



AQUARECYCLE[®]
Clean water. Clean profit.[™]

Water Conservation Strategies for the Hospitality Industry

*May 19, 2010
Caribe Hilton
San Juan, PR*

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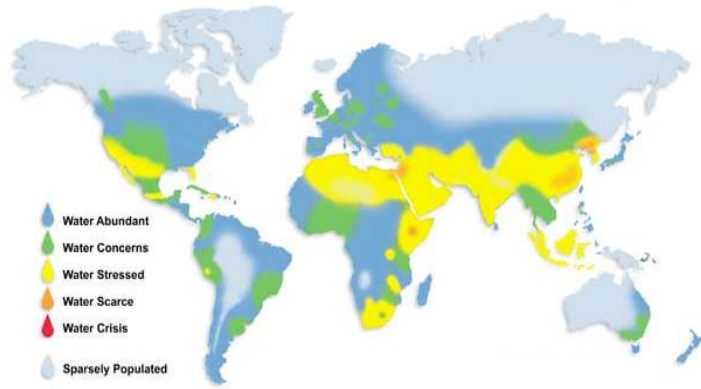


Water & Laundry Facts

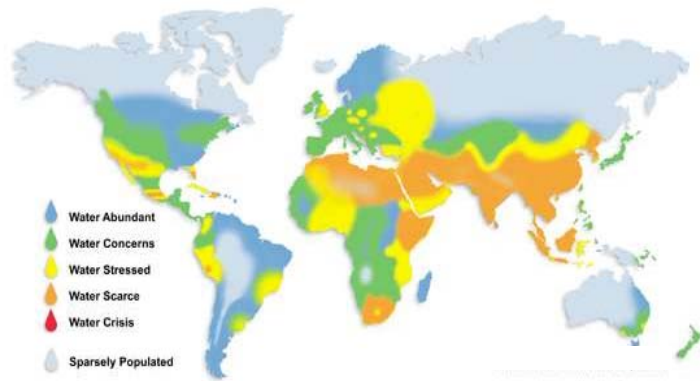
- Earth is 80% Water - 1% Drinkable: 97% Salt Water, 2% Glacier
- United Nations: Over 5.5 billion Will Not Have Safe Drinking Water by 2025
- Today: 1.1 Billion Worldwide do not have safe water.
- EPA: 36 States By 2013 – Water Shortages
- World Bank: Fresh Water Wars in 21st Century
- Avg Household Uses 250,000 Gals/Yr
- Laundry Generates the Largest Single Waste Water Source that is sent to the Waste Water Plant
- Largest Laundry Operation Uses ½ Billion Gals /Yr
- U.S. Laundries use over 1,500 Billion Gallons per year
- Annual Global Laundry Water Consumption is at Least 10 Times that of U.S

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Worldwide Fresh Water Availability Today



Compounded By Population Growth & Infrastructure Needs (Through 2020)



Water Resources

- Fresh water supplies are limited
- Many water sources are contaminated
- Water demand is growing
- Industries are challenged to reduce water consumption and reduce sewage discharge

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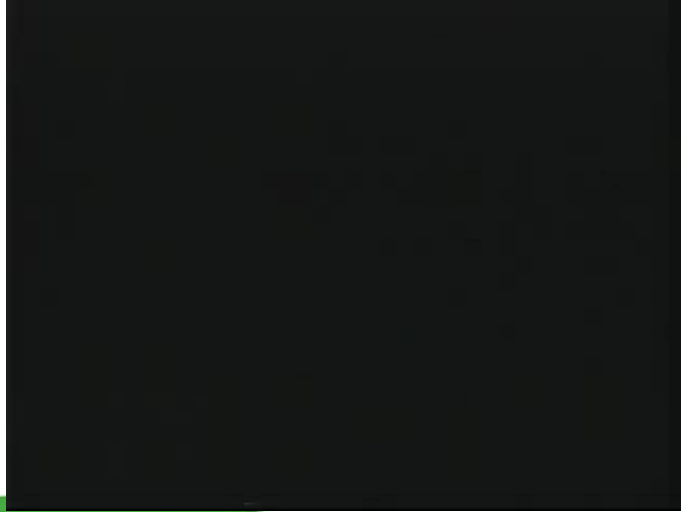
Energy Availability and Environmental concerns

