

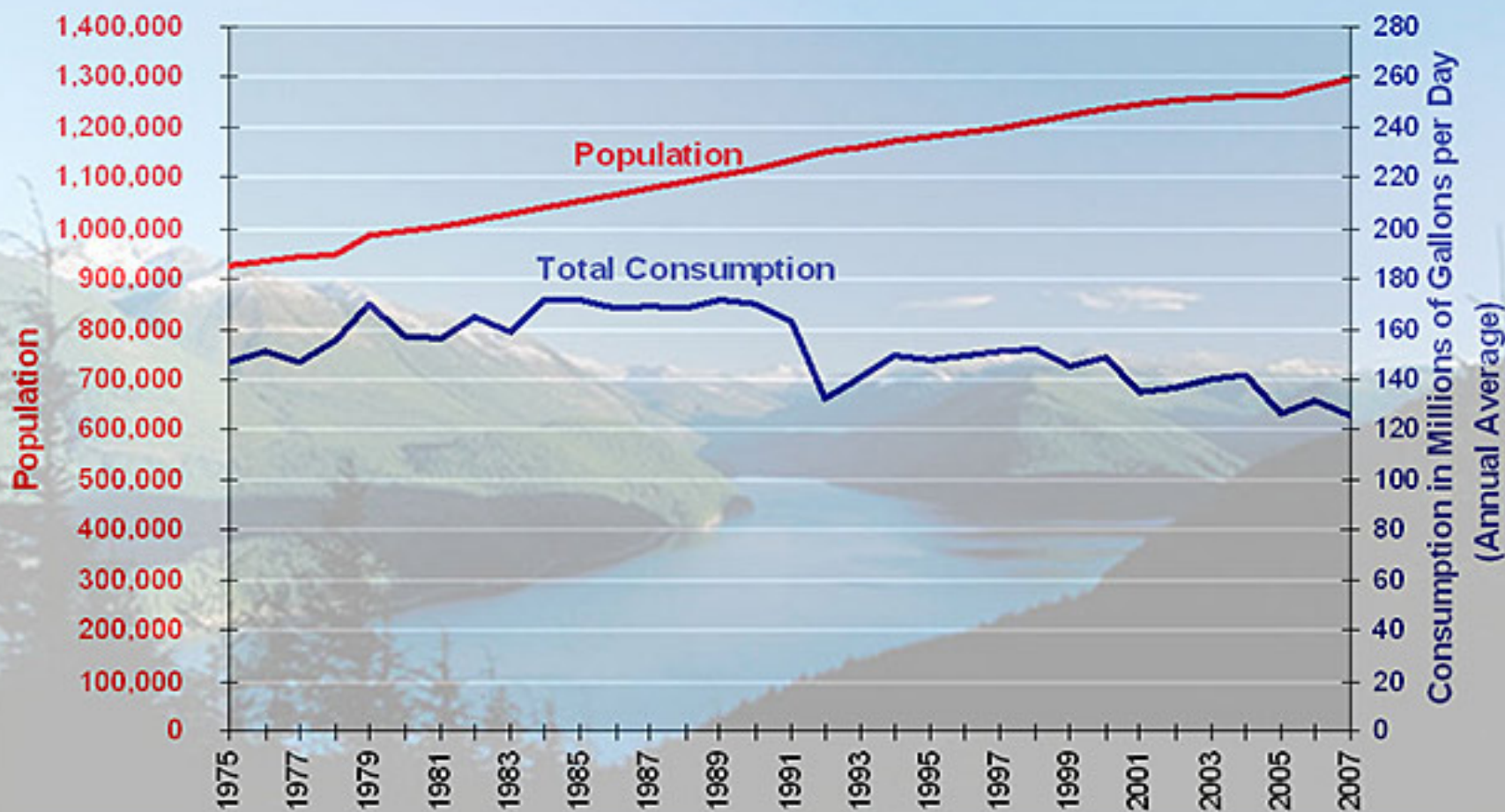
Water and Energy Efficiency Partnerships



Al Dietemann, Seattle Public Utilities
EPA Water and Energy Meeting March 5, 2008

WATER USE DECLINED 26% SINCE 1990
EVEN WHILE POPULATION INCREASED 16%

**Growth in Population and Water Consumption
Seattle Regional Water System: 1975-2007**



Program Examples from Western Washington

Residential

- **WashWise Single Family Clothes Washers**
- **WashWise Multi-family Clothes Washers (Coin Op)**
- **1.8 gpm Showerheads (code = 2.5 gpm,)**
- **1.0 gpm Faucet Aerators (code = 2.2 gpm)**

