Buffalo Environmental Management Commission

Monthly Energy/ Efficiency and Sustainability
TIP SHEET June 2008

As part of its City Charter-defined mission to advise the Mayor and Common Council on environmental issues affecting the City, the Buffalo Environmental Management Commission submits a monthly "tip sheet" on a timely topic for your information, review and consideration. This month's tip sheet subject is about green roofs.

A green roof is an extension of the existing roof of a building that is partially or completely covered with vegetation and soil, or a growing medium, planted over a waterproofing membrane. It may also contain additional layers such as a root barrier and drainage and irrigation systems. Rooftop ponds are another form of green roofs that are used to treat greywater. Green roof systems may be modular, with drainage layers, filter cloth, growing media and plants in movable interlocking grids or, each component may be installed separately.

Numerous benefits can result from the adoption of green roof technologies. Besides the obvious aesthetic and psychological benefits of being surrounded by garden-like settings, common ecological and economic benefits include the recovery of green space, moderation of the urban heat island effect, improved stormwater management, water and air purification, and a reduction in energy consumption.

The mitigation of stormwater runoff is considered by many to be the primary benefit because of the prevalence of impervious surfaces in urban areas. The rapid runoff from roof surfaces can result in flooding, increased erosion, and may result in raw sewage that is discharged directly into our rivers. The larger amount of runoff also results in a greater quantity of water that must be treated before it is potable. A major benefit of green roofs is their ability to absorb stormwater and release it slowly over a period of several hours. Green roof systems have been shown to retain 60-100% of the stormwater they receive.

Green roofs have a longer life-span than standard roofs because they are protected from ultraviolet radiation and the extreme fluctuations in temperature that cause roof membranes to deteriorate. A green roof, when compared to a black top roof, can generate a 21% savings in heating and air conditioning costs. Green roofs are relevant to industrial, governmental, commercial, retail, and residential applications.

If you have any questions regarding the tip sheet please contact Joe Gardella (Interim Chair, BEMC) at **gardella@buffalo.edu** or Dennis Sutton (BEMC support staff) at **dsutton@city-buffalo.com.** We look forward to any input on the monthly tip sheet.

BEMC members are willing to attend any meetings to promote implementation of these programs in the City of Buffalo. BEMC meets monthly, on the third Wednesday, 8:00 AM, 920 City Hall.