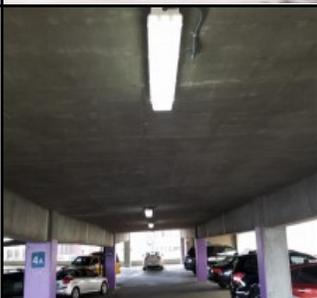


2018 BUILDING ENERGY CHALLENGE Awards

The Minneapolis Building Energy Challenge is a city-wide program that challenges large commercial buildings to reduce greenhouse gas emissions 15% from a 2014 baseline. In 2018, we celebrate the energy-saving and greenhouse gas-reducing successes and the end of the challenge with over 75% of participating buildings achieving or surpassing the goal. Together, these ten buildings are saving over 19,000 tons of greenhouse gas emissions annually and are setting an example for hundreds of other buildings to also improve energy efficiency, save on utility costs, and operate more sustainably.

| Property | Emissions-saving Initiatives | Emissions Reduction |
|--|---|---------------------|
|  <p>Butler Square</p> | <ul style="list-style-type: none"> • Installed five small chillers rather than a single large one, which allows for more flexibility in ramping up and down operation • Continued updates to direct digital controls • Benchmark all utilities (including waste) • Re-lamp interior & exterior lights with LEDs • Tenant energy engagement • Installed low-flow toilets (3.5 gpf to 1.6 gpf) | <p>-28%</p> |
|  <p>Calhoun Square</p> | <ul style="list-style-type: none"> • Installed programmable thermostats in tenant and common spaces to reduce energy use during low-to-no occupancy times • Retrofitted parking ramp and common area lighting to LEDs • Frequently walk through the building to identify energy savings in low-traffic areas | <p>-25%</p> |
|  <p>City Hall</p> | <ul style="list-style-type: none"> • Retrofit iconic clock tower with LED lights • Install occupancy & CO2 sensors to reduce energy use & ventilation in unoccupied areas • Added variable frequency drives & variable air volume boxes to use energy as needed • Equipped air handling units with economizers • Use waste heat in steam room to preheat domestic water with a 5-ton heat pump | <p>-18%</p> |
|  <p>DeLaSalle High School</p> | <ul style="list-style-type: none"> • Installed occupancy sensors and LEDs to reduce lighting load • Replaced 1952 vintage boiler with a new boiler with double the efficiency in 2015 • Installed new building automation system to efficiently control HVAC equipment • Installed 130 rooftop solar panels in 2010, giving students a chance to learn about clean energy | <p>-17%</p> |

| Property | Emissions-saving Initiatives | Emissions Reduction |
|---|--|---------------------|
| Forensic Science Building  | <ul style="list-style-type: none"> Added heat recovery coils to recycle waste heat that was previously exhausted Building recommissioning to identify energy saving opportunities & re-tune equipment Created a culture of valuing energy efficiency such that staff are dedicated to run the high-energy using building as efficiently as possible | -17% |
| Hennepin County Government Center  | <ul style="list-style-type: none"> Upgraded lighting controls & building automation system to turn off equipment when unnecessary Retrofitted existing lights to LEDs Updated data center to save energy Constantly monitor building operations to ensure efficiency | -25% |
| Minneapolis Convention Center  | <ul style="list-style-type: none"> Installed delivery bay door curtains to reduce the escape of conditioned air Educated staff on protocols to minimize delivery bay door opening duration Continuously upgrade HVAC & lighting systems with efficient controls & fixtures Offset 100% of electrical power with wind & solar energy, including through 600 kW rooftop PV | -61% |
| Royalston Maintenance Facility  | <ul style="list-style-type: none"> Adopted policies on building scheduling and temperature set points to control air flow needs Generate electricity from a rooftop and ground mount solar PV system Replaced all 4-foot fluorescent blubs with LEDS and are working on replacing all can-lights with LEDS as well | -22% |
| Wells Fargo Minneapolis Campus  | <ul style="list-style-type: none"> Retrofitted parking ramp lights with LEDs to halve the structure's electric consumption Restructured central heating & cooling plant to better serve the three office buildings Group employees with similar schedules so lighting & HVAC systems can be powered down in unoccupied areas Purchased 100% renewable electricity | -85% |
| Hospital Parking Ramp  | <ul style="list-style-type: none"> Replaced 410 T-12 light fixtures with new T-8 fixtures and bulbs in 2010 Replaced 16 high-pressure sodium & 11 metal halide fixtures with LEDs in ramp's stairwells in 2015 Replaced 410 T-8 fixtures with LED bulbs in 2017 that significantly increase visibility in the ramp | -35% |