Showering and Net Zero

Understanding the cost and carbon impact of different showering solutions

Housing Yorkshire – 10th Feb 2026

#everydropmakesadifference

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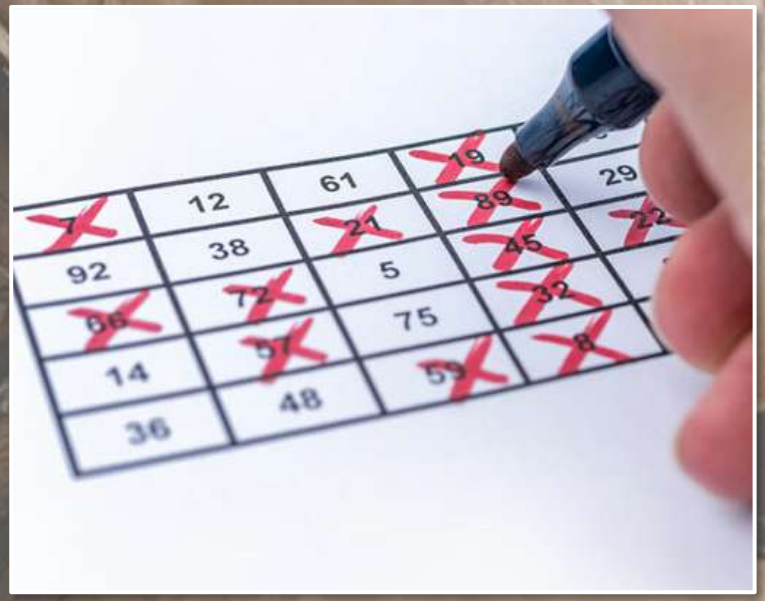

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Cost-of-living crisis v Climate crisis

V

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Dan Lintell – Sustainability Manager

Industrial Designer (BSc)

25+ years design development experience

6 years at Triton (initially NPD)

Long-standing passion for Sustainability

UK Manufacturer

From a garage in Atherstone in 1975, to a company of over 300 staff, we manufacture and supply showers and showering-related products to the whole of the UK, Eire, plus a growing number of other markets around the world

SILVER | Top 15%
ecovadis
Sustainability Rating
APR 2025

MADE IN BRITAIN

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Triton’s purpose

Net Zero: 2035

(Near-term target: 2028)

Absolute, 1.5°C aligned

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The 2 key parts to a shower's footprint

EMBODIED (typically 5-10%)

The GHG emissions associated with the **manufacturing, transportation, installation, maintenance**, and **disposal** of a product

OPERATIONAL (typically 90-95%)

The GHG emissions associated with the '**use-phase**' of a product
(for the full anticipated life-span of the product)

