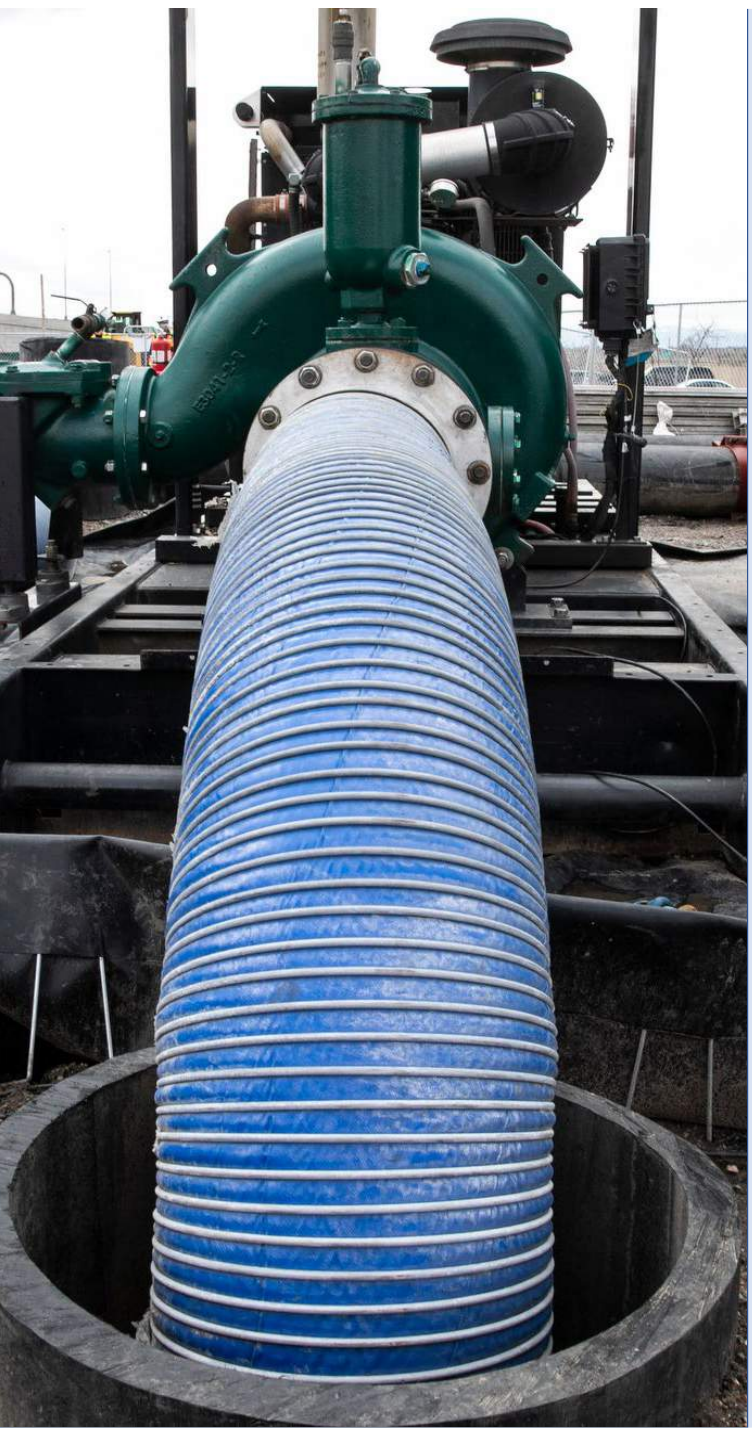
PROSTAR ENERGY SOLUTIONS

INSIGHTS FOR A COMPLETE GAME PLAN



INSIGHT #1 // SEWER HEAT RECOVERY

Showers, sinks, and processes all add hot water to sewers. The U.S. Department of Energy estimates American's wash 350 billion kilowatt-hours of energy down the drain ever year. That is enough power for about 30 million U.S. homes. Harvesting this waste heat in the battle against climate change is a challenge being taken on by several groups around the country.

The National Western Complex, home to the National Western Stock Show and Rodeo is adding about a million square feet of indoor space heated and cooled with a large amount of heat recovered from sewers.

Mining for sewer heat can be quite simple. The consistent temperature of the water, around 55 to 75 degrees year-round, makes it a suitable source to heat and cool buildings. A heat pump machine can absorb heat from the sewage to provide heating and transfer heat to the sewage to provide cooling. With technological advances in heat pump efficiencies, renewable heat mining is a very attractive design.

Sewer heat recovery provides two main benefits. A reduction in energy bills by reclaiming waste heat and some avoidance in thermal waste pollution. Thermal waste pollution describes the often-hotter treated wastewater released to the environment possibly having negative effects on plants and wildlife.

Sewer Heat Recovery is catching on and is seen as a new type of environmental resource in the battle to reduce emissions and damage to the environment.

SOURCES: CPR NEWS, METRO WATER RECOVERY

INSIGHT #2 // M&V PLAN PERFORMANCE AND OPERATIONS FOR FEDERAL LIGHTING PROJECTS

Implementation of lighting controls is a proven technology. Current technologies allow for the capture and quantification of changes in performance and operational parameters needed to calculate energy savings. Performance parameters can be spot measured via a sampling plan and Operational parameters will be verified via short-term data logging.

Baseline and post-installation performance parameters for a sample set of fixtures (power level of lamp and ballast combinations) will be spot measured during the baseline development and post-installation period. Baseline and post-installation operational parameters (hours of operation of the lighting system) will be verified via short-term data logging conducted during the baseline development and post-installation.

The baseline coefficient of variation (Cv; no controls) is assumed to be 0.5. For post-installation measurements, the Cv is assumed to be 1.0 for spaces controlled by motion sensors and 0.5 for all other controls one-time baseline and post-installation lighting levels will be verified by spot measurements in about 20% of the spaces or exterior areas incorporated with daylighting or exterior photocell controls. Lighting levels should not fall below customer's lighting design criteria.

SOURCES: ENERGY.GOB

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