

EAST HAM LEISURE CENTRE: LONDON

Upgrading works due to commence in 2014

An outline of the project proposals supported through the Lottery Improvement Fund are set out below. These will be followed through to post completion to assess the benefits of the range of interventions, new products and technologies.

New features

Environmental improvements will include:

- LED (light emitting diode) lighting with PIR (passive infrared) sensor activation throughout the facility
- More efficient gas fired boiler system
- Variable speed drives applied to a number of pieces of machinery within the pool area
- Pool covers installed to reduce evaporation and the loss of heat from the pool water.

East Ham Leisure Centre is located in East London and houses two swimming pools, a gym, a large sports hall, a spinning room and a climbing wall. Improvement proposals include the replacement of the current inefficient heating and lighting systems with new 'greener' low energy systems as well as new pool covers.

Sport England awarded the centre £262,500 towards an overall budget of £350,000 to bring environmental improvements and energy cost savings to the centre. The money, made available through Sport England's Improvement Fund, will be used to install LED (light emitting diode) lighting, a new boiler system and pool covers. These upgrades are anticipated to save £70,000 per year as a result and allow activity costs to remain at accessible levels for all.

Locking the heat

East Ham Leisure Centre are hoping to save in the region of £6,000 a year by installing pool covers in both the main and learner pools, this equates to an annual reduction of 100,000kwh across their electricity and gas usage.

Pool covers perform an important role in reducing energy consumption and energy costs. An efficient cover, when used effectively, reduces evaporation and heat losses from a pool, lowering the energy required to maintain the temperature of the pool water. The new covers will be deployed using booms which will reduce the drag on the poolside floor. This simple addition will increase the longevity of the covers and maintain the efficiency for many years.

Variable speed drives

Variable speed drives (or motors) will be fitted to a number of pieces of machinery within the pool area. These can be applied to pumps or air conditioning units which currently have fixed rate motors. Variable speed drives bring cost and energy savings by allowing



Swimming pool hall to have new LED lighting



Pool covers to be installed in the pool area



LED lighting will improve lighting quality in sports hall

Improvement Fund Project Proposals

the power to be adjusted on equipment during periods when the demand is lower. For example, reducing the speed of a motor to 63% can actually save around 75% of the cost compared to running this at full power, so even small speed reductions result in large cost savings.

Brighter future

Newham Council have estimated that they could save £40,000 of their energy costs through replacing the fluorescent lighting in the swimming pool area with LED lights. New LED lighting is intended throughout the centre and significant savings are anticipated through improved usage and the installation of PIR sensors which will automatically turn on lights when rooms are entered and switch lights off when the spaces are not being used.

LED lighting has a number of features that will benefit the facility.

- **Saving money** – The increased efficiency of LED lighting is anticipated to make the total lifetime cost (purchase price plus cost of electricity and lamp replacement) significantly lower than metal halide lighting. Although the initial purchase price is higher, the payback period is significantly shorter due to reduced maintenance requirements and energy consumption.
- **Reducing maintenance** – A typical LED light is stated to have an ‘average life’ of 20,000 hours (15 years at 4 hours/day), and will support 50,000 switch cycles. This will significantly reduce the overall maintenance costs since currently each metal halide bulb is changed a minimum of once a year.
- **Instant start up** – Metal halide bulbs require up to 15 minutes to fully warm up and reach optimum brightness when the gases burn at a high temperature. In addition, when power is lost, a metal halide bulb cannot be restarted until the ignition unit has cooled down which can typically take 10-15 minutes. LED lights have no such requirements for warming up or cooling down and can be easily switched off when the facilities are not in use.

Boiler efficiency

The centre will replace the inefficient boiler system with a new gas fired boiler system. Currently East Ham use approximately 3 million kilowatt hours (kwh) of gas to heat the facility, costing £85,000 per year. The efficiency of the new boiler will mean a reduction in gas usage of 850,000kwh and savings of £25,000 per year.

“
... we anticipate electricity savings of £40,000 per year by installing LED lighting...
”

**Facilities Manager
East Ham Leisure Centre**



LED lighting is to be installed throughout the centre



Existing boilers are to be replaced with new more efficient models

Between 2012 and 2017...

the Improvement Fund will invest £45m of National Lottery funding into medium-sized projects that improve the quality and experience of sport.

The Improvement Fund aims to award capital grants worth £150,000 to £500,000 into sustainable projects with a clear local need.

The priorities for 2014 are projects that can clearly demonstrate environmental sustainability through changes to efficiency and usage of energy.

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