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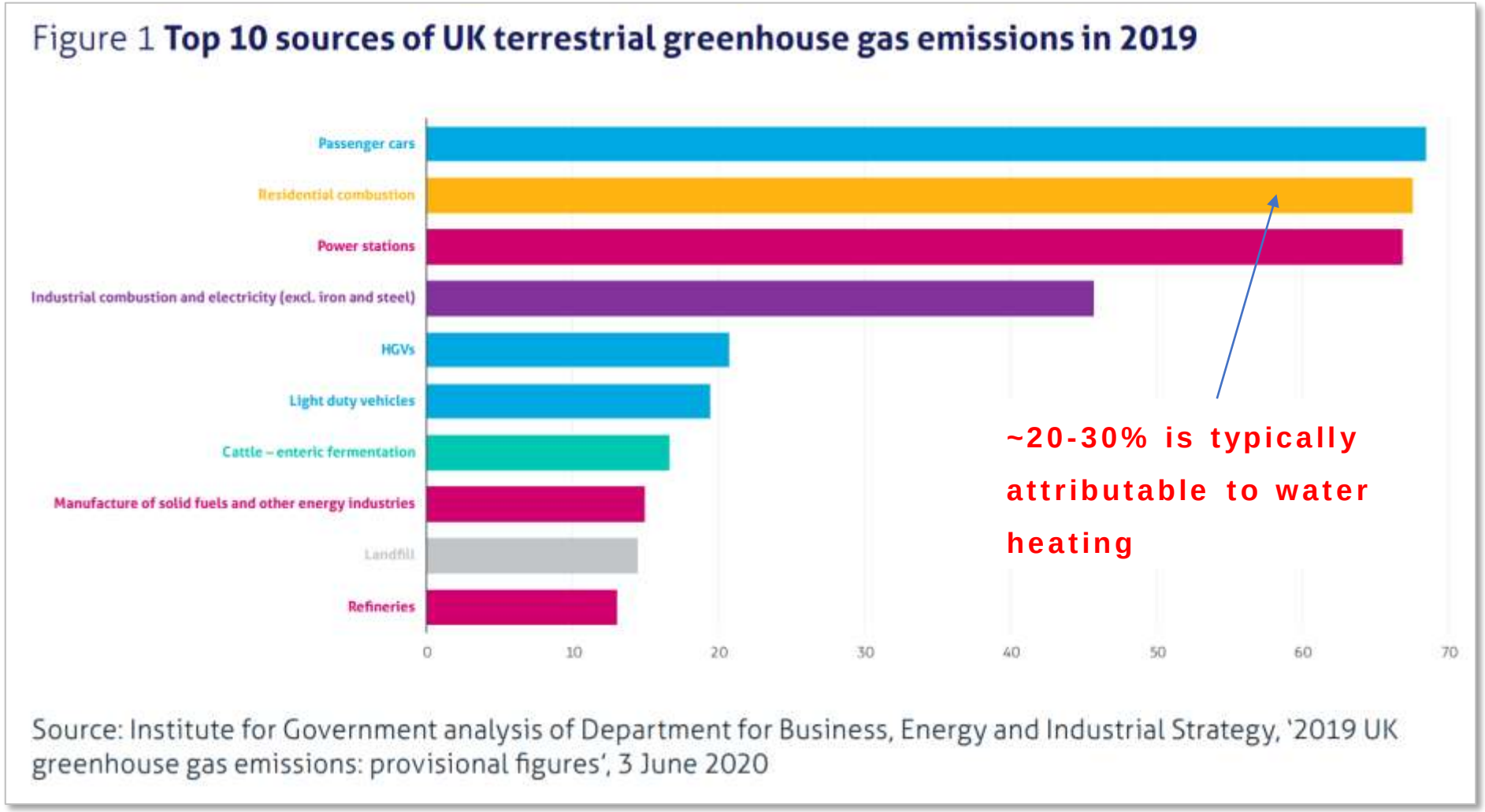
Current focus is on space heating as the #1 source of household emissions (but water heating is #2…)



Heating water is **very** energy intensive

Substance	Specific heat capacity in JKg^{-1} K^{-1}
Lead	130
Mercury	139
Brass	380
Zinc	391
Copper	399
Iron	483
Glass (flint)	504
Aluminium	882
Kerosene	2100
Ice	2100
Sea Water	3900
Water	4180

HOW MUCH water we heat, matters

WHERE that energy comes from, matters

Detailed mathematical modelling of different showering 'Eco-systems' (schematic)

