

PECKHAM PULSE LEISURE CENTRE: SOUTH 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
- Efficient CHP (combined heat and power) replacement unit
- Improved air conditioning to the equipment gym
- Lowering of ceilings in the fitness suite to reduce the volume to be heated
- Solar panels on the roof to heat water for showers and hand basins
- Variable speed drives applied to a number of pieces of machinery within the pool area.

Peckham Pulse Leisure Centre is based in South London and houses two swimming pools, a large gym, group exercise studio and a spa. Peckham Pulse is over 15 years old and a number of major refurbishment works are due to be carried out during this year. The centre is currently Southwark Council's least efficient leisure centre and the environmental improvements planned will turn it into one of the most efficient, with significant energy and cost savings anticipated for the council.

Sport England awarded the centre £252,000 towards an overall budget of £570,000 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 lighting throughout and install an efficient CHP unit and solar panels which will provide energy to the centre and heat the water used in wash basins and staff areas. Reduced overall energy usage and overall cost savings of 30-40% are anticipated.

Bright future

Southwark Council hope to save up to 70% of their lighting energy costs through replacing the metal halide 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



75 m² of solar panels to be installed on the roof



Main pool hall to have replacement LED light fittings



Gym to have new lighting and improved air conditioning

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.

Solar thermal heating

Currently, the centre uses 27,000 m³ of water each year which is almost enough to fill ten Olympic swimming pools. Applying solar thermal heating panels to the roof of the building and installing a new boiler system will allow water to be heated by energy from the sun. The heated water will be used in the showers and hand basins.

The introduction of solar renewable heat is expected to provide sufficient capacity to meet over 30% of the centre's daily hot water needs. These improvements will mean it will be using free, renewable energy to heat its water, reducing its reliance on conventional energy sources and saving money on electricity bills which can be reinvested in the facility.

A combined heat and power system

A CHP system allows the production of usable heat and power (electricity) in one single high efficiency unit. CHP generates electricity whilst also capturing the usable heat that is produced in the process. This contrasts with conventional methods of generating electricity where a large quantity of heat is simply wasted.

Benefits of installing a CHP boiler system will include cost savings of 20-40% over electricity provided by the grid or heat generated by a conventional on-site boiler. The system will also provide enhanced security of supply and make energy go further through more efficient use of fuel.

Sub metering

Southwark Council are to increase their metering network at Peckham Pulse. This will allow them to gain a greater understanding on the energy usage of individual parts, rooms or items within the centre. The information from the sub meters can highlight pieces of equipment which are less efficient and may form the basis of any further improvements in the future.

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 the power to be adjusted on equipment during periods when the demand is lower. For example, at 63% speed a motor would only consume 25% of its full speed power, showing that for a relatively low reduction dramatic savings are possible.

“... changing the current boiler to a CHP system will save Peckham Pulse 20-40% on our energy bill...”

*General manager
Southwark Council*



Fitness suite ceilings to be lowered to reduce volume



Variable speed drive motors to be fitted in plant room

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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