

New reports urges more detailed utility metering to improve building efficiency

November 9 2011, By Mark Bello

A new interagency report recommends systematic consideration of new metering technologies, called submetering, that can yield up-to-date, finely grained snapshots of energy and water usage in commercial and residential buildings to guide efficiency improvements and capture the advantages of a modernized electric power grid.

Commercial and [residential buildings](#) consume vast amounts of [energy](#), water, and material resources. In fact, U.S. buildings account for more than 40 percent of total U.S. [energy consumption](#), including 72 percent of electricity use. If current trends continue, buildings worldwide will be the largest consumer of [global energy](#) by 2025. By 2050, buildings are likely to use as much energy as the transportation and industrial sectors combined.

Submetering is the use of metering devices to measure actual energy or [water consumption](#) at points downstream from the primary utility meter on a campus or building. Submetering allows building owners to monitor energy or [water usage](#) for individual tenants, departments, pieces of equipment or other loads to account for their specific usage.

Submetering technologies enable building owners to optimize design and retrofit strategies to energy and [water management](#) procedures more efficient and effective.

While the return on investment (ROI) for submeters depends on specific energy-efficiency strategies that may vary by climate, building type, and other factors, "numerous case studies provide evidence that the ROI can

be significant,” concludes the report, Submetering of Building Energy and Water Usage: Analysis and Recommendations of the Subcommittee on Buildings Technology Research and Development. Installing submetering technology also makes possible the use of more advanced conservation technologies in the future, the report notes.

The report is a product of the Buildings Technology Research and Development Subcommittee of the National Science and Technology Council (NSTC), a cabinet-level council that is the principal means within the executive branch to coordinate science and technology policy across the diverse entities that make up the federal research and development enterprise.

The NSTC report provides an overview of the key elements of submetering and associated energy management systems to foster understanding of associated benefits and complexities. It documents the current state of submetering and provides relevant case studies and preliminary findings relating to submetering system costs and ROI. The report also addresses gaps, challenges and barriers to widespread acceptance along with descriptive candidate areas where additional development or progress is required. It also surveys policy options for changing current buildings-sector practices.

More information: The 74-page report can be downloaded from: www.bfrl.nist.gov/buildingtech...aterUsageOct2011.pdf .

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