day with a number of festivities. The day included a pot-luck lunch with a presentation on GBA's energy impact by GBA employees Joel Freeman and Tim Shinnick. That afternoon, a sustainable happy hour featured local/ sustainable wines, craft beers, and snacks. We also staged a poetry-writing competition related to the holiday.



The committee also sponsored employee participation in the two-week Bike to Work Challenge, sponsored by the Active Transportation Alliance, in June 2022. Twelve staff members signed up to log rides during the two-week challenge period.

The Sustainability Tracking Committee was responsible for benchmarking and tracking our sustainability efforts. Members of the committee compiled this report.

In 2023, GBA and the Sustainability Tracking Committee plan to continue exploring and supporting sustainability initiatives. As a leader in energy consulting, GBA is also "walking the walk."





GBA acknowledges the 2022 Sustainability Tracking Committee for their efforts:

Heather Beaudoin (chair)

David Cohen

David Eldridge

Joel Freeman

Julie Higginbotham

Mildred Kwan

Deborah Korkosz

Jordan Martin

Fiona Martin McCarthy

