

ENHANCING YOUR FACILITIES, PROFITABILITY AND ORGANIZATION

# Green Building Services



# Understand the power of "green"

A green building is designed, constructed and maintained to use resources efficiently, reducing operating costs and minimizing its impact on the environment.

But the true power of "green" comes in what that building makes possible for its occupants. Comfortable, healthy people are more satisfied and productive – free to focus on achieving important goals.

Along with enhanced performance and productivity, green benefits include:

## Energy and water conservation.

Environmentally-friendly materials and landscaping, efficient mechanical systems and fixtures, conservation-focused engineering processes and optimized building controls can help a green building use up to 40 percent less energy and 30 percent less water than conventional buildings.

## Healthier buildings.

Avoiding materials that emit hazardous chemicals, improving ventilation and enhancing thermal comfort lead to better indoor air quality, improving occupants' quality of life.

## Reduced environmental impact.

Green buildings matter for their occupants – and for our planet. Recycled and reused materials minimize waste. Improved energy efficiency reduces stress on the utility infrastructure. Water conservation helps address the global scarcity of clean, usable water.

## A better bottom line.

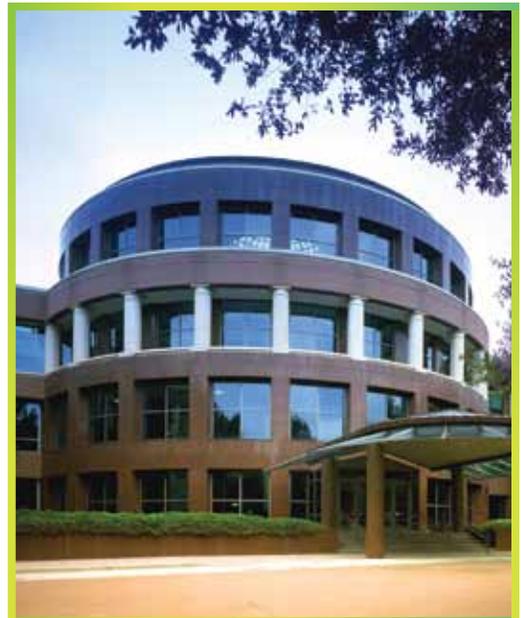
You save money through more efficient resource use and reduced operating costs, enhance the value of your facility and improve productivity and competitiveness. In short, it pays to green your building, your campus, your entire organization—and Johnson Controls is ready to help.

Our teams have secured green certification for more than 17 million square feet of building space worldwide. We're at the forefront of helping facility owners and managers introduce improvements that make life better for the people inside and outside.



## Global Locations

Our Green Building Services consultants operate around the world and can help you with one building, a campus or an entire portfolio.



## JC Penney Home Office LEED® EB Gold

- JC Penney Headquarters, a 1.9 million square feet commercial office building in Plano, Texas.
- Johnson Controls contracted to manage everything in the building from their green cleaning program, to the waste management practices, to their energy use.
- Johnson Controls was LEED consultant on the project.



# Green Building Services experts throughout the world



## Work with green trailblazers.

As a charter member of the U.S. Green Building Council, Johnson Controls participated with the USGBC to help establish the criteria for LEED® (Leadership in Energy and Environmental Design) certification. A globally recognized benchmark for green building design, construction and operation.

In fact, the company's Brengel Technology Center in Milwaukee was one of the first eight pilot projects that pioneered the application of the rating system, receiving a LEED Silver rating in 2001.

Johnson Controls can help you and guide you on your green pathway, navigating the system's project certification while you take advantage of training and practical resources.

## Global expertise.

Johnson Controls helps building owners navigate more than 21 rating systems worldwide, including:

- BREEAM (United Kingdom, Netherlands)
- CASBEE (Japan)
- DGNB Certification System (Germany)
- Green Star (Australia, New Zealand, South Africa)
- IGBC Rating System (India)
- Estidama Pearl Rating System (Abu Dhabi)
- Three Star (China)
- Green Mark (Singapore)
- LEED (USA, Canada, Global)



## Bank of America Plaza LEED® EB Gold

- The Bank of America Plaza is a 17-story, 302,340 square feet, Class A+, commercial office space in Charlotte, North Carolina.
- Johnson Controls had been servicing building controls at the Plaza since 1989.
- In 2006, Johnson Controls proposed and initiated a retro-commissioning study to identify energy conservation measures.
- Johnson Controls implemented facility improvement measures, resulting in savings of \$43,000 annually.



# Do more than earn points

Sustainable buildings can become green certified by any of several global organizations. Typically, your facility earns points or credits in categories such as energy efficiency, water use, materials, indoor environmental quality and site features. Whatever the certification requirements, Johnson Controls helps you understand and address them, for new construction or existing buildings.

But our strategic approach is about more than earning points. As you reduce your building's environmental impact, you also improve your employee's well-being and productivity, maximize operating efficiency and demonstrate market leadership.

## Preparing a portfolio: principles and practices.

"Greening" increases in complexity as your real estate holdings grow. Johnson Controls can help you apply single-building principles across several buildings on a campus or multiple sites around the globe.

