

## Case Study BH Live



### Organisation:

BH Live

### Website:

[bhlive.org.uk](http://bhlive.org.uk)

### Base:

Bournemouth, Dorset

### Industry:

Events and leisure

### Project:

Energy and emissions reduction

### Results:

Surplus revenues safeguarded for long-term investment in social objectives

Low-tech, fast-track solutions with immediate energy dividend

Sensor-controlled car park lighting saving 134378kWh and cutting carbon emissions by 45% in just 12 months

5,000 litres of waste water per site, per day, cleaned and recycled back into pools

Intelligent LED and zonal lighting schemes halve the consumption to light sports halls and event spaces

Long-term plans for investment in solar and CHP (up to 40% and 20% energy saving), with proportionate cut in carbon emissions

New combined heat and power (CHP) system producing 2,643,795 kWh a year and saving up to 376 tonnes of CO<sub>2</sub> at Littledown Centre

## BH Live greens up its act to free up more investment to achieve social objectives



**All businesses need to take their environmental impact seriously, and invest in sustainable solutions to reduce energy consumption and carbon footprint.**

**But for social enterprise brands like BH Live, cutting consumption and protecting the business from rising energy costs is even more challenging.**

**It's not easy to run green and lean at the same time: BH Live needs to deploy a mix of practical technologies to deliver the biggest energy dividend, for the least possible cost.**

### The challenge

BH Live consumes more than £1.5 million a year in energy and water services, the kind of sum you'd expect for an organisation needing to power up five leisure centres and two large event venues, 24/7. So any savings will make a dramatic difference to energy consumption and environmental impact.

### The approach

BH Live is working through a comprehensive, 10-year energy and water saving strategy based on the Energy Savings Opportunity Scheme (ESOS), estimated to generate around £1.6 billion net benefits to UK business.

Members are required to systematically measure their total energy consumption, carry out energy audits to identify cost-effective energy efficiency

opportunities and report compliance to the Environment Agency, the scheme administrator.

*"The energy efficiency measures we identify will not only reduce consumption, but have much wider benefits in more efficient waste disposal and maintenance, and increased employee engagement, comfort and satisfaction in the workplace,"* says BH Live Head of Facilities Management, Peter Portnoi.

*"We're investing in energy-saving initiatives across our venues to cut energy dependence, costs and CO<sub>2</sub> emissions using proven, state-of-the-art technology in energy production, lighting, heating and air conditioning."*

BH Live is also taking full advantage of government and utility schemes to help track, manage and reduce our energy consumption, while maintaining maximum comfort and convenience for customers.

As well as benefiting the environment, cutting energy consumption frees up more surplus revenues for BH Live to invest in its social objectives.

### *Low-tech, low-cost solutions with fast payback*

Operating three leisure centres in Bournemouth with large, popular swimming pools, and another indoor water park in Portsmouth makes water usage a large part of BH Live's energy overheads. The pools need to be maintained at a constant, year-round temperature,

with adequate ventilation to maintain air quality, and modern filtration systems to ensure water quality.

By working with regional supplier Wessex Water, BH Live has access to the expert know-how and innovative thinking it needs to find ways to recycle, re-use and regenerate resources. Here's an example.



*“Using a fairly low-tech energy exchange system, we are cleaning and recycling 5,000 litres of pool backwash water at each of our leisure centre sites, every day,”* says Portnoi.

More investment is going into low-tech/high return solutions, such as Variable Frequency Drives (VFDs), which can halve the energy needed to pump air and water around a building.

*“The VFDs enable us to adjust the mains supply to motors and pumps. Altering the frequency by a small percentage is enough to bring down energy consumption by quite a margin,”* says Portnoi.

Thermal insulation is another simple, but really effective way to save energy and is already cutting heat loss from pipework and hot water tanks at Pelhams Park Leisure Centre, Littledown Centre and Bournemouth Pavilion.

