University Perspective
In 2007, JHU committed to reduce its greenhouse gas emissions (GHG) by 51% by 2025. This includes emissions derived from electricity, natural gas, distillate oil, and gasoline consumed by university owned properties and vehicles. In addition to carbon dioxide, methane (CH4), nitrogen dioxide (N2O), and refrigerants are measured and normalized based on their global warming potentials. While Johns Hopkins University continues to grow in size, the rate at which energy consumption increases is at a much slower pace as a result of energy conservation measures that have been implemented.

Act on Climate.
President Daniels joined other university Presidents for the White House’s Act on Climate Initiative in advance of the Paris Climate negotiations in 2015. In doing so, President Daniels reaffirmed the university’s own commitment to reduce its GHG emissions.

Total Energy:
University energy consumption is tracked in MMBTU, which combines kWh of electricity, therms of natural gas, and the energy content of liquid fuels for transportation and buildings. Since FY08, total energy consumption has increased by 4.6%.

Building Footprint:
As the university often has less ability to implement conservation measures in leased spaces, only properties owned by Hopkins are tracked. In FY15, university-owned buildings increased by almost 25,000 square feet. Since FY08, the university has grown by 9.3%.

Greenhouse Gas Reduction:
In FY15, the university emitted 304,490 metric tons CO2-equivalent (MTCO2e), a 30% reduction since FY08. Much of the change is attributed to the regional electric grid, which has been consuming proportionally more natural gas and renewable sources, while reducing its reliance on coal.

Energy Density:
New construction and vacating of existing buildings can drastically affect the university’s total energy consumption, and therefore make it difficult to see the benefits of energy conservation measures. An energy density calculation—energy per gross square foot—is a useful metric that normalizes energy use with the size of facilities. In FY15, university-owned properties averaged 203 kBTu/sq ft, almost a 5% reduction since FY08. This reduction in energy, and ultimately GHGs, can be attributed to a number of initiatives including lighting retrofits and the implementation of high performance building guidelines for new construction and major renovations.
by the numbers:

Total Energy Consumption
Due in part to energy conservation measures, the DC Center has reduced its overall energy consumption in recent years. In FY08, it consumed 26,220 MMBTU, and in FY15 it consumed 19,334 MMBTU—a 26% decrease.

Energy Density
In FY15, the DC Center consumed 70 kBTU/sq ft, which was down from 96 kBTU/sq ft in FY08. For comparison purposes, ENERGYSTAR provides energy density benchmarking data for U.S. facilities. The annual median for colleges and universities is 130.7 kBTu/sq ft, and offices is 67.3 kBTu/sq ft.

Greenhouse Gas Emissions
The DC Center’s emissions have dropped by 44% since FY08, from 4,411 MTCO2e to 2,477 MTCO2e. This is equivalent to taking 400 passenger vehicles off the road or saving 4,500 barrels of oil, each year.

Waste Diversion
The DC Center had an estimated diversion rate of 16% in FY15, which included 8,000 pounds of compost collection. By comparison, the average rate was 44% for the entire university.

Domestic Water Consumption
Domestic water consumption was approximately 840,000 gallons in FY15, which was slightly higher than in recent years. The university consumed an estimated 360,000,000 gallons in all of its owned buildings in FY15.

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