**GPG FINDINGS**

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

**MEASURE SOIL MOISTURE**

WIRELESS SOIL-MOISTURE SENSORS FOR IRRIGATION CONTROL

**OPPORTUNITY**

What is the federally mandated water reduction goal?  

36% REDUCTION IN POTABLE WATER USE by 2025, compared to 2007 baseline

37% OF UNITED STATES is experiencing drought conditions

20-40% WATER SAVINGS with smart irrigation

**TECHNOLOGY**

How do Wireless Moisture Sensors work?

FURTHER RESEARCH DOCUMENTING SENSOR EFFECTIVENESS

Meanwhile, turnkey weather-based controllers are recommended*

**RESULTS**

Where did Measurement and Verification occur?

MEASUREMENT AND VERIFICATION

PACIFIC NORTHWEST NATIONAL LABORATORY assessed a pre-commercial implementation of wireless soil-moisture sensors for irrigation control provided by UgMo at the Young Federal Building in Orlando, Florida.

**DEPLOYMENT**

Where does M&V recommend deploying Wireless Moisture Sensors?

ECONOMIC ASSESSMENT FOR SOIL-MOISTURE Sensor INSTALLATION IN Orlando

Cost-effective when Savings-to-Investment Ratio (SIR) is greater than 1

Assuming installed system cost of $4,500, annual costs of $680 and 773,700 gal/yr water use

- 40% savings
- 20% savings

Savings-to-Investment Ratio  

U.S. National Average $3.30

- 45% savings
- 25% savings

**EXHIBIT 1**

Water Rate ($/kgal)  

- $1.00
- $2.00
- $3.00
- $4.00
- $5.00
- $6.00
- $7.00
- $8.00

Economic Assessment for Soil-Moisture Sensor Installation in Orlando

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- 40% savings
- 20% savings

**FURTHER RESEARCH DOCUMENTING SENSOR EFFECTIVENESS**

Meanwhile, turnkey weather-based controllers are recommended*


date


Irrigation Controls Based on Wireless Soil Moisture Technology Assessment: George C. Young Federal Building and U.S. Courthouse, Orlando, FL, KL McMordie, Stoughton, RS Butner, PNNL, March 2015, p. 1

Ibid, p.1

Ibid, p.3

*Subject to evaluation and approval by GSA-IT and Security

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