- Dependency on foreign energy
- Limited to energy resources in U.S. if global political landscape changes
- Fear & awareness of Global Warming
- Industries are challenged to reduce energy consumption and release of **Green House Gasses, (GHG's)**

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CNN Video



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AquaRecycle Story

- Founded in 1998, Marietta GA Based
- 100 + Systems Worldwide
- Hospitality Customers : Hilton, Marriott Brands, Ritz-Carlton, Hyatt, Four Seasons, Fairmont , Westin, Sheraton, W, Wyndham and Intercontinental Brands.
- SALA and Caribbean System sites: St Thomas, Tortola, Santiago, Cancun, Mexico City, Lima, San Juan
- Over 2 Billion Gallons Recycled to Date
- Healthcare, Correctional Industries are also served

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AquaRecycle Technology For Laundry Water & Energy Recycling

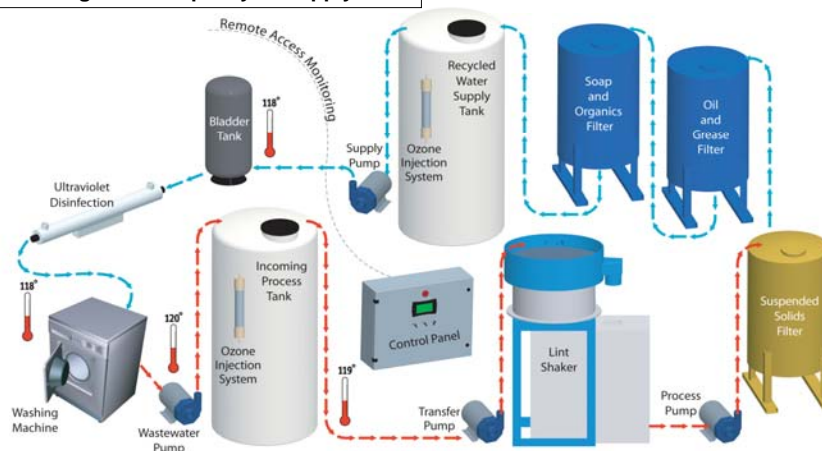


- Produces Clean Water
- Captures All Waste Water
- 80% Reduction in Water Consumption and Sewer Discharge
- Recycles all Available Laundry Water
- Removes all contaminants (oil and grease, chemicals, TSS & BOD)
- All water is disinfected with Ozone & UV
- Low Pressure Pumps – Low Energy Consumption – Tiny Carbon Footprint
- Can Operate as final rinse water and works well in CBW operations

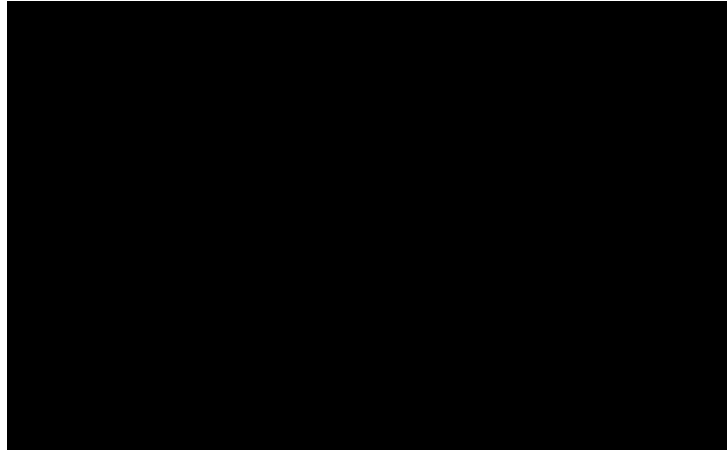
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AQUARECYCLE PREMIUM RECYCLE SYSTEM PROCESS FLOW DIAGRAM

