

OPPORTUNITY

What portion of water consumed by office buildings goes to irrigation?

20%

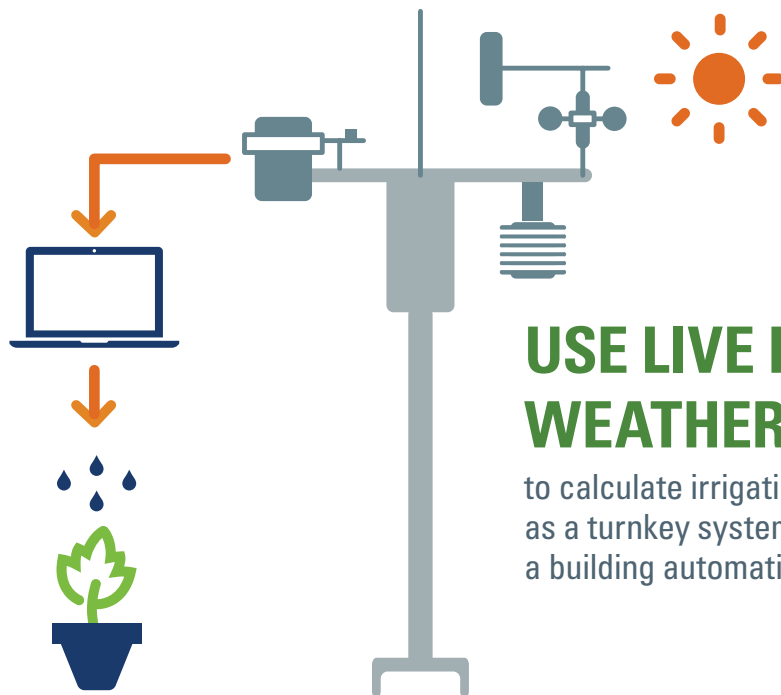
of water in U.S. office buildings is used for irrigation¹

UP TO 50% WASTED
with timer-based irrigation²

20-40% CAN BE SAVED
with smart irrigation, depending on climate, soil, and vegetation profile³

TECHNOLOGY

How do Weather- Stations for Irrigation Control work?



USE LIVE LOCAL WEATHER DATA

to calculate irrigation needs, either as a turnkey system or connected to a building automation system (BAS)

M&V

Where did Measurement and Verification occur?

PACIFIC NORTHWEST NATIONAL LABORATORY assessed a weather station provided by Campbell Scientific and connected to a BAS at the Hart-Dole-Inouye Federal Center in Battle Creek, Michigan.

RESULTS

How did Weather- Stations for Irrigation Control perform in M&V?

66%
WATER SAVINGS
projected⁴

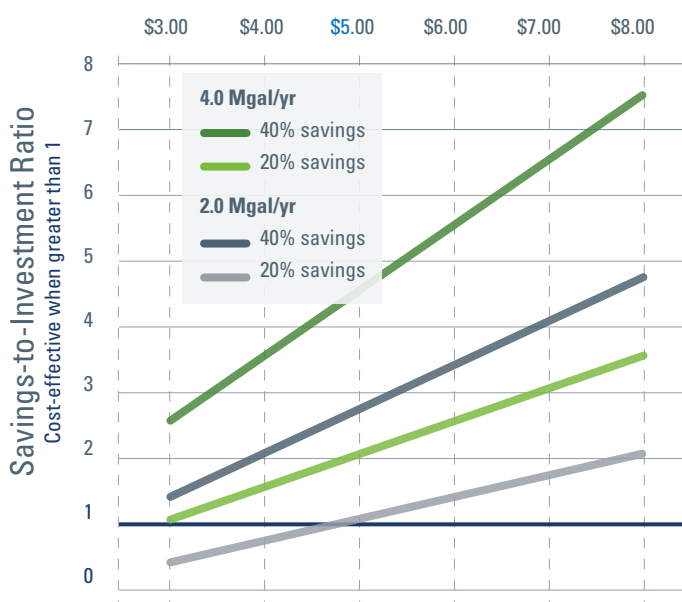
BAS-CONNECTED WEATHER STATION

challenging to program and not fully realized, turnkey recommended at present⁵

Life-Cycle Cost Analysis for Smart-Irrigation Systems

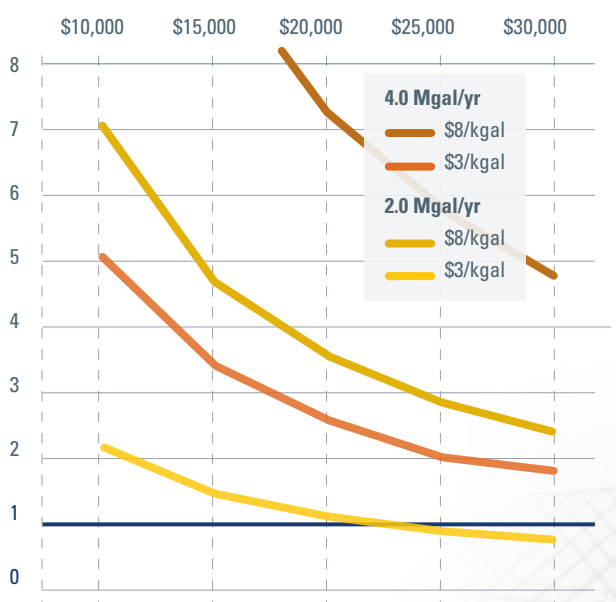
Water Rate (\$/kgal)

Assuming system cost of \$20,000 for a facility using 4.0 Mgal/yr and \$15,000 for a facility using 2.0 Mgal/yr



Installed System Cost

Assuming 40% savings



DEPLOYMENT

Where does M&V recommend deploying Weather-Stations for Irrigation Control?

FURTHER RESEARCH

CONNECTING WEATHER STATIONS TO BAS NEEDS MORE SUPPORT

Meanwhile, turnkey weather-based systems recommended.* Areas with intermittent rain will have higher savings and should be targeted first.

¹Assessment of Weather Station Used for Irrigation Control: Hart-Dole-Inouye Federal Center, Battle Creek, MI, KL McMordie Stoughton, RS Butner, PNNL, November 2014, p. 3 ²Ibid, p. 3 ³Ibid, p. 3 ⁴Ibid, p. 6 ⁵Ibid, p. 10 Subject to evaluation and approval by GSA-IT and Security