

PASSIVELY RECOVERING WASTE HEAT ENERGY WITH EVERY SHOWER

WWHRS

SPECIFICATION BY SECTOR

NEW BUILD
DEVELOPERS & SELF-BUILD

SOCIAL HOUSING RETROFIT
EPC UPGRADES, VOID & MAINTENANCE



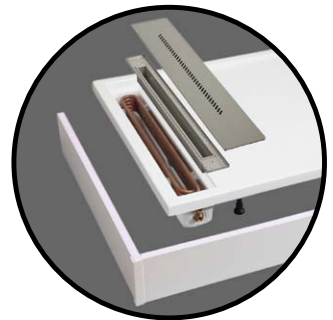
PIPE+ HE



EASYFIT+



DRAIN+ RANGE



TRAY+ DSS-S2

NEW BUILD
APPARTMENTS

COMMERCIAL
HOTELS & STUDENTS

COMMERCIAL
GYMS & LEISURE

WASTE WATER HEAT RECOVERY FOR SHOWERS

NEW BUILD: DEVELOPERS, HOUSE-BUILDERS & SELF-BUILD

WWHRS IS THE IDEAL CHOICE AS PART OF A COST-EFFECTIVE 2013 PART-L COMPLIANCE PACKAGE.

Our most specified Waste Water Heat Recovery System for new-build housing is the Recoup Pipe+ HE, due to it's efficiency of up to 67%, low price and superb all round performance. Providing an incredible pounds to points ratio in SAP. It is ideal for any shower on the first-floor or above.

Our unique PVC outer and double-walled copper heat exchanger provides unrivalled benefits, including cost efficiency, manufacturing consistency, theft deterrent and ease of installation.

RECOUP PIPE+ HE

- Simple to SAP-model, design-in & install
- Designed for first-floor showers or above
- SAP listed: Up to 67% heat recovery
- Cost-effective Part-L Compliance
- No planned maintenance
- First-fix friendly design
- WRAS approved
- No-end user interaction required
- Legionella Control risk assessed
- Fits within standard UK ceiling height



GROUND FLOOR SHOWERS? NO PROBLEM - WE HAVE PRODUCTS THAT FIT!

ADDITIONAL BENEFITS

Client Benefits	Installer Added Value
<ul style="list-style-type: none"> • One of the most cost-effective SAP measures available • Low cost system, with incredible lifetime savings • No planned maintenance or commissioning required • Quick install: no specialist knowledge, certification or tools required • Reduced hot water costs & carbon emission savings • No moving or mechanical parts, no electrical power, no end-user interaction means long lifetime product (>30yrs) • Available next-day from all PTS / CPS branches 	<ul style="list-style-type: none"> • Simple to design-in, with FREE design & technical support as required • Applicable to residential housing, hotels, student accommodation, PRS & commercial new build • The most cost-effective WWHRS system available • Can reduce peak DHW demand, therefore reducing specification and running cost of other plant & renewables (eg. Heat pumps, DHW plant, solar thermal) • Independently verified by KIWA / SAP-Listed • Can be designed in to modular and off-site bathroom pods

NEW BUILD: APARTMENTS & FLATTED DEVELOPMENTS

New build apartments & flatted developments can be incredibly difficult to obtain a cost-effective Part-L compliance. Increased glazing, reduced area for PV, and local planning uplifts, can all increase the cost of a SAP pass. Vertical WWHRS systems are usually not suitable, as they install on the floor below the shower they attached to, and WWHRS integrated drains or trays might not always be the most appropriate choice.

Designed specifically for the new-build apartments: The Recoup Easyfit+ is a stand-alone horizontal WWHRS system designed to passively recover energy from waste shower water and install directly under a standard bath or a walk in shower tray. The Easyfit+ offers an unrivalled combination of price point, efficiency and ease of installation that has not previously been possible, for WWHRS in this sector.

RECOUP EASYFIT+

- The ideal choice for new-build apartments
- Cost-effective SAP points: 4-11% uplift for around £400 installed cost
- Up to 47% heat recovery from waste shower water
- Compatible with any hot water source: combi-boiler, cylinder, thermal store, HUI, instantaneous electric
- Compliments other renewable measures (ASHP), and reduces peak demand for DHW
- WRAS & SAP-listed for Part-L / SBEM / BREEAM compliance
- Also an ideal retrofit if retrospective SAP compliance is required