- Recovers 80% Of laundry Waste Water
- Recovers 50% Heat Energy
- Has Surge Flow Capacity in Supply Tank



Process Animation



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Laundry Water Recycling Case History: San Juan Marriott Resort and Stellaris Casino

- Annual Pounds Processed: 3 million
- Annual Gallons Used: 9,000,000
- Projected Payback: 12 months ROI: 93%
- Annual Water, Sewer and Energy Costs: \$226,405
- Projected Annual Savings: \$143,783 or 63.5% of Costs
- Actual 2009 Savings: \$142,003 or 98% on projection

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San Juan Marriott COST/BENEFIT ANALYSIS		
CURRENT MONTHLY WATER AND SEWER COSTS		
Monthly Water Usage	750,000	
Water and Sewer Rate per Thousand Gallons	\$ 13.59	per 1,000 gls
Monthly Water and Sewer Costs	\$ 10,192.50	
PROJECTED MONTHLY SAVINGS WITH AQUARECYCLE		
Amount of Water Recycled at Projected Recycle Rate	Recycle Rate: 75%	562,500
Estimated Water and Sewer Savings	Recycle Rate: 75%	\$ 7,644.38
CURRENT MONTHLY ENERGY COSTS		
HOT WATER USAGE @67% Hot Water		
		502,500
Operating Temperatures		
Incoming City Cold Water Temp	70 degrees	
Hot Water Temp	150 degrees	
Recycled Water Temp	110 degrees	
Temperature Rise (Hot Water - Cold Water)		80
BTU Usage for Temperature Rise		419,085,000
Therms used per month		4,191
Fuel Costs per Month at energy rate	\$ 2,070 per therm	\$ 8,675.06
PROJECTED ENERGY SAVINGS		
Temperature Rise with Aquarecycle (Recycled Water - Incoming City Water)		40
BTU Savings		209,542,500
Therms Saved		2,095
Fuel Saving per Month at energy rate		\$ 4,337.53
SAVINGS SUMMARY:		
Monthly Water and Sewer Savings	\$ 7,644	
Monthly Energy Savings	\$ 4,338	
Total Monthly Savings	\$ 11,982	
Total Annual Savings	\$ 143,783	per 1,000 gls
Annual Quarterly Parts & Service Agreement (Paid Monthly - 1st Monthly Payment Due in Month 13 From Start)	\$ (13,000)	
Net Annual Savings	\$ 130,783	
Total System Cost	\$ 140,500	
System Payback in Months	12	months
Return on Investment	93%	

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EQUIPMENT CAPACITY CALCULATION				
TYPE OF EQUIPMENT	# OF LBS	# OF UNITS	**GPM CAPACITY	TOTAL **GPM
Washer/Extractor	135	7	7.49	52.45
Washer/Extractor	80	1	4.44	4.44
Washer/Extractor				
Washer/Extractor				
Washer/Extractor				
TOTAL CAPACITY:				56.89 GPM
SYSTEM COST ANALYSIS				
EMI 60 GPM PREMIUM Laundry Wash Water Recycle System				120,500.00
Freight, Installation and and Out of Pocket Costs				20,000.00
Total System Cost				140,500.00

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Monthly Savings Report

Marriott San Juan		Summary of Savings		ENVIRONMENTAL IMPACT STATEMENT	
	May-10	This Month	Cumulative	This Month	Cumulative
Today's Date	May-10				
Startup Date	Jul-08				
Months in Operation	22				
Initial Start Price	\$140,500.00				
Projected Payback in Months	11				
Actual Payback in Months	15				
watersaver cost	\$13.59				
energy cost	\$2.59				
City Water Temp (F)	70				
Recycle Water Temp (F)	110				
Water Temp Savings(F)	40				