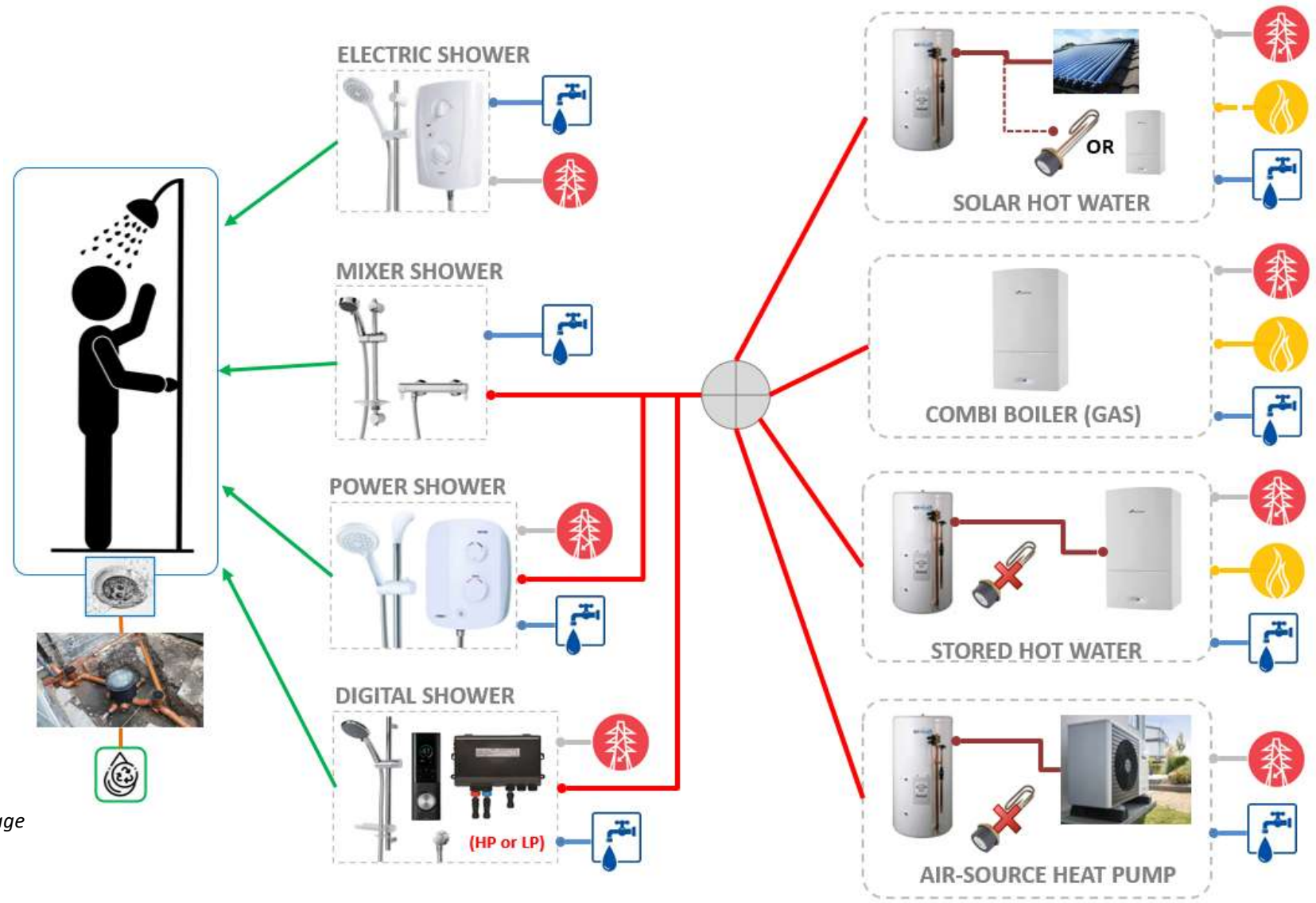
DUTY CYCLE VARIABLES

- # Showers per person, per week
- Shower duration (average)
- Showering temperature (average)
- Temperature of cold water supply
- Flow rate

UTILITIES VARIABLES

Electricity	Supply rate (£ per kWh) Standing charge (£ per day)* Carbon footprint (kg CO_2e per kWh, including T&D losses)
Gas	Supply rate (£ per kWh) Standing charge (£ per day)* Carbon footprint (kg CO_2e per kWh)
Water	Supply rate (£ per m^3) Standing charge (£ per day)* Carbon footprint (kg CO_2e per m^3)
Sewerage	Rate (£ per m^3)** Standing charge (£ per day)* Carbon footprint (kg CO_2e per m^3)

** Pro-rata standing charges as an estimated % of utility usage attributable to showering versus total household usage*
*** This is assumed to be = water supply*



Functional unit: 1 year's showering

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1 tonne of CO_2e is equivalent to...

