

MIAMI BEACH

City of Miami Beach, 1700 Convention Center Drive, Miami Beach, Florida 33139, www.miamibeachfl.gov

COMMITTEE MEMORANDUM

TO: Finance and Citywide Projects Committee

FROM: Jimmy L. Morales, City Manager

DATE: February 23, 2018

SUBJECT: **DISCUSSION ON REQUIRING SUSTAINABILITY STANDARDS SIMILAR TO LEED FOR RETROFITS IN CITY-OWNED PROPERTIES**

On January 10, 2018, the Sustainability and Resiliency Committee (SRC) held a discussion on requiring sustainability standards similar to Leadership in Energy and Environment Design (LEED) for retrofits in city-owned properties. After discussing which set of items would be highly beneficial and feasible, the SRC referred the item with a favorable recommendation to the Finance and Citywide Projects Committee (FCWP). The referral was intended to assist with allocating funds to purchase and install ultra-low flow plumbing fixtures and occupancy sensors for City Hall. Staff was directed to track data on how these measures would reduce water and energy consumption and to compare the results with other city properties.

On January 17, 2018, the Mayor and City Commission referred the SRC discussion to the FCWP.

BACKGROUND

The City of Miami Beach has supported numerous policies and initiatives with ambitious goals to reduce greenhouse gas emissions and transition to renewable energy. On October 14, 2015, the city adopted a Resolution to join the Global Covenant of Mayors (formerly the Compact of Mayors) and pledged to reduce greenhouse gas (GHG) emissions. On May 17, 2017, the city joined the Sierra Club's "Ready for 100%" campaign to become a 100% renewable city. Then, on June 7, 2017, a Resolution was adopted upholding the city's commitment to the goals and standards set forth in the Paris Climate Agreement.

Due to physical space constraints, high costs related to solar energy and Renewable Energy Credits (RECs), and the lack of utility-supplied renewable energy provided by Florida and Power Light (FPL), the initial focus of the city's efforts should be in reducing energy consumption. Energy conservation decreases energy demand, which can then lower the cost of solar installations required to cover electricity demand. In addition, the consumption of grid-supplied electricity in buildings represented almost 70% of the city-wide greenhouse gas emissions in 2015.

Renovations, retrofits and refurbishment of existing buildings represent an opportunity to enhance the performance of building assets for their ongoing life. Often retrofits involve modifications to existing buildings that may improve energy efficiency, decrease energy demand and emissions associated to the built environment. Tracking energy performance is fundamental to correlate cost and consumption information and improve energy management challenges, which can assist the city to lower emissions and save money.

ANALYSIS

At this time, we do not have the capability to track the energy and water savings from retrofitting with occupancy sensors and ultra-low flow plumbing fixtures. However, based on the manufactures specifications, energy savings could reach up to 50% of the current energy consumption per fixture. The initial cost will be about \$10,600 for occupancy sensors (Attachment A), based on 30 sensors per floor in City Hall (total of 120 sensors) and \$31,650 for the ultra-low flow plumbing fixtures, based on 33 water closets ad 12 urinals at City Hall (Attachment B).

It should be noted, that it is necessary to have the specific data related to building energy consumption in order to track and monitor energy efficiency programs. After compiling and analyzing the energy data for municipal buildings, staff noticed one meter was connected to several buildings, making it impossible to track the energy consumption of each building. Each meter is connected to one utility account. When there is more than one building feeding from one meter, unless sub-meters are installed, it is not possible to identify how much each building is individually consuming. Submeters will allow the city to monitor consumption of each building and provide recommendations for specific energy efficient upgrades.

The first step is to develop a platform to track energy consumption and efficiency measurements. In order to do this, submeters will need to be installed for each building. It will cost about \$65K to install submeters at each municipal building (Attachment C). Additionally, the city has an open competitive bid for an energy management software which will assist to track, analyze, report and manage use, as well as identifying savings and issues, such as bill anomalies and changes in usage.

By establishing this platform with submeters and the energy management software, the city will be able to organize, monitor and manage its energy data, as well as identify inefficient buildings that are in need of retrofits and, most importantly, benchmark buildings that are being retrofitted.

CONCLUSION

The following is presented to the members of the Finance and Citywide Projects Committee for discussion and direction to allocate funds for potential retrofits and sub-meters.

ATTACHMENTS

ATTACHMENT A- Quote for occupancy sensors

ATTACHMENT B- Quote for ultra-low flow plumbing fixtures

ATTACHMENT C- Quote for submeters

SMT/ESW/FCT