



## Project Details

- 60,000 sq-ft facility
  - 4,500 annual cooling hours
  - 10 cents per kWh utility rate
- HVAC coil cleaning systems installed in selected rooftop units (RTU's)
- 65,000 kWh annual HVAC energy savings (12% of HVAC Load)  
**(kWh savings is equivalent to 50% of the savings achieved with the customer's earlier fluorescent-to-LED lighting retrofit.)**
- 46 metric tons of CO<sub>2</sub> emissions avoided
- 3-year Coil Cleaning payback\*

## Operational Benefits

- Manual evaporator coil cleaning eliminated
- Enhanced Indoor Air Quality (IAQ):  
97% single [air] pass COVID-19 deactivation
- Extended RTU service life (est. 1.7 years on selected RTUs)
- Extended HVAC durability  
Reduced fan/pump/compressor runtime + coil corrosion

\*Payback can vary based on climate zone + electricity cost

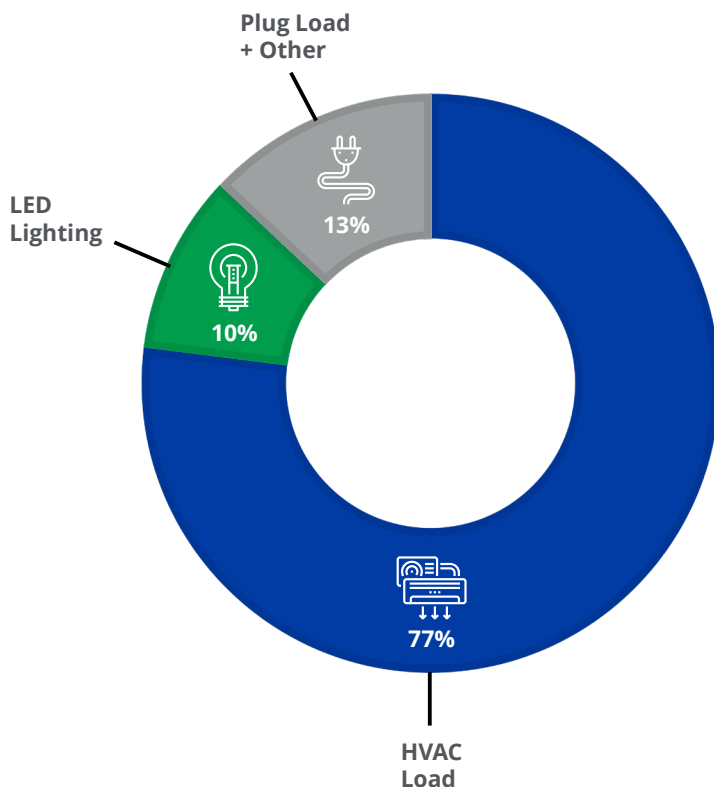
## EMC's Disinfection Solutions

- HVAC Coil Disinfection
- HVAC Air Disinfection
- HVAC Air Purification
- Upper Air Disinfection
- Active Air + Surface Disinfection
- Custom Disinfection Solutions

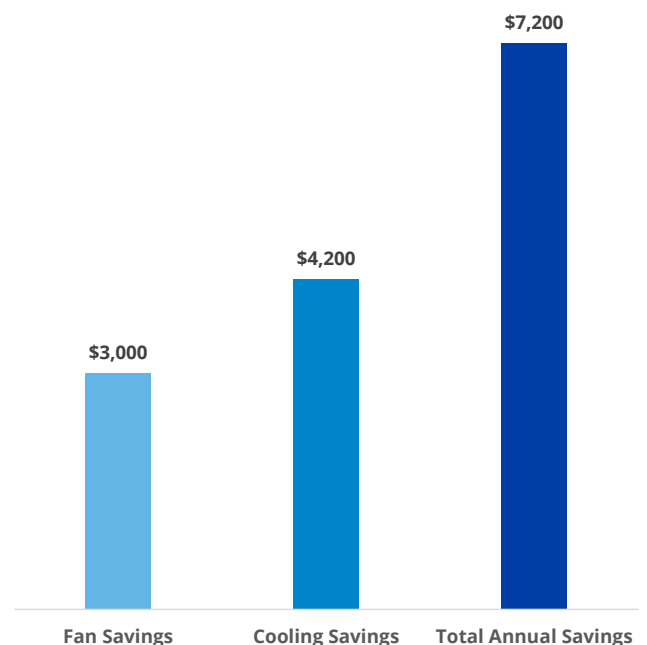
## EMC's Total Approach



## Energy Usage Profile



## Annual HVAC Energy Cost Saving [after adding UV-C coil cleaning]

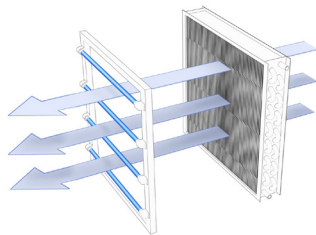




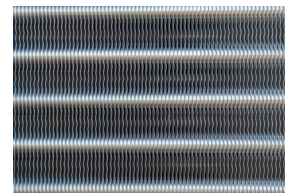
- In a company's sustainability journey, the next "easy reach" for energy savings after LED lighting retrofits is the HVAC (heating, ventilation and air conditioning) system.
- HVAC can account for up to 80% of a commercial building's electricity consumption.
- Rooftop mounted HVAC units (RTUs) are typical for commercial buildings. These units contain heat exchangers (called coils) that are used to cool air going into a building.
- Over time, biofilm grows on these coils, restricting airflow and disrupting their ability to pull heat out of the air.
- As a result, the RTU must run longer to achieve the desired cool air temperature. In addition, as the RTU is running, the biofilm causes its fan and compressors to run less efficiently resulting in additional power consumption for every hour of operation.
- Periodic manual cleaning can temporarily remove the biofilm. However, it regrows between cleanings. This cycle of cleaning and biofilm regrowth can increase RTU energy consumption as much as 30%.
- Retrofit UV-C coil disinfection systems can effectively eliminate coil fouling and return an HVAC system to its optimum performance.



## HVAC Coil Cleaning with UV-C



Before UV-C



After UV-C

### Is anyone else doing this?

Yes. A good example is the U.S. General Services Administration (GSA) that requires that UV-C coil cleaning be used in all buildings under their jurisdiction.

### Is it really effective?

Yes. The technology is endorsed by the U.S. Dept of Energy and recommended by ASHRAE as a tier 2 performance enhancement to existing HVAC systems. There are numerous peer reviewed research studies confirming the effectiveness.

### What sort of payback can I expect?

EMC is seeing a 2-year to 5-year paybacks, depending on cost of power and the climate region where a building is located.

### What product do you sell?

EMC is vendor neutral. We offer products from a number of different manufacturers. Based on the data collected in our audit, we will select the best solution for your facility.

### Is UV-C safe?

Yes. UV coil cleaning systems are completely enclosed within the RTU. The systems also include RTU door sensors which automatically turn off the UV lamps automatically if the RTU doors are opened.