ADDITIONAL BENEFITS

Client Benefits	Installer Added Value
<ul style="list-style-type: none"> • Low cost system, with incredible lifetime savings • No planned maintenance or commissioning required • Quick install: no specialist knowledge, certification or tools required • Reduced hot water costs & carbon emission savings • No moving or mechanical parts, no electrical power, no end-user interaction means long lifetime product (>30yrs) • Available next-day from all PTS / CPS branches • Helps reduce fuel consumption for 'fuel poor homes' 	<ul style="list-style-type: none"> • Simple to design-in, with FREE design & technical support as required • Applicable to residential, multi-residential, commercial & housing associations (new build or retrofit) • The highest efficiency under-bath system available • Can reduce peak DHW demand, therefore reducing specification and running cost of other plant & renewables (eg. Heat pumps, DHW plant, solar thermal) • Independently verified by KIWA / SAP-Listed • Can be designed in to modular and off-site bathroom pods

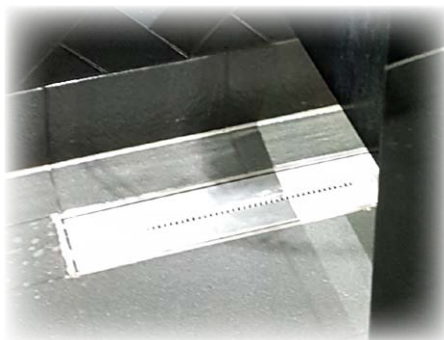
COMMERCIAL: GYMS, SPORTS & LEISURE FACILITIES

For projects with high shower traffic, such as gym, sports clubs and leisure facilities, WWHRs is the proverbial no-brainer. The cost of heating hot water for showering in commercial leisure facilities is incredibly high, both in terms of initial DHW plant specification AND on-going operator costs.

WWHRs can offer significant savings, as it significantly reduces the DHW cost per shower use, but can also reduce the peak DHW demand due to showering, and therefore potentially reduced the size or capacity of association DHW plant and associated maintenance costs. Recoup WWHRs products are WRAS approved: Legionella Risk Assessed; SAP-Listed; SBEM* / IES / BREEAM compatible; & ETL Listed**.

DESIGNING IN WWHRs COULDN'T BE SIMPLER - JUST SEND US YOUR FLOOR PLANS & WE WILL DO IT FOR YOU!

- Significant energy, carbon & bottom-line savings
- Full suite of commercial WWHRs products
- Proven track record in commercial environments
- Ideal for high traffic shower environments
- Communal or individual shower cubicles
- No planned maintenance requirements***
- No-end user interaction required
- No changes to customer experience
- WRAS approved / Legionella risk assess
- SBEM listed*, with design support available
- BREEAM / Passivhaus Certified Components



* Confirmed in iSBEM_v5.6.a (www.uk-nem.org.uk), including functionality to allow the modelling of WWHRs. / ** Confirmation expected Q1 2019 / ***over & above standard shower wet-room drain channels

COMMERCIAL: HOTELS & STUDENT ACCOMMODATION PROJECTS

Hot water usage for showering is incredibly significant in hotels, student accommodation and other owner operated sites such as build-to-rent residential. WWHRS has the ability to significantly reduce DHW peak demand and consequent energy costs & consequent carbon emissions.

WWHRS is simple to install or retrofit to hotels or student accommodation builds with accessible service risers. If without service risers, then direct under bath or shower tray options are available for planned or progressive upgrades.

WWHRS CAN BE DESIGNED IN TO HOTELS TO SAVE AROUND 50% OF THE COST OF EACH SHOWER

- Cost-effective compliance - BREEAM / SBEM / PART-L / Local Planning / London Plan
- Flexible WWHRS to design in & install
- No-end user interaction required
- No planned maintenance
- First-fix friendly design
- WRAS approved
- Legionella Control risk assessed



ADDITIONAL BENEFITS

Client Benefits	Installer Added Value
<ul style="list-style-type: none"> • Reduced hot water costs & carbon emission savings • Low cost system, with incredible lifetime savings • Reduce DHW plant costs, due to reduced DHW demand • Cost-effective compliance: Part-L / BREEAM / SBEM / London-Plan / Passivhaus / local planning uplift • Quick install: no specialist knowledge, certification or tools required • No moving or mechanical parts, no electrical power, no end-user interaction means long lifetime product (>30yrs) • No planned maintenance or commissioning required 	<ul style="list-style-type: none"> • Reduced reliance on PV, mains gas or other renewables • Simple to design-in, with FREE design & technical support as required • Applicable to residential, hotels, student accommodation, PRS & commercial new build • Flexible installation options: service risers, under bath etc • Can reduce peak DHW demand, therefore reducing specification and running cost of other plant & renewables (eg. Heat pumps, DHW plant, solar thermal) • Can be designed in to modular and off-site bathroom pods

SOCIAL HOUSING RETROFIT: EPC UPGRADES, VOID REPAIRS & PLANNED MAINTENANCE ACCOMMODATION PROJECTS

Whether via planned maintenance, energy efficiency upgrades, K&B refits or void repairs, the WWHRS allows quick, simple and cost-effective hot water savings and consequent energy & carbon reduction. It compliments other energy efficiency upgrades, such as heat pumps, boiler upgrades, and can be installed by plumbers or heating engineers without the need for specialist tools, equipment or certifications.