Date	Time	Recycle Water Meter Reading	Freshwater Meter Reading	Recycled water used		Total water used this period	Percentage Recycle in total	Water Savings this period	Energy Savings this period	Maintenance Agreement Costs this period	Cumulative Savings
				meter	percent						
8/1/2008	8:42:40 PM	964.356	72.031	164.309	72.901	237.208	69.4%	\$2,235.62	\$193.89	\$0.00	\$4,166.42
9/1/2008	8:17:23 PM	990.309	197.985	420.955	125.396	595.289	77.6%	\$5,693.96	\$4,958.65	\$0.00	\$14,617.33
10/1/2008	1:02:51 PM	912.853	301.489	217.454	103.594	321.048	67.7%	\$2,993.20	\$2,600.66	\$0.00	\$20,073.10
11/1/2008	12:06:39 PM	1,046.222	387.533	427.369	89.594	516.963	63.2%	\$5,957.94	\$4,169.69	\$0.00	\$30,036.71
12/1/2008	12:18:59 PM	1,514.264	696.237	274.062	207.714	481.776	66.9%	\$3,724.51	\$3,902.49	\$0.00	\$37,666.72
1/2/2009	10:43:51 AM	1,909.234	796.016	394.609	160.779	555.370	71.1%	\$5,367.38	\$4,501.53	\$0.00	\$47,536.63
2/2/2009	8:57:10 AM	2,262.999	899.443	416.654	103.427	519.981	66.1%	\$5,661.46	\$4,268.30	\$0.00	\$57,398.39
3/2/2009	8:04:02 AM	2,732.038	976.844	406.949	117.401	524.351	77.6%	\$5,532.44	\$4,247.38	\$0.00	\$67,171.18
4/1/2009	7:48:55 AM	3,284.405	1,203.999	552.267	227.155	779.522	70.9%	\$7,506.67	\$6,314.30	\$0.00	\$80,992.15
5/1/2009	8:38:19 AM	3,962.414	1,340.646	709.029	198.649	904.658	63.8%	\$9,620.94	\$8,011.92	\$0.00	\$97,455.90
6/1/2009	7:57:53 AM	4,633.466	1,490.005	591.053	149.356	740.409	79.8%	\$9,032.40	\$5,987.48	\$0.00	\$111,485.78
7/1/2009	10:14:14 AM	5,296.005	1,644.037	600.009	154.333	754.342	90.1%	\$9,473.00	\$6,297.47	\$0.00	\$130,200.13
8/1/2009	1:18:55 PM	5,719.038	1,774.617	514.624	120.280	644.964	75.8%	\$9,994.55	\$5,524.35	\$0.00	\$139,422.03
9/1/2009	10:47:53 AM	6,079.273	2,033.018	303.234	259.400	562.634	68.2%	\$4,965.58	\$5,011.09	\$0.00	\$148,328.69
10/1/2009	10:03:48 AM	6,473.874	2,212.213	394.251	183.165	577.416	68.3%	\$5,268.55	\$4,871.65	\$0.00	\$159,365.10
10/29/2009	9:38:57 AM	6,841.141	2,320.660	387.667	113.446	481.014	74.4%	\$4,995.24	\$3,896.32	\$0.00	\$167,266.65
12/2/2009	2:22:59 PM	7,281.810	2,596.025	420.269	226.945	647.214	64.9%	\$5,712.82	\$5,243.39	\$0.00	\$178,212.86
12/31/2009	8:52:09 AM	7,712.911	2,746.057	471.451	189.422	660.873	70.4%	\$5,134.54	\$5,191.06	\$0.00	\$189,538.46
2/8/2010	9:45:11 AM	8,322.670	3,066.296	609.789	319.239	929.028	65.6%	\$5,288.62	\$7,525.09	\$0.00	\$205,350.17
3/2/2010	9:23:54 AM	8,863.200	3,244.324	340.610	175.025	515.635	66.1%	\$4,628.99	\$4,176.79	\$0.00	\$214,155.84
4/1/2010	10:58:45 AM	9,181.177	3,628.277	432.898	287.903	720.801	61.1%	\$5,164.88	\$6,001.06	\$0.00	\$226,311.75
5/1/2010	10:49:54 AM	9,626.371	3,840.251	510.193	311.974	822.167	62.1%	\$6,933.53	\$6,659.74	\$0.00	\$239,900.05
				9,626.371	3,840.251	13,466.622	71.5%				

