

Additional information supplied on EAUC website

Lower energy costs from water near you

Would you like to lower your energy costs (by up to 50%) and reduce your carbon footprint whilst improving the environment for students? Linden Environmental is a consultancy working to help organisations dramatically reduce their energy bills by using canal and river water to cool buildings.




Exclusive offer!

As an EAUC Company Member, they are working **exclusively** with us to bring this impressive technology to our Members to help you save energy. They are only offering it through the EAUC to our Members and **no one else has an Environment Agency approved licence to carry out this work.**

As an added extra, we've negotiated a **free initial feasibility study** so Linden can assess the viability of the project.

No project is too small so get in touch now to find out more – simply complete the form below which is sent to the EAUC and we will pass your details to Linden and they'll be in touch to help understand your aims and will explain their technology in more detail.

So how does it work?

It is heat exchange technology, similar to that used in everyone's fridge or radiator in a car. To put it simply, we take water from a nearby waterway (within 500 metres), bring it to a heat exchanger and draw out the heat from the building into the canal or river water. Any water source can be used except sea water.

The two fluids do not come into contact but exchange heat across a fine barrier. The coolant is then pumped around the building helping to keep the temperature at a pre-determined level and the water is returned to the waterway downstream of where it was extracted, slightly warmer than it was drawn in. The system is sealed so unlike other air-conditioners there is no need to treat the water, it never mixes with any other fluid used in the building thereby eliminating the risks of legionella.

FAQs

What support will I receive?

Linden manage the entire project from start to finish.

What's the environmental impact?

- 1. Water Loss** – Linden's technology is non-consumptive so it loses no water. It has pressurised piping, is a sealed system and a heat exchange pump so no water loss occurs in drought periods as the amount taken is the amount put back in. The system can also be switched off in drought periods if necessary and backup systems used.
- 2. Temperature** – The work is carried out with the Environment Agency approved licence who apply strict limits on temperatures with maximum discharges of 28 degrees and no more than an 8 degree fluctuation in the temperature permitted. This is strictly adhered to.
- 3. Temperature impact** – Water passes through 3 filters so there is no impact on water organisms nor is there any impact on the output at the existing sites. The emitted water tends to stay on the surface as it is hotter than the water below and dissipates its heat very quickly so not impacting the wildlife or vegetation. At GlaxoSmithKline (see case study below), they found that the system made a positive impact as additional air is introduced into the canal water and, locally to the cooling system, the levels of oxygen improved.

Overall, this technology offers environmental improvements as the land has been made to look more appealing for people (ie student experience at educational establishments increases) and most importantly, the environment.





What's the follow up?

Following the installation, an environment assessment is carried out independently of the contractors by the Environment Agency or British Waterways to check there has been no negative or detrimental impact on the environment.

Need help with funding?

Linden can also help you with the funding aspects of this project, whether in full or in part. Often, the costs involved will be paid for by the saving made!

To help you to understand how this works using a practical example, please review the case study below.

Case study - GlaxoSmithKline

Take a look at the case study below where Linden worked with GlaxoSmithKline:

The problem: GlaxoSmithKline had an increased demand for cooling capacity in the global data centre, located at GSK House. Meeting this 1 MgW cooling need had a high cost in electricity consumption and carbon

The solution: Through two heat exchangers, waste heat from the data centre is transferred through 1km of newly installed piping to the chiller located in a newly constructed plant room in the basement

The results: By using water rather than air cooling for the data centre saves 1,376,383 KWh p.a. and it estimated that a further 500,000 KWh p.a. can be saved with the spare capacity within the system. This amounts to a total carbon saving of 276 tonnes each year. The financial savings from the scheme were originally £131k a year but with some other improvements have increased to almost £200k a year.



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