Our assessments and recommendations encompass the whole range of building types and uses—offices, laboratories, manufacturing, and technology centers; business, retail and high-rise or mid-rise residential environments; small specialty spaces and large public areas.

## Creating a culture: education and communication.

Updating facilities and rewriting policies typically involve a straightforward, sometimes lengthy, process. But how do you change the culture organization?

Johnson Controls offers state-of-the-art education and communication tools to help employees, vendors and investors understand your sustainability program. We've educated people all over the world about energy and sustainability, through volunteer efforts by our employees and partnership with groups such as the **Conservation Leadership Corps**.

Our **Greenprint** online tool helps your stakeholders understand the impact of sustainability choices, while our **Give 5 for Greener Living** website promotes small changes that can make a big difference. These and other tools help you build the connections that make "green" the norm for your people and your organization.



# Drive strategic change for a change

Sustainability management encompasses such a huge range of activities that many organizations don't know where to start. Our Green Building Services team helps you clarify your goals and identify your level of engagement:

- Organize sustainability measures for a single building
- Expand practices across a global portfolio
- Encourage your people to become passionate promoters of sustainability

## Greening a building: site, structure, systems.

Most certification programs assess a building's footprint as well as policies and practices that affect the environment. Let Johnson Controls help you take a closer look at:

- The site, including factors such as landscaping, stormwater management and outdoor lighting
- The structure, including materials, energy efficiency, water use, lighting, air quality and occupant comfort
- Your organization's systems for addressing issues such as employee transportation, smoking and facility cleaning



## Measure ROI in hard dollars: Improve building market value

Designing, constructing and operating sustainable, high-performance buildings brings you tangible and intangible benefits.

Owners of green buildings can often set higher rents and attract tenants more quickly. Your building may also command a higher price if you decide to sell.

Achieve measurable financial return, particularly on energy efficiency improvements. For example, you can precisely calculate the energy—and money—saved by optimizing a chiller loop or replacing outdated windows. **Johnson Controls even offers performance contracts that guarantee energy savings from building efficiency projects.**

## Gain soft-dollar advantages

Facility improvements start a ripple effect that continues to add to your bottom line. For instance, a more comfortable working environment has been shown to reduce absenteeism and increase employee productivity.

## Mitigate risk

Be prepared to comply with rapidly changing regulations and building codes aimed at protecting the environment. Additional benefits can include reduced insurance costs and increased energy security, protecting data and operations.

## Demonstrate leadership

Enhancing sustainability is the right thing to do—and the right thing to advance your brand and reputation. "Green" can give you a valuable marketing edge.

