

OpenBlue

Net Zero Buildings

Solve for zero – Design, digitalize, deploy



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Companies are under mounting pressure to lower, if not eliminate, their carbon footprint

The need for global net zero infrastructure has never been greater. Analysts, investors, regulators and governments now point to decarbonization and renewable energy as a requirement. However, business leaders who share that vision continue to struggle with complex questions about achieving it: where to start, what's the best first step and the right overall approach, what pitfalls do I need to avoid, how do I best invest and take advantage of incentives and how can I minimize risk?

The good news is these organizations don't have to do this alone - there are solutions at hand. Many municipalities and companies have taken first steps toward decarbonization; now it's important for them to lean on partners to help calculate the next best step and provide tailored guidance along the journey to net zero. The result is a facility or campus plan that is expertly designed and optimized to drive net zero outcomes while keeping occupants safe, healthy and comfortable for years to come.

Solve for zero and accelerate toward sustainability

Aiming for net zero and driving sustainability is a game of catch-up on a worldwide scale. Governments and regulators have watched carbon dioxide (CO₂) emissions from industry and energy rise by 60 percent since the United Nations

Framework Convention on Climate Change was signed in 1992. Aware that CO₂ emissions are the main driver of global climate change, impacting what can survive on Earth and where, they've pledged to help reduce these emissions. Diversifying energy supplies away from fossil fuels and toward renewable energy is a major way to shift to a CO₂-free global economy.

When it comes to reducing carbon emissions buildings are an essential focus area. The buildings sector accounts for some 40 percent of total global energy-related carbon emissions, according to a 2020 report from the Global Alliance for Buildings and Construction. What's more, three-quarters of CO₂ emissions are attributable to building operations. With that in mind, and with the goal of curbing the rise in global temperatures to 1.5°C to avoid the worst effects of climate change, many governments have implemented policies that fund, incentivize and directly mandate the move to decarbonized buildings.

For companies, that's made pursuing net zero carbon and renewable energy goals both more urgent and more realistic to achieve given the sheer number of opportunities available. Companies seeking to shift to a healthier building have at their disposal investment funds, green bonds and other incentives to aid them in their efforts.



Design: The challenges of creating a sustainability plan

However, the number of opportunities and choices, as well as the sheer amount of work required to achieve net zero, can be overwhelming. With the day-to-day responsibilities of running an organization taking priority, sustainability goals are often poorly managed. They can even fall completely by the wayside, putting organizations at increased risk of failing to meet targets set by regulators and also succumbing to reputational risk. Some 93 percent of building professionals, for example, say they run into challenges measuring emissions, the biggest being how to aggregate data from multiple sources, according to the Johnson Controls OpenBlue Net Zero Buildings Pulse Survey. Companies lack sound digital solutions, and yet sustainability remains a real priority for many organizations.

The United Nations' Paris Agreement target to achieve net zero greenhouse gas emissions by 2050 is fast approaching, causing governments around the world to rearchitect their regulations to hold themselves accountable. In a commissioned study conducted by Forrester Consulting on The Race to Decarbonization, 80 percent of organizations name "implementing or maturing their sustainability initiatives" as their top business priority in the next year, while 47 percent say they are actively working towards at least a 51 percent reduction in carbon emissions/energy consumption. Investing in net zero infrastructure - including resource-efficient and renewable energy solutions and services - is good for the planet and good for organizations' bottom lines.

Companies want to improve energy efficiency, integrate onsite renewables, electrify buildings, incorporate offsite renewables and add grid interactive capabilities. It's a lot to tackle. What if all these companies had a game plan and a team available to help them put it into action?

Digitalize: Developing a clear road map

Johnson Controls OpenBlue Net Zero Buildings is a one-stop shop built with award-winning AI for companies looking to achieve net zero carbon and renewable energy goals. Through a suite of digital solutions and services and a dedicated team of net zero experts who serve as guides, organizations get expert help navigating, planning, executing and tracking their entire sustainability journey. Real-time performance dashboards and reporting analyze energy, water, materials and greenhouse gas emissions, making it simple for organizations to measure their emissions without having to pull data from multiple sources. Data becomes more transparent and more useful. Integrating sustainability with digitalization through solutions like OpenBlue Net Zero Buildings makes it possible to more quickly reach the three percent annual renovation rate of buildings needed to successfully meet the ambitious net zero goals of the Paris Agreement by 2050. Organizations that work with Johnson Controls benefit from thought leadership and best practice strategies on how to move toward decarbonization and renewable energy across the full spectrum and lifecycle of building solutions and services.

Organizations no longer need to choose between cost savings and their sustainability investment. By making the right investments recommended by net zero experts, companies can both reduce costs and emissions while also improving efficiency. With OpenBlue Net Zero Buildings as a service, Johnson Controls takes on the responsibility for upfront capital decisions, design and construction, along with decarbonization goal achievement and reporting. And by digitalizing now, your building will be prepared for the impending availability of predictive and optimizing technologies, such as grid interactive optimization. The service, which operates on a monthly fee, optimizes building performance with technology that delivers up to 50 percent in energy savings - and a corresponding drop in CO₂ emissions - as well as 100 percent renewable electricity supply. This ultimately leads to healthier buildings, healthier people and a healthier planet. Customized, flexible solutions include advisory with leading OpenBlue Services, such as predictive maintenance for connected chillers that can help reduce energy consumption, extend asset life and increase uptime.





Deploy: From planning to certification

Achieving net zero isn't one moment in time. It's a consistent commitment that requires operations expertise. Organizations across the globe are facing capacity restraints that are hampering their sustainability efforts. From audits to benchmarking, construction to commissioning, it's a race to contract with a partner who has global reach with a dedicated local service. Companies that utilize the suite of solutions from OpenBlue Net Zero Buildings are achieving significant results with full building solutions that support sustainability targets, meeting compliance standards and improving brand reputation.



OpenBlue Net Zero Buildings helped Colorado State University Pueblo to install a 23-acre solar farm and become the first net zero electricity campus in the state. With this microgrid solution, CSU-Pueblo has exceeded its green goals and locked in its electricity costs for the next 25 years.



At Ng Teng Fong General Hospital Singapore, OpenBlue helped save 68 cubic meters of water each year – close to \$4 million in energy savings – earning the hospital the Green Mark Platinum Award from the Singapore Building Authority.

Johnson Controls is well positioned to help. The company is a global leader in technology that powers smart, healthy and sustainable buildings and has been a world-class thought leader in building technology for more than 135 years. Johnson Controls is well established in the top 12 percent of climate leadership companies globally, was named one of Corporate Knights Global 100 Most Sustainable Companies in 2020, and has an international team of 100,000 industry experts in 150 countries.

OpenBlue Net Zero Buildings gives customers a solve for zero and a clear road map for sustainability. To learn more about how to accelerate your solve for zero effort, visit **OpenBlue Net Zero Buildings on [johnsoncontrols.com](https://www.johnsoncontrols.com)**.

About OpenBlue

OpenBlue is a complete suite of connected solutions that serves industries from workplaces to schools, hospitals to campuses, and beyond. This platform includes tailored, AI-infused service solutions such as remote diagnostics, predictive maintenance, compliance monitoring, advanced risk assessments, and more. A dynamic new space from Johnson Controls, OpenBlue is how buildings come alive.



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