CASE STUDY: **FOREST HOLIDAYS, UK**

BOWMAN HEAT TRANSFER TECHNOLOGY IN ACTION

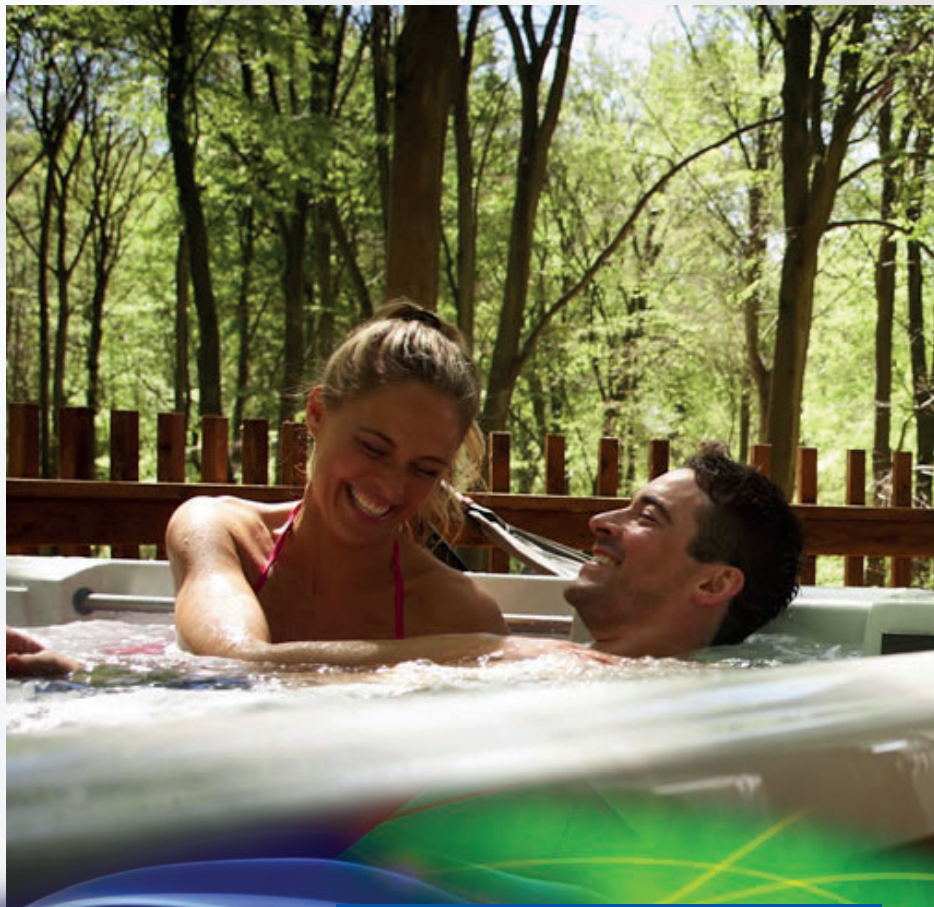
A hot tub heating revolution – deep in the forest

Project

Forest Holidays is a 'leading brand' in high end, low density forest lodge holidays with 10 holiday parks in England and Scotland, all situated in desirable Forestry Commission locations.

The provision of hot tubs at the company's parks has been an important factor in the success and growth of the business and of the 570 holiday cabins in their current portfolio, 520 have individual guest hot tubs.

The quality of the company's accommodation and locations has enabled them to achieve occupancy rates of up to 96% in recent years. This, together with the increasing demand for the cabins with hot tubs, had created an issue, due to the high cost of heating the tubs and the length of time needed to service and re-heat them at guest change over periods.



BOWMAN®

100 YEARS OF HEAT TRANSFER TECHNOLOGY

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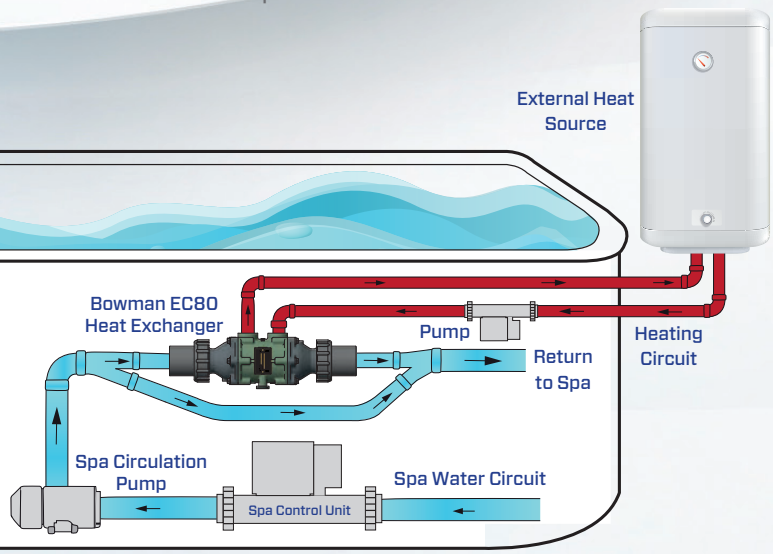
Solution

Traditionally, Forest Holidays has used electricity for heating both its cabins and hot tubs. However, electricity is significantly more expensive than other energy sources and has a very poor environmental performance when used for heating*.

Forest Holidays decided that a change to a more sustainable, lower cost energy was required. Working in conjunction with their consultants, they researched a range of heating options, including gas and biomass, before finally selecting an LPG solution as being most appropriate for their needs.

Of its 10 holiday locations, 'Deerpark', near Liskard in Cornwall, one of the company's original parks, was selected to be refurbished first and Forest Holidays set ambitious targets for the new system to substantially both reduce energy costs and hot tub heat up times.



An LPG boiler system installed in each cabin provide heating for the internal room areas, plus the hot tub water. Hot water from the boiler is pumped through a Bowman EC80-5113-1T heat exchanger, which transfers the heat to the hot tub water circuit - shown in the adjacent illustration. The multi-core design of the Bowman unit is extremely efficient and with up to 25kW of heat transfer capability, can heat a commercial hot tub in around 2-3 hours from cold.

At Forest Holidays, after cleaning, the tubs are refilled with a direct source of hot water at 30°C. This is then heated to 38°C and maintained at this temperature.

One of the company's key performance targets was to be able to heat their 1400 litre hot tubs to full operating temperature in under 2 hours with the new system. This compares to 4 hours usually required using electric heaters.

* Energy Savings Trust - energy calculations - March 2016

Results that speak for themselves

Conversion of the 'Deerpark' cabins was completed during 2017, after which the company, began a programme to monitor the performance of the new heating system. Results to date show the hot tubs are being heated to temperature in under 2 hours – well within the company's target time – and early indications suggest the new heating system will also deliver significant energy cost savings.

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