SAVINGS ANALYSIS
DWHR RESIDENTIAL
ThermoDrain TD340 installation in residential housing

1. Objective

    1.1 The objective of this analysis is to provide a savings comparison for the TD340 with current competitions products for evaluation in the installation of residential DWHR units.

2. Standard values used

    2.1 The following values were used in the calculations:

        2.1.1 The shower is used for a total of 45 minutes (3 showers of 15 minutes) every day for 365 days per year;

        2.1.2 The shower has a standard flow of 2.5 gal/min;

        2.1.3 The average annual cold water temperature is 7°C;

        2.1.4 The average shower temperature is 40°C;

        2.1.5 The average drain temperature is 37°C;

        2.1.6 Water heater efficiency is 60% for domestic use;

        2.1.7 Energy used to heat water may be natural gas at 0.23/m3 at 60% eff.;

        2.1.8 Energy used to heat water may be electricity at 0.102/kWh at 100% eff.

3. Savings and efficiency

RESIDENTIAL MODEL	ThermoDrain	Power-Pipe	Power-Pipe	Watercycles	Watercycles
Manufacturer	EcoInnovation Technologies Inc.	Renewability Energy Inc.	Renewability Energy Inc.	Watercycles Energy Recovery Inc.	Watercycles Energy Recovery Inc.
Residential model	TD340	R3-42	R3-48	DX-3036	DX-3058
Efficiency*	46.2%	42.4%	47.3%	37%	42%
Length	40 inches	42 inches	48 inches	36 inches	58 inches
Efficiency per foot	13.86%	12.11%	11.83%	12.33%	8.69%
SELLING PRICE	$490+	$482***	$611***	$484****	$687****
Yearly Savings Natural Gas @ 0.23$/m3**	92.25$	84.66$	94.45$	73.88$	83.87$
Yearly Savings Electric @ 0.102$/kWh**	255.17$	234.18$	261.24$	204.35$	231.97$
Warranty	10 years	10 years	10 years	10 years	10 years

* Based on SRC 2007 test results. Watercycles values are based on manufacturers published efficiencies.
** Based on an equal flow configuration, 7C, 37C water temps, 9,5 lpm drain flow, 15 minutes x 3 uses per day.
***Home depot OCT 2009
**** http://www.theresourcestore.ca
Powerpipe is a trademark of Renewability Energy
Watercycles is a trademark of Watercycles Energy

4. Scenarios

4.1 Preheat both cold water and hot water (or Equal flow): Nominal efficiency;

4.2 Preheat of cold water only (or unequal flow type « A »): Provides approximately 89% of the Equal flow configuration effectiveness;

4.3 Preheating of hot water only (or unequal flow type « B »): Provides approximately 79% of the Equal flow configuration effectiveness;

5. Typical installation for a TD340 in a residential application: