

GFX Can Save up to 60% of the Cost of a Hot Shower & Triple its Supply with Power Feedback

Showering can account for nearly 80% of the annual water-heating bill for families that wash clothes in cold water and take showers instead of baths. If your home has an electric water heater, it could be your single largest expense for electricity.

Therefore, a drain heat recovery (DHR) system rated at 50% DHR-efficiency can lower water-heating costs by 40%.

Water heater labels provide First-Hour Rating and operating expenses based upon electricity or fuel cost and the water heater's Energy Factor (EF).

Cost of a Hot Shower?

If your electric rate is 8.6¢/kWh, it costs about 10¢/kWh to heat water with an electric water heater having an "EF" of 0.86. With a lo-flow showerhead delivering 2¼ gpm, three 12-minute (or four 9-minute) showers per day will cost about **\$1.00**; jumping to **\$1.85** per day with hi-flow or dual showerheads that can deliver about 4¼ gpm of 105-degree water.

How Much Can GFX Save?

Installing a GFX system rated at a DHR-efficiency of 50% could save:

\$180 a year with a lo-flow showerhead;
\$340 a year with a hi-flow showerhead.

Installation Is Simple

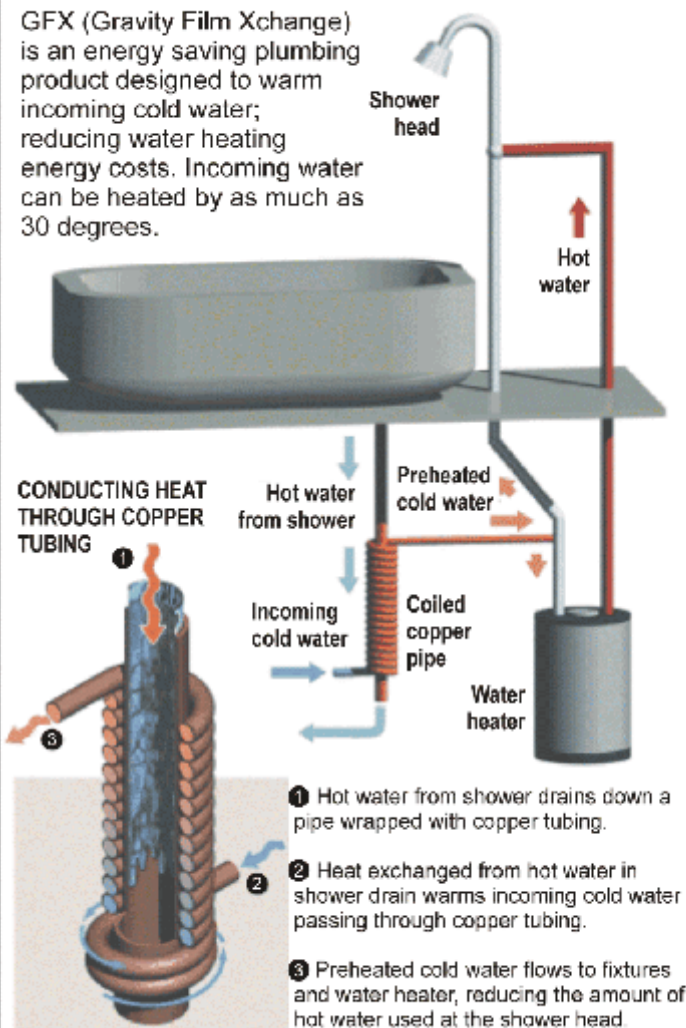
As illustrated below, a whole-house Model S3-60 GFX replaces a vertical section of 3" drain line and incoming cold water is rerouted to flow up its coil. Only 4 plumbing connections are needed -- 2 for the coil, 2 for the drain. No-hub couplings are available for use with plastic or cast iron drains.

Will GFX Significantly Lower Greenhouse Gas Emissions?

Energy Star programs target electricity waste because 3.2 units of oil-energy yield about 1 unit of electrical energy. Saving \$1 billion worth of electricity can reduce CO₂ emissions by nearly 20 million tons. **Upgrading capacity & EF of 6 million electric water heaters with GFX can save over 20 million tons of CO₂ emissions every year!**

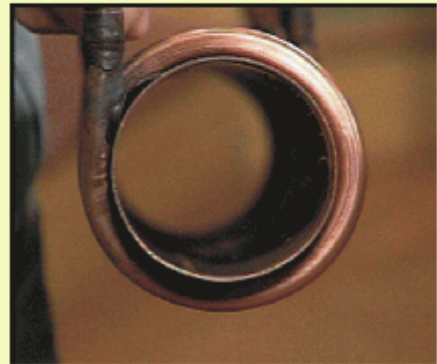
RECYCLING HEAT

GFX (Gravity Film Xchange) is an energy saving plumbing product designed to warm incoming cold water; reducing water heating energy costs. Incoming water can be heated by as much as 30 degrees.