As a direct under-bath WWHRS system, the Recoup Easyfit+ is an ideal option for residential retrofit.

RETROFITTED WWHRS CAN INCREASE YOUR DWELLING EPC SCORE BY AROUND 6 POINTS *

- It is calculated that over 17million homes in the UK have a bath, with around 30% of these being equipped with a thermostatic mixer shower.
- Therefore around 5.1 million UK homes could benefit from retrofitting WWHRS.
- With every shower, around 85% of the heat energy from the shower-head goes down the drain as wasted energy
- A retrofitted Easyfit+ can generate around 35% energy savings for every shower use. That's a 4% overall energy saving
- It's considerably quicker, easier & cheaper to install than most common efficiency measures (eg Solar, loft insulation, CWI, EWI etc).
- For void repairs and 'deep-green' retrofit, consider the Recoup Pipe+ HE or perhaps the Drain+ range if level access / ground floor showering is required



EXAMPLE SAVINGS FOR SOCIAL HOUSING PROVIDERS / CUSTOMERS (PER 1000 DWELLINGS)

Percentage Mix (number beds)	Number of properties	Mains Gas %	Electric %	£ savings pa	tCO2 Savings pa	Installed Cost	ROI (yrs)	£ Lifetime Savings (30yrs)	tCO2 Lifetime Savings (30yrs)
1 bed: 20.0%	20	85%	15%	£ 4,208.93	20.05	£ 400	19	£ 126,267.80	601.42
2 bed: 45.0%	450	85%	15%	£ 15,783.47	75.18	£ 400	11	£ 473,504.24	2,255.31
3 bed: 30.0%	300	85%	15%	£ 14,731.24	70.17	£ 400	8	£ 441,937.29	2,104.96
4 bed: 4.5%	45	85%	15%	£ 2,841.03	13.53	£ 400	6	£ 85,230.76	405.96
>4 bed: 0.5%	5	85%	15%	£ 210.45	1.00	£ 400	10	£ 6,313.39	30.07
TOTAL	1,000			£ 37,775.12	179.92	£ 400,000.00	10.58	£ 1,133,253.48	5,397.71

* Source: Energy Efficiency Standard for Social Housing (EESH) - Scottish Government Guidance (<http://www.gov.scot/Publications/2017/12/2678/6>)

**Assumed 2x showers, with 1x retrofitted with Recoup Easyfit+ (as System B).

Annual calculations are based on 1.5 showers per day for 1st bedroom (Master bedroom) +1 shower per day for each additional bedroom.

RECOUP EASYFIT+ APARTMENTS | RETROFIT | HOUSING UPGRADES | MEES | EPC POINTS

MERCHANT PRODUCT CODE: 24111

"We have found WWHRS to be a very affordable and efficient means of achieving compliance with this regulation due to its low cost, ease of installation and high efficiency. In SAP 2012, WWHRS such as Recoup's Pipe+ HE, can achieve a carbon reduction of up to 11% for a typical 3 Bed dwelling, which is significant; especially as WWHRS has the added benefit of being a passive system, requiring no day-to-day interaction from the home owner and requires no planned maintenance."

Andrew Money, Director, Carbon Futures

"Not only is this a cost efficient solution for developers but the service offered to SAP assessors is second to none. The support and advice given by these guys is superb. If you haven't yet used Recoup and their products in your solution package, I can highly recommend that you do."

Alix Haigh, Technical Manager, Aggregate Industries



RECOUP PIPE+ HE NEW BUILD HOUSES | HOTELS | STUDENT ACCOMMODATION | SAP POINTS

MERCHANT PRODUCT CODE: 967757

"The Recoup Pipe+HE system is an innovative product that represents a cost-effective way to achieve both SAP and real-time improvements. The system benefits from being a 'fit and forget' technology that results in tangible savings in both carbon and energy for our customers, without the need for significant levels of occupant education."