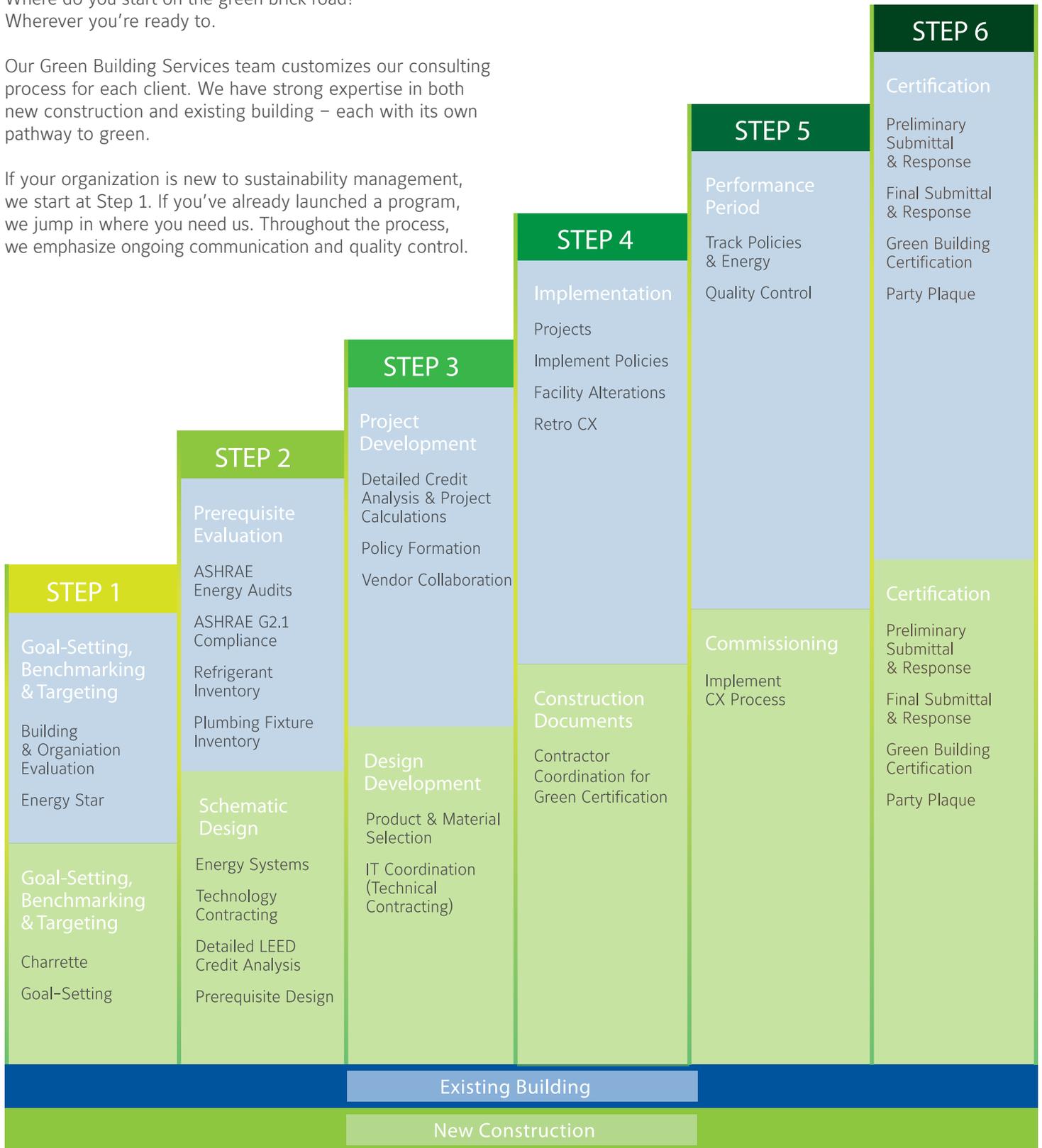
# The path to sustainability

## It starts with the first step

Where do you start on the green brick road?  
Wherever you're ready to.

Our Green Building Services team customizes our consulting process for each client. We have strong expertise in both new construction and existing building – each with its own pathway to green.

If your organization is new to sustainability management, we start at Step 1. If you've already launched a program, we jump in where you need us. Throughout the process, we emphasize ongoing communication and quality control.



## 1. Goal-Setting, Benchmarking and Targeting

Lay the groundwork. Our team helps you identify needs, prioritize goals, generate ideas and plan your approach.

The Johnson Controls Sustainability Navigator, a patented planning tool built using Six Sigma methodologies, gives you a concrete way to assess needs, evaluate practices and create agreement on how to focus your efforts.

Gather data to serve as a springboard for project planning. Through our discovery process, Green Building Services helps you evaluate the current state of your building, campus or portfolio.

Our proprietary tool, Green Compass, benchmarks your building through a detailed, interactive assessment. We also conduct initial audits of energy use, building materials, and practices related to purchasing, waste management, and cleaning.

## 2. LEED® Prerequisite Evaluation

Johnson Controls will begin by addressing LEED prerequisites, which are critical to certification. Potential barriers to certification or opportunities for improvements will be identified through this initial auditing phase.

## 3. Project Development

Identify what your organization needs to do to earn certification. Our team provides a detailed analysis of required projects and the expected return on investment. We work with employees, vendors and suppliers to audit policies and create those required by your chosen rating system.

Johnson Controls then outlines a plan showing how you can most effectively use your resources to increase operating efficiency, occupant comfort and environmental stewardship.

## 4. Implementation

Johnson Controls works with you, your building tenants and third-party vendors as appropriate, to put improvements into place, upgrading your facility, enacting new policies and changing behaviors.

Education and communication are vital in this phase. The more clearly everyone understands your program, the more likely implementation will succeed.

## 5. Performance

Johnson Controls helps you measure energy use, greenhouse gas emissions and other operating data for at least three months to ensure quality and confirm compliance with certification requirements. Our team also leads the way in organizing your submission to the green certifying agency.

## 6. Certification

Our team leads the way in organizing your submission to the green certifying agency. We compile documentation and project narratives for every pursued credit and organize them for submittal and work with the agency until the project is certification is achieved. Whether it's a plaque and a press release or a long-term continuous improvement program for your facility, Johnson Controls will help you achieve your goals.



### QS/1 Data Systems Headquarters LEED NC Silver

- QS/1 Headquarters is a six-story, 115,000 square feet commercial office building in Spartanburg, South Carolina.
- Johnson Controls installed Metasys, which controls HVAC equipment, fire systems, lighting, and monitors indoor air quality.
- Johnson Controls provided LEED consulting and commissioning services, leading to the achievement of LEED NC Silver certification in 2005. First commercial, high-rise office building to earn this designation for the state.

From Canada to South America to the Far East, Johnson Controls 1,150 LEED-accredited professionals are at the forefront of helping facility owners and managers achieve green building certification. We've already certified more than 17 million square feet of customer buildings globally.

Johnson Controls delivers products, services and solutions that increase energy efficiency and lower operating costs in buildings for more than one million customers. Operating from 500 branch offices in more than 150 countries, we are a leading provider of equipment, controls and services for heating, ventilating, air-conditioning, refrigeration and security systems. We have been involved in more than 500 renewable energy projects including solar, wind and geothermal technologies. Our solutions have reduced carbon dioxide emissions by 16 million metric tons and generated savings of \$19 billion since 2000. Many of the world's largest companies rely on us to manage 1.5 billion square feet of their commercial real estate.