... approximately 3,500 miles in a modern, diesel, family car

(Land's End to John o'Groats ~4 times)

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Illustrative comparison of 3 different showering 'eco-systems'

Gas: 5.93p / kWh
Elec: 27.69p / kWh

3-person household, 5 showers pppw, 7.5 min average duration @ 41°C

(8.5kW model)

Cost	Water (litres)	Carbon (kg CO2e)
£ 374.82	23,422	233

(A-Rated Combi)

Cost	Water (litres)	Carbon (kg CO2e)
£ 414.60	54,498	554

(ASHP, COP 3.0)

Cost	Water (litres)	Carbon (kg CO2e)
£ 445.58	54,498	187

£355.09 (Octopus 'Cosy' tariff)

Functional unit: 1 year's showering

Assumptions: >1st Jan 2026 energy price cap, Severn Trent – Scheme of Charges 25/26 (Metered connection)

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Do you want to make an even bigger difference…?

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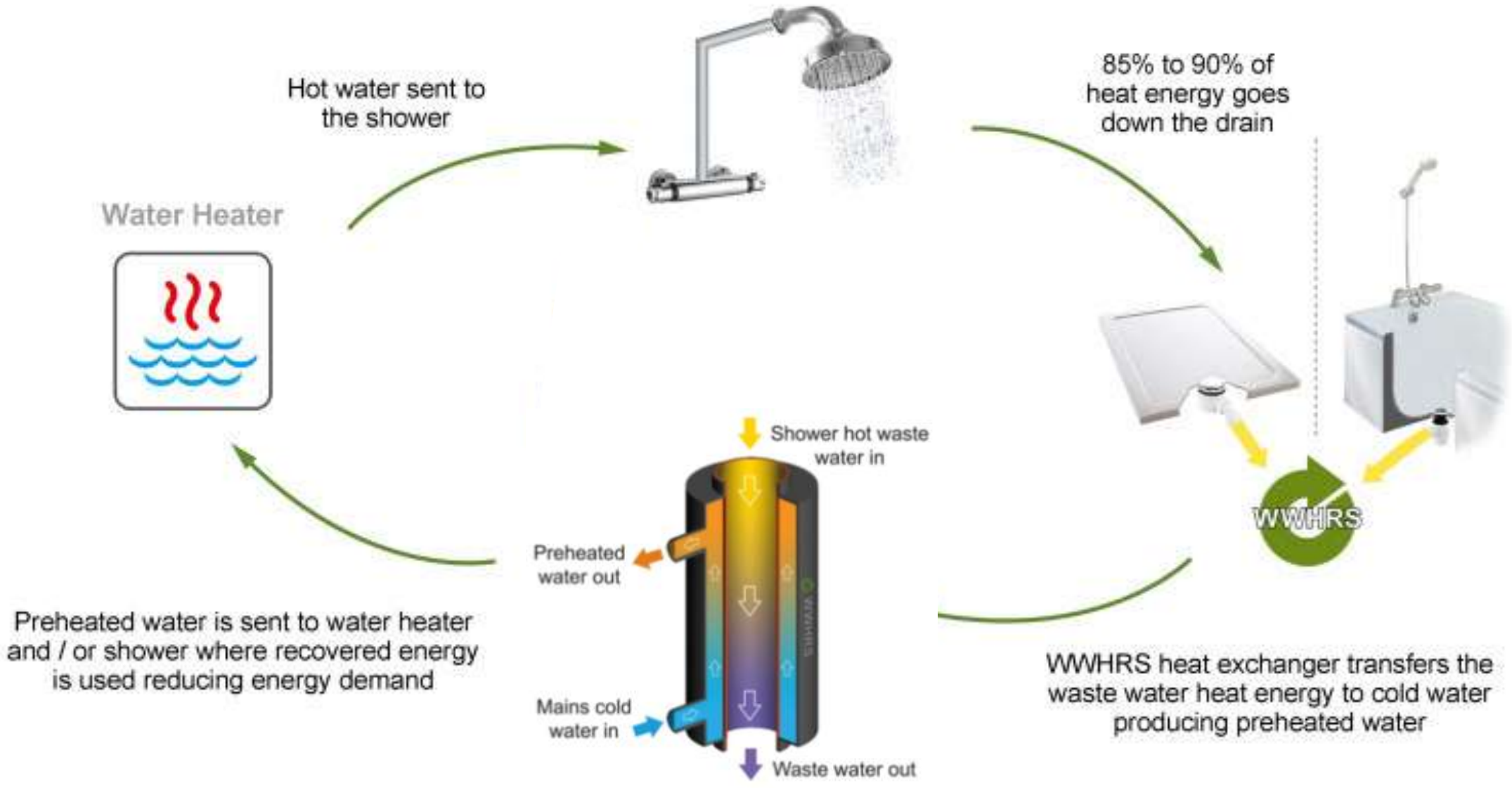
Waste Water Heat Recovery (WWHR)