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Competitive Advantage of AquaRecycle vs. other Technology Options

- Ozone (Energy, No Water)
- Heat Exchanger (Energy, No Water)
- Hot Water Reuse (Some Energy, Some Water)
- Rinse Reuse Systems (No Energy, Some Water)
- Nano-Filtration / RO (Some Water, Some Energy, High Electrical Use)
- Ceramic Membranes (Some Water, Some Energy, Electrical Use)
- AquaRecycle System (High Water, High Energy, Low Electrical)

AquaRecycle also provides triple disinfection as well as the best practices of environmental responsibilities

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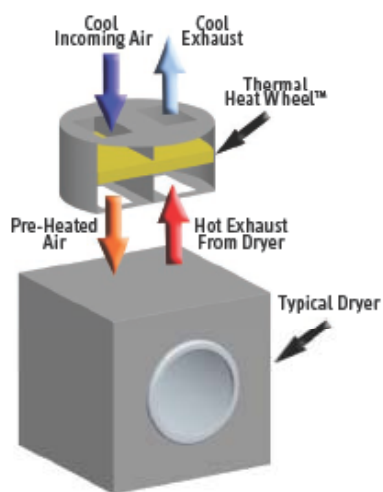


THERMALRECYCLE
Clean energy. Clear profit.™

- **Thermal Energy Recycling Technology for Laundry Dryer Systems**
 - Acts as a Heat Exchanger With Patent-Pending Process that takes Dryer Exhaust and reintroduces the Heat from it to the Incoming Air to Dryer
 - Captures Up to 50% Energy Savings in Dryer Process
 - Reduces Drying times by up to 25%

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How ThermalRecycle Works



- Capture Dryer Exhaust Through Thermal Heat Wheel
- Heat Wheel Pre-Heats Incoming Dryer Air
- Hot Air is Brought into Dryer Lowering the Burner Run Time

Return on Investment

- Typical 300 Room Hotel
- 70% Occupancy/17-Lbs Occ Room
- 1,300,000 pounds
- 847,000 lbs at 65% Dried
- 2-120-150/lb dryers
- Natural Gas Delivered \$9.00 Dkthm
- Payback is 26 months
- 44.7 ROI

- *Potential for 2 Dryers on Single Unit*



Proven Results



		TTL Btu's	AVG Btu's		TTL Btu's	AVG Btu's		Variance
	# Loads	With Thermal	With Thermal	# Loads	Without Thermal	Without Thermal	Variance	%
Sheets	3	177,480	295.80	1	117,300	586.5	290.70	49.6%
Towels	4	607,920	759.9	6	1,813,560	1,511.3	751.40	49.7%

Conclusions



- Proven Laundry Water & Energy Recycle Technologies are available to the Commercial Laundry Industry Today
- Such systems can save SUBSTANTIAL amounts of WATER, ENERGY & MONEY for these Laundry Operations
- At Present it is estimated that less than .1% of the 1500 Billion Gallons of Commercial Laundry Water generated in the world today is recycled leaving significant opportunity for Recycling
- Recycle Technology Choice Depends on the Specific Application, Sustainability, and Economic Goals
- Water Recovery, Energy Consumption, Energy Savings, Disinfection, and Reduced TSS, & BOD / Toxin Discharge are Important Considerations in this Technology Choice. **AQUARECYCLE** & **THERMALRECYCLE** INCLUDE ALL OF THESE POSITIVE ATTRIBUTES & CAPTURE THE RESULTING BENEFITS OF EACH

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