IBM adds dedicated energy management services to its Poughkeepsie campus

Case Study

Company Name:
IBM

Industry:
Technology

Location:
Poughkeepsie, New York

Annual Electric Savings:
Identified: 13,432,406 kWh
Installed: 11,872,197 kWh

Annual Fossil Fuel Savings:
Identified: 100,439 MMBtu
Installed: 66,153 MMBtu

Overview

Many of IBM's flagship businesses have remained in New York State for more than a century. The largest site, both in terms of square footage and energy spending, is the IBM Poughkeepsie campus, located at 2455 South Road, Poughkeepsie, NY. The site totals 3.6 million square feet of office and manufacturing space as well as houses data centers.

In 2018, JLL provided portfolio-level energy management services as part of a larger program but did not have these services for specific sites. With an ambitious corporate energy conservation program and certification to ISO50001 International Organization for Standardization—Energy Management, an energy manager located on site was required to communicate with facilities and procedure teams to implement operational improvements, comply with all standard requirements of the International Organization for Standardization, and to save as much energy and carbon as possible with operational excellence. IBM engaged JLL to provide on-site energy manager (OsEM) services through the New York State Energy Research and Development Authority's (NYSERDA) On-site Energy Manager Program.

Goals

IBM has a corporate annual energy conservation goal of 4 percent. This energy saving goal is a blended rate calculation that include historical energy consumption, cost, and absolute energy conservation, and is applied to each of the six sites, individually. Further, JLL has a goal as a service provider to attain a high level of overall savings to IBM, across all the sites JLL manages, across all services, including the energy conserved at the Poughkeepsie, Yorktown, Armonk, and New York City locations. The sites also have goals to exceed the requirements of the International Organization for Standardization—Energy Management certification and regularly conduct internal audits to check preparedness toward external audits and certification. Additionally, IBM has a goal to have net zero carbon emissions by 2030. That goal prioritizes energy efficiency, reductions in emissions, and clean energy use across countries in which IBM operates.

Measures Taken

A variety of energy conservation measures were implemented over the course of the two-year OsEM program. When the OsEM was on site and working in partnership with the JLL facilities teams, no-cost measures were regularly identified, implemented, and measured, sometimes over the course of one day. No-cost measures implemented included valve repairs, setpoint adjustments, improved control system sequencing, and turning off unused lights and equipment. During the COVID pandemic, the OsEM worked to minimize energy consumption during periods of extremely low occupancy. This energy management work involved keeping off unused exhaust fans, Air Handling Units, lights, escalators, vending machines, and other plug loads. As new COVID operational recommendations changed, the outdoor air and other fan requirements changed, and the OsEM was involved to understand and add input. Over the two years of the program, additional implemented projects included the installation of variable frequency drives, steam trap repairs, conversion of a constant air volume system to a variable air volume unit system, boiler upgrades, Heat Exchanger repairs, roof replacements, data center virtualization, data center air flow optimization projects, projects implementing more than 50 repairs found by the Smarter Buildings fault detection program, and large-scale lighting retrofits.

Results

With an OsEM engagement initiated in October 2019, the manager was able to build relationships with site teams and learned about building systems prior to the 2020 COVID pandemic. The OsEM developed strong relationships with essential on-site facilities teams and assisted in implementing energy conservation measures, ultimately exceeding the energy conservation goals. At the portfolio level, JLL found that sites with dedicated OsEMs (including the Armonk and New York City locations) saved more energy and carbon and were more likely to meet site-level goals. Further, the manager was able to share best practices developed during the engagement to help other JLL Energy Managers in implementing energy and carbon emission reductions.

Next Steps

The completion of the OsEM program at IBM Poughkeepsie demonstrated the high value of an OsEM in saving energy and meeting goals. The JLL team providing energy management services to IBM has grown at the same time, and the company has also added OsEMs to other IBM sites. JLL continues to provide dedicated energy management services.

The NYSERDA On-site Energy Manager Program

Through the On-site Energy Manager (OsEM) Pilot Program, NYSERDA cost-shares up to 75% of the cost to hire an OsEM. OsEMs work with companies to develop and implement successful energy and productivity projects. Projects may include operation and maintenance improvements, behavioral changes, energy efficiency upgrades, process improvements, throughput and scrap reduction improvements, and cost management.

Discover how to bring energy costs under control and maximize profitability with NYSERDA.

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