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WWHR – Typical types

‘VERTICAL’ (65-80+% eff.)

Gravity-fed

Pumped

‘HORIZONTAL’ (40-60% eff.)

In-tray

Under-bath / tray

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WWHR – What are the potential benefits for TENANTS / HOUSEHOLDERS?

Gas: 5.93p / kWh
Elec: 27.69p / kWh

3-person household, 5 showers pppw, 7.5 min average duration @ 41°C, ShowerSave QB-21

ENlight® | heat repeat®

Cost	Water (litres)	Carbon (kg CO2e)
£ 273.44	29,792	138
-£101.39	*+6,370*	*-95*

9l/min

(A-Rated Combi)

Cost	Water (litres)	Carbon (kg CO2e)
£ 334.73	54,498	267
-£79.87	*-*	*-287*

9l/min

(ASHP, COP 3.0)

Cost	Water (litres)	Carbon (kg CO2e)
£ 365.14	54,498	87
-£80.45	*-*	*-100*

£290.98 (Octopus 'Cosy' tariff)

Functional unit: 1 year's showering

Assumptions: >1st Jan 2026 energy price cap, Severn Trent – Scheme of Charges 25/26 (Metered connection)

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Key take-aways

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Key take-aways

- Don’t overlook showering in your Net Zero transition plans
- Consider showering options as part of ‘whole-house’ heating eco-system design
- Where-ever possible, adopt a ‘Fabric first’ approach
- Engage residents, but don’t just rely on behavior change
- For a Net Zero future, both efficiency and energy source **REALLY** matter

Over to you…

How can you apply what you have learned today to the housing stock that you own / manage…?

Thank you for your attention

Get in touch

Energy savings calculator

“The most reliable way to predict the future is to create it”

Abraham Lincoln

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£50

£10

£100

£1

£200

What am I worth…?

Estimated annual savings*

* ~44% attributable to **Energy,** ~56% attributable to **Water**

£29

Single-occupancy household, 5 showers per week, 5 min average duration

x 33

£113

2 person household, daily showers, 7 min average duration

x 128

£290

4 person household, daily showers, 10 min average duration

x 329

…it depends!

Assumptions: Mixer shower, A-rated Gas combi boiler, >1st April 2025 energy price cap, Severn Trent - SoC 25/26 (Metered connection), 3 l/min reduction v baseline flowrate, duration unchanged

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