



CASE STUDY

An energy efficient 'crossover' combi installation.

**A completely new approach
to commercial heating.**



When an award-winning holiday park built a luxury leisure facility...

...they needed to think about reliable and efficient heating to deliver a great customer experience - while also keeping an eye on energy consumption. Such facilities usually demand commercial systems, with all the associated costs and building regulations.

But thanks to Navien's **NCB700 ON** Combi Crossover Boiler, they discovered an easier and better way to achieve this.

Designed originally for domestic systems, the **NCB700 ON** Combi Crossover can be deployed as part of a 'cascaded' system to deliver a cost-effective and energy efficient solution for larger installations. That's exactly what the installer chose to do here, using Navien's NPE-A cascade system to link two 54kW **NCB700 ON** Combi Crossover boilers with a Navien NPE Water Heater to create a truly bespoke heating system.

This solution has ticked all the boxes - for cost, ease of installation and performance, including maintaining consistent hot water without a drop in flow rates or pressure. Best of all, as an A+ rated technology, it's helped this environmentally conscious holiday park lower both energy bills and its carbon footprint. Proving that with a little imagination and out of the box thinking, amazing heating can happen.



“We couldn't be happier, our facility now goes above and beyond the needs of the residents and holidaymakers, making it a luxury experience.



A pioneering solution to a tough technical challenge.

Aiming to offer a luxury experience, this leisure facility had a significant heating need. This included a swimming pool and spa, together with five communal showers, a drench shower, six wash basins and a kitchen sink, plus two underfloor heating zones across the gym, bathrooms, and office spaces.

The showers alone required a total of 90 litres of water per minute, so ensuring consistent hot water without a drop in flow rates or water pressure was just one of the challenges, along with a pressing need to keep costs and carbon footprint to a minimum.

Typically, a facility of this size would require a commercial boiler of 70kW or more, together with space-consuming water tanks - and even then, there would be the risk of shortage during peak periods.

Having weighed up the challenge - including the absence of first fix pipework - the installer realised this was the perfect situation for Navien's game-changing technology as an easy, cost-effective, and highly energy efficient alternative to larger commercial systems.

It's certainly a different approach, but it's one that paid dividends.

This fully bespoke solution comprised a number of integrated elements.

At its heart were two 54kW NCB700 ON Combi Crossover Boilers, each of which has the power to serve hot water to three bathrooms simultaneously, essentially opening up new potential for the commercial sector.

Coupled with the pioneering NaviCirc™ valve, this maximised recirculation of hot water to minimise wastage and deliver industry-leading flow rates of up to 22 litres per minute (at 35°C temperature rise) – an ideal solution for the new leisure centre.



“Highly efficient, hassle-free installations with an attractive price for business owners.



The system also included the high efficiency tankless NPE Water Heater, and NPE-A Cascade, which essentially links water heaters together, ensuring consistent hot water to multiple outlets, eliminating the risk of running out during periods of high demand.

Moreover, as all units communicate and work together, they share the workload, reducing wear and tear, providing redundancy back-up and helping reduce energy consumption.

As an added benefit for installers, all Navien's components, including the PRV, are designed for accessibility and easy maintenance and repair.

Cost-effective today, future-proofed for tomorrow.

Despite having its origins in the domestic marketplace, the ability to connect and cascade Navien's technology has proved absolutely perfect for this commercial facility, meeting an energy need that more traditional, single unit commercial systems aren't currently able to meet cost-effectively.

From the moment the system was switched on, the benefits have been clear. The first thing the holiday park owners noticed was the high level of comfort and warmth through the new leisure facility, helping create a welcoming and relaxing space for their customers – an essential quality for such a high-end environment.

Equally important for customers using the facilities, there has been no shortage of hot water, even at the busiest times thanks to the consistent, endless recirculation built into Navien's ON technology.

In fact, the owners firmly believe that that the showers are achieving the same if not better flow rates and temperatures that customers might expect in their own homes.

Moreover, with 20% less energy consumption and an ultra-high efficiency rating of up to 107.2% for the NPE tankless gas water heaters, the A+ rated energy technology has been a revelation in terms of cost and carbon footprint.

Last but not least, with an industry leading 12-year warranty on the Combi Crossovers, together with the fact they're 20% hydrogen ready, means Navien's solution has helped secure the owner's investment for the long-term.

“When combined, these products not only provide a cost-effective solution, but also allow businesses to reduce energy, hot water usage and carbon emissions.

If you'd like to optimise costs and energy efficiency in your commercial space or premises, choose a high-performance system that can be tailored to your exact needs. Find out more about the benefits of Navien's NCB700 ON Combi Crossover, NPE Water Heater and Cascade.