Danielle Michalska-Morris, Group Sustainability & Innovation Manager, Barratt Developments plc



"We've installed Recoup WWHRS for a number of our house builder clients to help achieve SAP compliance. The Recoup Pipe+ HE is the simplest product to install and also the easiest to purchase as it comes directly from the national merchants. Recoup's technical knowledge and support have been great."

Richard Hartley, Contracts Manager, KA Watts Plumbing & Heating Ltd

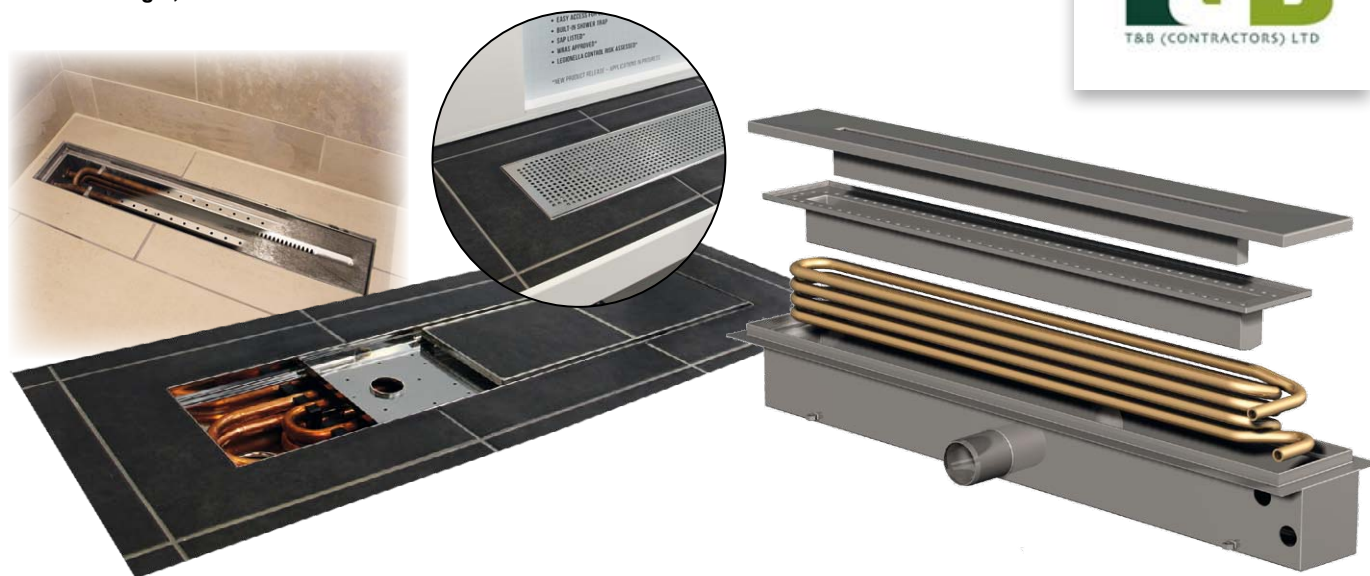


RECOUP DRAIN+ RANGE NEW-BUILD | COMMERCIAL | LEISURE | SCHOOLS | SBEM | BREEAM

RECOUP PRODUCT CODE: R-D-01 / R-D-02 / R-D-03 / R-D-04

"I was surprised by the results achieved by the Recoup Drain+. We were dubious at first whether it would make a difference but it does."

Rob Ironmonger, T&B Contractors Futures



RECOUP TRAY+ DSS-S2 NEW BUILD | COMMERCIAL | APARTMENTS | SCHOOLS | SBEM | MEES

PRODUCT CODE: R-T-02 (900) / R-T-02 (1200)

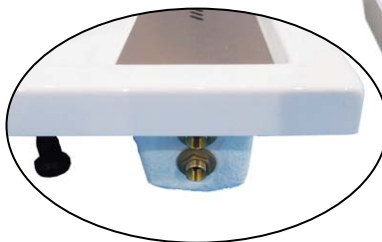
"We use WWHRS as an option on almost every 10% reduction requirement for local planning conditions. It's a great technology that's ultimately hidden from view with low investment and without any moving or mechanical parts or filters to go wrong, replace or maintain!"

Robin Thom, SAP/SBEM compliance specialist, Green Heat Ltd



"Recoup have demonstrated a solid technical knowledge and an understanding of the challenges that our clients face in terms of innovation, sustainability and adopting new energy efficiency technologies. We particularly liked that Recoup WWHRS is a cost-effective, simple to install 'fit and forget' technology that requires no planned maintenance and no end user interaction."

