The GPG program enables GSA to make sound investment decisions in next generation building technologies based on their real world performance.

**O P P O R T U N I T Y**

RTUs condition how much floor space nationwide?

>50% OF COMMERCIAL FLOOR SPACE IN THE U.S. IS CONDITIONED BY ROOFTOP UNITS (RTUS)

**T E C H N O L O G Y**

How do advanced RTUs work?

**V A R I A B L E S P E E D I N V E R T E R**

**C O M P R E S S O R M A I N T A I N S A I R TEMPERATURE SETPOINT**

**M & V**

Where did Measurement and Verification occur?

PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL) assessed the first RTU to meet the Department of Energy’s High Performance RTU Challenge. The RTU was provided by Daikin Applied and installed in a GSA warehouse in Fort Worth, Texas. PNNL also conducted a concurrent study of the advanced RTU at two Florida supermarkets.

**R E S U L T S**

How did the advanced RTU perform in M&V?

**26% ENERGY SAVINGS**

Models predicted 40% savings compared to a standard RTU.  

**C O S T S FOR INSTALLATION VARY**

Heavier unit and different footprint may require infrastructure reinforcement or duct changes.

**3.8 YR PAYBACK**

Demonstrated at two Florida supermarkets.

Energy Efficiency Ratio as a Function of Outdoor Air Temperature

Advanced RTU exceeds baseline efficiency, particularly at higher outdoor air temperatures.

**D E P L O Y M E N T**

Where does M&V recommend deploying advanced RTUs?

**E N D - O F - L I F E R E P L A C E M E N T**

Modeling indicates that savings will be greatest in hot, humid climates.

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2. Ibid, p. 25
3. Ibid, p. 4