



Customer operating parameters		
Shower operation frequency	MON to FRI	SAT and SUN
Operating time per shower (minutes)	10	10
Frequency of shower per day	4	4
Total number of usable showers	1	
Shower occupancy	100%	
Configuration of the DWHR system	Cold water preheat 89%	
Flow rate at showerhead	9.5 lpm (2.5 gpm)	
Water heater efficiency	78%	
Maximum operating drain flow rate	9.5 lpm	
Select temperature units	C°	
Temperature of drain water in C°	37	
Temperature of cold water in C°	10	
Energy used	Gas (m³)	
Total cost of energy \$/ m ³	\$0.50	

Model Selection	Scenario 1	Scenario 2
Model selection	ThermoDrain TD-340	1430
Unit nominal efficiency	51%	48%
Selected configuration efficiency	45%	43%
Maximum design flow rate	9.5 lpm	11.4 lpm
Average unit flow rate	9.5 lpm	9.5 lpm
Quantity of DWHR units installed	1	1

Calculations	Scenario 1	Scenario 2
Total shower time per week (year)	4.7 hrs (243 hrs)	4.7 hrs (243 hrs)
Wasted energy during 1 hour of shower	22.94 kWh	22.94 kWh
Total wasted energy in 1 year	5574.19 kWh	5574.19 kWh
Energy recovered yearly	2508.39 kWh	2396.9 kWh
GJ recovered yearly****	7.53 GJ	7.19 GJ
Therms recovered yearly***	95.56 Therm	91.31 Therm
Volume recovered yearly**	241.31 m ³	230.58 m ³

Cost analysis and payback	Scenario 1	Scenario 2
Model Selected	ThermoDrain TD-340	ECO-GFX 1430
Model Price	\$500.00	\$1,200.00
Installation cost per unit	0 \$	0 \$
(A) = qty of units x cost/unit	\$500.00	\$1,200.00
(B) = qty of units x installation cost/unit	\$0.00	\$0.00
Total installed cost = (A)+(B)	\$500.00	\$1,200.00
Annual Savings	\$120.66	\$115.29
Potential payback period	4.1 years	10.4 years
Energy inflation rate	2.50%	2.50%
Potential savings after 20 years*	\$2,945.50	\$2,814.41
Potential rate of return 20 years*	25.9%	9.2%

**1 kWh = 0.0962m³
 ***1 m³ = 0.396 Therm
 ****1kWh = .003GJ

Disclaimer: All **energy savings** listed on this page are by their nature, theoretical. The calculations performed are an estimate of the potential savings under the given circumstances and should be considered as such. EcoInnovation or its associates cannot be held accountable for differences between theoretical and actual energy savings.