*“We’ve also installed new, more efficient lighting across our venues. The new pool lighting at Littledown Centre automatically adjusts the lighting relative to ambient light. On bright days, the venue is flooded with natural light, so why keep the lights on,”* says Portnoi.

Energy-efficient LED lighting is now becoming a standard feature in BH Live’s plant rooms, sports halls and car parks.

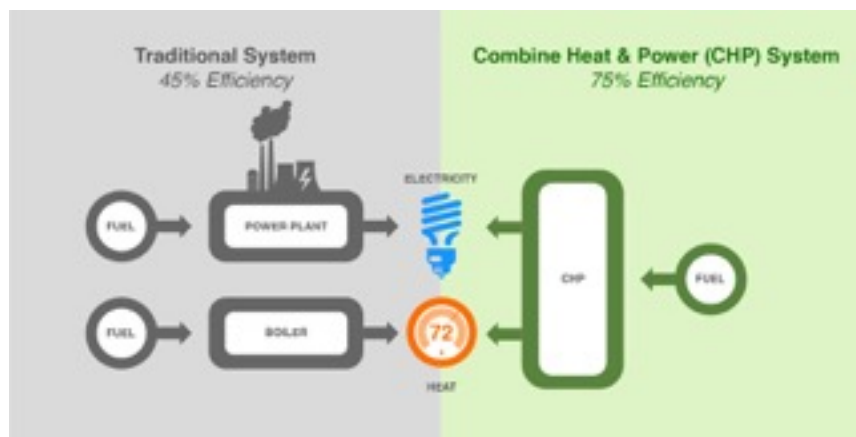
In the Bournemouth International Centre multi-storey car park, fluorescent lighting has been replaced with a Tridonic, low energy LED installation of around 400 LED boards and motion sensors that keep the light low, except when people are present.

*“We’ve saved 134378kWh of power and reduced carbon emissions by 45% in just 12 months,”* says Portnoi.

Similar LED schemes are being introduced at Portsmouth Pyramids and Sir David English Sports Centre, where the sports hall is being fitted with the latest energy-efficient LED lighting to improve light levels while minimising glare. As well as halving the energy needed to light the hall, more will be saved with wirelessly controlled zone lighting for specific events.

#### Combined heat and power (CHP)

A CHP system combines the production of usable heat and electrical power into a single, highly efficient process. As the system generates electricity, any usable heat it creates is used to heat spaces without the need for a conventional boiler.



Users typically save around 20% in energy costs and up to 30% on carbon emissions – so for the Littledown Centre, one of the busiest leisure centres in the UK, a new CHP installed in Autumn 2015 will give a massive boost to BH Live’s energy performance.

A 15-year agreement has been signed with EuroSite Power to install, own and operate an on-site, 200kWe CHP system where

BH Live will buy the energy it produces at a rate guaranteed below the grid price. It will produce up to 2,643,795 kWh a year and save up to 376 tonnes of CO<sub>2</sub> – equivalent to taking 79 cars off the road each year.

*“With no upfront costs, the EuroSite Power solution provides immediate, guaranteed, risk-free savings, secures the future power supply for Littledown Centre and will drastically cut our CO<sub>2</sub> emissions.”* says Portnoi.

#### Solar power

Solar Photovoltaic (PV) installations can achieve investment returns as high as 17%, with payments through the Feed in Tariff guaranteed by the Government for 20 years.

The roof at Bournemouth International Centre now bears one of the largest flatroof solar PV installations in the region. BH Live commissioned Empower Energy to design and install the 250kWh installation which will produce more than 235,000kWh of electricity a year for the venue – a saving of over 140 tonnes of CO<sub>2</sub> a year and equivalent to planting 57,000 trees.

#### About BH Live

BH Live is the South Coast’s leading operator of leisure and event venues – a social enterprise that designs and builds engaging experiences to inspire people and enrich lives. [bhlive.org.uk](http://bhlive.org.uk)