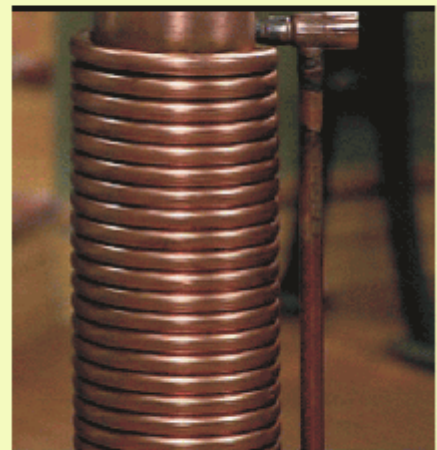


Source: T.R. Strong Building Systems Co.

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Self-Vented Double-Wall Construction Meets Plumbing Codes



GFX Model S3-60



Low-flow Showerheads Compared to GFX

With Measured Data From PP&L's Low Income Housing Program

Table 1 --- Typical Savings for Low-Flow Showerheads										
Annual Utility Savings (\$) For 1, 2, 3 & 4 Showers/Day										
Ordinary Showerhead	Low-Flow Showerhead	Gallons Saved per Person per Year	1	1	2	2	3	3	4	4
			Gas	Electric	Gas	Electric	Gas	Electric	Gas	Electric
3 gpm	2.0 gpm	3,290	16	38	32	76	48	114	64	152
4 gpm	2.0 gpm	6,580	32	76	64	152	96	228	128	304
5 gpm	2.0 gpm	9,870	48	114	96	228	144	342	192	456

Key: gas = gas-fired water heater; electric = electric water heating; gpm = gallons per minute; savings assume electricity priced at \$0.08 kWh, gas priced at \$0.60 per therm, and 50°F (28°C) rise in water temperature. [“Congressional Efforts to Rescind Low-Flow Toilets, Showerheads Are No Laughing Matter”, Energy Design Update, November 1999, Vol. 19, No. 11, pp.2-5]

Table 2 --- Typical Savings With GFX @ 50% Recycling Efficiency										
Annual Utility Savings (\$) For 1, 2, 3 & 4 Showers/Day										
Shower Flow Rate	Gallons of 105°F Water per Person per Year	Shower Energy per Person per Year (kWh)	1	1	2	2	3	3	4	4
			Gas	Electric	Gas	Electric	Gas	Electric	Gas	Electric
2 gpm	6,580	804	16	38	32	76	48	114	64	152
2.5 gpm*	8,225	1,005	20	47.50	40	95	60	142.5	80	190
3 gpm	9870	1,206	24	57	48	114	72	171	96	228
4 gpm	13,160	1,608	32	76	64	152	96	228	128	304
5 gpm	16,450	2010	40	95	80	190	120	285	160	380

* Current Federal Standard; Water Heater Energy Factor: Gas: 52%, Electric: 85%

<p align="center">Table 3 --- GFX PERFORMANCE FOR LOW INCOME HOUSING</p> <p align="center">Wrap/Keep Warm Program of Pennsylvania Utility PP&L, Inc.</p>								
Acc. #	Showers per day	Pre-GFX Water Heater Use kWh/Day	No. of Days Monitored w/ & w/o GFX	Post-GFX Water Heater Use kWh/Day	Annual Savings kWh/yr	Est. Annual Savings @ 8.5¢ per kWh	Est. Payback @ \$500 Installed Cost	Est. Water Heating Savings
630-6331	5	18.56	71/166	15.15	1224	\$104.04	4.8	18%
624-2437	5	17.76	92/176	11.60	1982	\$168.50	2.65	34.7%
623-3615	2	8.6	64/221	6.45	774	\$ 65.79	7.6	25%
624-4780	4.5	27.06	64/251	22.09	1788	\$152.00	3.3	18.4%
631-0328	8	19.82	75/29	13.17	2347	\$199.50	2.5	33.6%
<p align="center">Notes:</p> <p align="center">1. GFX Operating In Water Heater-Only Mode.</p> <p align="center">2. PP&L's Winter Relief Assistance Program [WRAP] Manager is Linda Melenchek [610-774-3214]</p>								

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