



CASE STUDY:

Greywater Recovery at Premier Inn Abu Dhabi International Airport



Project	Premier Inn ADIA greywater recovery
Location	Abu Dhabi International Airport
Classification	Water Recycling - Greywater
Sector	Hotel
Client	Premier Inn Hotels LLC
Project savings	735,550L of consumption savings per month

Results

24%

Average monthly mains water consumption savings

735,550 L

Average amount of water recycled per month

8,826m³

Average annual consumption savings achieved, the equivalent of over 110,000 baths

1st

RSB approved greywater system in the Emirate of Abu Dhabi

60 L

Average saving per in house guest

100%

Toilet flushing requirement from recycled water



Project overview

In a region which averages approximately only 120mm rainfall per year and is one of the highest per capita water consumers in the world, saving water is of primary concern in Abu Dhabi. Having extensive experience of water reuse technologies in the UK, Premier Inn hotels in the Middle East decided their newest hotel should set the standard in the emirate by utilising greywater recycling technology.

Premier Inn Abu Dhabi International Airport (ADIA) includes 300 bedrooms, four meeting rooms, a Costa Coffee shop, an all-day dining restaurant,

swimming pool, lounge and gym. The system is the first to be approved by the Regulation and Supervision Bureau for the Emirate of Abu Dhabi (RSB) and was the brainchild of water management specialist Waterscan.

'...set the standard in the emirate by utilising greywater recycling technology'

Sustainability achievements

- The first greywater recycling system to be approved by the RSB Abu Dhabi

Recognition

Trip Advisor 2015

Traveller's Choice Award

- 1st in the UAE and 2nd in the entire Middle East for 'Top Bargain Hotel'

Middle East Hotel Awards (MEHA)

- Winner Best Budget Hotel 2014
- Shortlisted for Best Budget Hotel and Best Sustainable Hotel 2015

MENA Hospitality Excellence Awards

- Winner Judges Choice
- Best Transit Hotel
- Shortlisted for Best Budget Hotel and Best Sustainable Hotel

Booking.com 2014

- Award of Excellence



The solution

The greywater recycling system used at Premier Inn ADIA works by taking water used for showering and bathing across the 300 rooms and treats it through an ultra-filtration membrane before feeding it back into the hotel for use in flushing toilets and irrigation. Installing a system which is capable of reducing water consumption by up to 40% will differentiate Premier Inn Hotels in the Middle East from other hoteliers and provide a huge relief to local water supplies.

As well as vastly reducing mains water consumption, the greywater recycling system is designed with innovative, low energy components that deliver higher energy efficiency and lower running costs. For added user peace of mind, the system includes built-in telemetry enabling remote diagnostics reporting and preventative maintenance to occur.

The outcome

The impact of the system on mains water consumption was significant. On average, 24% of hotel water usage per month is supplied from recycled greywater and in doing so sets a new standard for best practice hotel water management in Abu Dhabi, distinguishing the hotel from its competitors with a superior approach

to sustainability. This saving equates to approximately 735,550L, or over 110,000 bath tubs, of water per month.

The system installed at Premier Inn ADIA has a 20,000L treatment capacity with a clear water tank of 15,000L. The design was carefully considered to ensure no interruption in supply or effect on customer experience. As well as vastly reducing mains water consumption, the greywater recycling system is designed with innovative, low energy components that deliver higher energy efficiency and lower running costs.

Monitoring & development

To guarantee a consistent and reliable source of water supply, essential monitoring and fail safe technology was included in the system design. For added user peace of mind, built-in telemetry enables remote diagnostics reporting and preventative maintenance to occur, whilst the triple redundancy feature means that should the system fail, there are three mains back up supplies which kick in to support water demand when necessary.

With the success achieved at Premier Inn ADIA, Premier Inn will be rolling the technology out across all of their own new builds in the Middle East.

Quotes

"With water scarcity a primary concern in Abu Dhabi, we wanted to take the lead and become the first ever building and the first hotelier to recycle greywater in Abu Dhabi. Reducing our impact on local water supplies and acting sustainably in the areas we operate is a key driver for Premier Inn Hotels and the Whitbread Group.

Working with Waterscan, we designed a bespoke greywater recycling system that incorporated innovative features to ensure system reliability and guarantee customer experience was not affected. The system is producing great results, reducing our reliance on mains water considerably. We are now designing all our own new hotels in the region with greywater recycling technology.

The award-winning Premier Inn is able to operate sustainably and also provides great value for money and uniquely offers customers a 'great night guarantee'. All bedrooms feature en-suite bathrooms and complimentary Wi-Fi, while all hotels offer a gymnasium, swimming pool, Costa Coffee store and an all-day dining restaurant. Each Premier Inn room can comfortably sleep up to two adults and two children at no additional cost. For more details visit www.premierinn.ae"

Matthew Lewis

Property Development Director, Premier Inn Hotels LLC