Facility Case Study

Creating a sporting habit for life

ABBEY STADIUM LEISURE CENTRE
REDDITCH, WORCESTERSHIRE

Status: Completed 2012
Client: Redditch Borough Council
Value: £6.0m

The Abbey Stadium Leisure Centre is a truly innovative project. The new wet side addition to the existing dry side sports centre is heated by the neighbouring crematorium. This is the first project of its type to be completed in the UK and it has shown other Local Authorities how innovative approaches to sustainability can result in real revenue benefits.

The new facilities consist of a 25 m x 6 lane competition swimming pool, learner pool, pool viewing for 300 spectators and a wet changing village. The existing dry side centre was refurbished to create two new fitness suites, an exercise studio, a refurbished 5 court sports hall and new changing areas. Extensive redevelopment has allowed the existing facility to be seamlessly linked to the new swimming pool building. A new full-height atrium provides a visual link between both the ground and first floors and the wet and dry sides of the facility.

The centre includes heat reclamation plant to use waste heat from the adjacent crematorium. This provides efficient heating of both the main pool and the learner pool.
Reclaimed heat from the neighbouring crematorium heats the swimming pools, reducing the Client’s operating costs considerably.
Heat Reclamation

An innovative plan to capture the waste heat from the adjacent crematorium and use it to heat the swimming pool was used at this facility and the centre has subsequently been recognised for its green credentials.

The scheme won a Green Apple Award as part of a national scheme to find Britain's greenest companies and organisations. The award was presented at a ceremony in London on June 20th 2011 and the project will be included in the Green Book, an international reference work on environmental best practice.

When the project – the first of its kind in the UK – was announced, a few negative comments received widespread publicity, but it also received widespread support from local residents and observers further afield with more than 80% of responses from local residents being supportive.

The opportunity arises out of a new EU directive that means councils must reduce the mercury emissions from their cremators by 50%. This requires them to install filters on cremator chimneys to treat the gases coming from the furnace. However, because the furnaces burn at about 800°C and the filters don’t work at such high temperatures, the exhaust gases have to be cooled.

The scheme is an elegant solution to two problems – the need to cool the exhaust gas from the cremator and the need to heat a swimming pool – that becomes more attractive every time utility prices rise.

Using heat exchangers, the waste heat is transferred to heat the swimming pools at the leisure centre, creating one of the greenest leisure centres in the country – the heat provides 42% of the leisure centre’s total heat demand – and reduces the entire council’s CO₂ emissions by 4% a year.

There are no real planning implications to such schemes because the pipework is buried, although careful consideration of the route of the pipe was necessary to ensure that it did not disturb burial grounds.

Projects such as Redditch’s demonstrate the importance of Local Authorities taking a holistic view of their operations and looking for opportunities to make savings across their estates.
The innovative approach used to heat the pools will hopefully encourage other Local Authorities to think of ways they can reduce running costs across their estates.

Peter Curtis
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All photographs provided by Drivers Jonas Deloitte