

# Case Study

## WASTEWATER HEAT RECOVERY (WWHR)

Case identifier

DAVID WILSON HOMES. TENBURY VIEW

Country

UNITED KINGDOM (UK)

Building category

RESIDENTIAL

Building subcategory

SINGLE-FAMILY HOUSES

Type of Intervention in which the WWHR was installed

NEW BUILDING DESIGN

Occupancy and Hot Water Use

TYPICAL FAMILY USE IN 2, 3, 4, AND 5 BEDROOM HOUSES.



## WWHRS Application Description

- **Installation type**

Decentralised. A single drain connected to each WWHRS.

- **Type of product**

Passive vertical. Pipe-in-pipe.

- **Brand and model of installed WWHRS**

Recoup Pipe + HE.

- **Hot water-using bathing appliances connected**

Grey water shower drain in main bathroom.

- **Scheme connection type**

Scheme A.

- **Installation Process**

The Recoup Pipe+ HE is installed on the floor below the shower connected to it. Shower waste water is connected to the top, and the bottom is connected to the buildings sewer water. Cold mains water is connected the bottom of the pipe using standard pipe and fittings. When in use the preheated water is connected to the top of the unit and then to the cold side of the shower and water heater.

The Pipe+ HE within the properties at Tenbury View were installed by Central Plumbing and Heating Services Ltd. Their installer hadn't previously installed a waste water heat recovery system before working on the Tenbury site. He was impressed with the Pipe+ HE and what he expressed to be "An easy installation process", taking a maximum of 1.5 - 2 hours to complete. He had experienced no installation issues on any of the plots he had installed.

## Facilities Information

- **Sewage drainage**

Black water from toilets is not mixed with grey water from showers, bathtubs and sinks.

- **Domestic hot water system configuration**

Decentralised. Each dwelling has its own heat generator gas boiler with cylinder or combi boiler, without any accumulation.

- **Hot Water-using Bathing Appliances in the building**

1 ensuite and 1 main bathroom.



Connecting the Pipe+ HE to the soil pipe

Waste from shower and pre-heat connected

Insulation of pre-heat pipe run

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- **Maintenance Actions**

No maintenance is required, drain cleaning solutions can be used in the unlikely event of a blockage.

### WWHRS Performance Data

- **Have there been measurements of the operational performance of WWHRS?**

No.

- **Operational efficiency of the heat exchange**

67% rated efficiency.

- **Payback period of the installation**

The payback period is affected by a number of parameters, flow rate, number of daily uses, length of shower. The estimated payback time is between 3 and 8 years.

- **Lifetime**

Between 30 to 60 years.