Dr Zainab Dangana, Sustainable Technology Services Manager, Wates Group



LONDON 2019: UPDATED CARBON EMISSION FACTORS

In 2018, the Greater London Authority (GLA) announced revisions to the London Plan that affected how energy efficiency models (eg SAP and SBEM) are calculated.

London Plan now requires Energy Strategies to use the upcoming SAP 10 emission factors. This revision went live on 1st of January and the implications of changing the emission factors means a staggering shift away from CHP systems, with gas and solar PV being less effective and all electric heating and hot water systems, such as heat pumps, expected to dominate.

This presents a huge opportunity for WWHRS which can help bridge the compliance gap for developments reliant on CHP systems or enhance the energy strategy, design and cost of electric-based or heat pump systems.

**GLA POLICY STATES THAT A MINIMUM 10 % OF CO2 SAVING SHOULD BE ACHIEVED THROUGH LEAN DESIGN:
WWHRS IS AN IDEAL MEASURE TO HELP ACHIEVE THIS**

- RESIDENTIAL APARTMENT NEW BUILDS
- RESIDENTIAL HOUSING DEVELOPMENTS
- HOTELS
- STUDENT ACCOMMODATION
- BUILD-TO-RENT
- GYMS & SPORTS CENTRES



**IN MANY LONDON BOROUGH, SPECIFYING WWHRS IS CHEAPER THAN PAYING CARBON OFFSET PAYMENTS
WWHRS HELPS ACHIEVE COST-EFFECTIVE COMPLIANCE**

WWHRS is an ideal energy efficiency measure for new-build housing, apartments, hotels and student accommodation builds. Showering can account for around 50% of a dwellings' hot water usage, however, this can be significantly higher for hotels and student accommodation projects.

WWHRS is capable of reducing the energy required to heat hot water for showers by up to 55%.

The current version of the London Plan requires an on-site carbon reduction target of 35% and already encourages developers to consider the energy hierarchy:

Be Lean: Reduce energy demand; Be Clean: Supply energy efficiently; Be Green: Use renewable energy

These steps dictate construction specifications, in some instances the development layouts and of course, the build cost.

WWHRS is one of the most cost-effective SAP measures available, and can be used to reduce primary energy demand, while also mitigating GLA Carbon Offset Payments.

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FURTHER INFORMATION & TECHNICAL SUPPORT



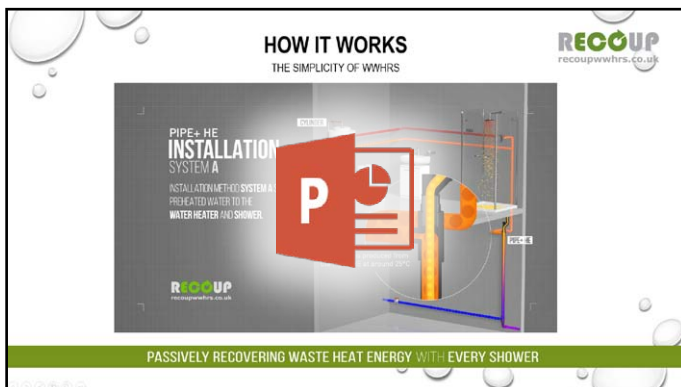
ELLIS MAGINN

T: 01379 844010

M: 07914 758132

E: ellis@recoupwwhrs.co.uk

WWHRS: OVERVIEW PRESENTATION



DOWNLOAD OUR OVERVIEW PRESENTATION (120MB)

INSTALLATION VIDEOS

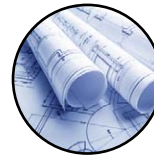


WATCH OUR STEP-BY-STEP INSTALLATION VIDEO



FAQ'S

recoupwwhrs.co.uk/wwhrs/faqs/
Answers to some of the most frequently asked questions about WWHRS.



DESIGN SUPPORT

recoupwwhrs.co.uk/technical/design-support/
Help to integrate Recoup WWHRS into your project plans.



DOWNLOADS

recoupwwhrs.co.uk/installation/downloads/
Copies of supporting information documents to download and print.



BIM

recoupwwhrs.co.uk/technical/bim/
Using WWHRS in Building Information Modelling (BIM)



EMAIL TO ARRANGE YOUR CPD OR
TECHNICAL PRESENTATION MEETING



TELEPHONE: 01379 844010

EMAIL: [INFO@RECOUPWWHRS.CO.UK](mailto:info@recoupwwhrs.co.uk)

WEBSITE: RECOUPWWHRS.CO.UK