Commercial

Laundries

Steam Condensate Recycling or Reuse (Drywall)

Medical Air Compressors

Cooling Towers

- **Pre-Rinse Spray Heads**
- **Commercial Dishwashers**
- **Food Steamers**

Comm. Kitchens

OVER 70,000 CLOTHES WASHER REBATES TO DATE



**Clothes Washer
Rebates up to**

\$100



Get Loads of Savings

Saving energy and water together! That is exactly what the WashWise program is all about. Your local energy and water utilities listed below have joined together to offer you a rebate on the purchase of qualified resource saving clothes washers. This is the perfect opportunity for you to be part of the savings team which is focused on conserving natural resources, protecting habitat and maintaining a healthy environment for the Puget Sound region and beyond.



For more information, ask your sales associate or contact WashWise Rebate Program at 1-866-632-4636 or visit www.washwiserebate.com.

Water & Energy Savings Tips

- ▶ **Repair leaks** ~ Find and fix faucet and toilet leaks right away.
- ▶ **Wash full loads of laundry and dishes** to save water, energy and time. Research shows that many people under-fill their clothes washer by 30%. Try adding a few more items to the load and see if you're satisfied with the results.
- ▶ **Reduce shower flow** ~ Install water-efficient showerheads and shorten your showers by a minute or two and save up to 1,800 gallons per person each year.
- ▶ **Reduce faucet flow** ~ Avoid letting the water run when brushing teeth, washing dishes, or shaving. Installing faucet aerators will save even more.
- ▶ **Install a low flush toilet** ~ Toilets installed before 1994 are water wasters using 3.5 to 5 gallons per flush. New toilets only use 1.6 gallons per flush.
- ▶ **Improve landscape watering practices** ~ If you water the lawn, water only once or twice per week for most soils, and no more than an inch per week. Take recent rainfall into account when watering. For planting beds, use drip irrigation such as soaker hoses instead of sprinklers.
- ▶ **Set your water heater's thermostat** to 120 degrees Fahrenheit. Lowering it from a higher setting will save you money and reduce the risk of being scalded.
- ▶ **Lower your home's thermostat** at bedtime or while you're away during the day. Setting the thermostat to 58 degrees during these times could reduce your heating bill by up to seven percent. Install a programmable thermostat for home heating. It can save a lot of energy while you're sleeping or away from home – and will re-warm your house shortly before you wake up or return home.
- ▶ **Thoroughly pre-rinsing dishes may be unnecessary.** Most new dishwashers do not require pre-rinsing.
- ▶ **Weatherize your home** by sealing leaky drafts around doors and windows with weather-stripping, caulking, and door sweeps.
- ▶ **Purchase a premium-efficiency ENERGY STAR® qualified** furnace, clothes washer, refrigerator, dishwasher and high-efficiency water heaters when it's time to replace worn-out models.

1-866-632-4636

WashWiseRebate.com

PLEASE COMPLETE ENTIRE APPLICATION.
(Incomplete information will delay payment.)



Customer Information		
All information below is required for processing		
Full Name:	Daytime Phone: () - -	
Full Installation Address:		
City:	State:	Zip:
Full Mailing Address (if different):		
City:	State:	Zip:
Email Address (optional):		
My Electric Provider is:		My Water Provider is:
My Water Heater Fuel is (required): <input type="checkbox"/> Electric <input type="checkbox"/> Natural Gas <input type="checkbox"/> Propane		
My Clothes Dryer Type is (required): <input type="checkbox"/> Electric <input type="checkbox"/> Natural Gas <input type="checkbox"/> Propane		

Product Rebate Information	
Date Purchased:	Date Installed:
*Model Number (required):	*Serial Number (required):

*Serial numbers are usually located on the inside of the clothes washer door or on the back of the machine.

Acceptance of Terms	
By signing this form, you acknowledge:	
<ul style="list-style-type: none"> The clothes washer rebated has been installed at the address indicated above. All information supplied on this form is true and correct. WashWise staff has permission to verify any of the information on this form, and inspect the clothes washer installation upon request. You have not received a WashWise rebate for this home after January 1, 2001. This form must be received by the WashWise program within 90 days of the clothes washer purchase. The model number and serial number are required for payment. The WashWise rebate program and rebate levels may change without prior notice. All information must be complete and a copy of an itemized receipt enclosed to be considered for payment. 	
Participating utilities have made no implied or express warranties or representations with regard to these products, energy savings or water savings from these installations. This offer ends December 31, 2006 or when funds are exhausted.	
Refer to the back of this form for rebate submittal instructions and restrictions.	
Customer Signature:	Date:

This information can be made available on request to accommodate people with disabilities and those who need language assistance.

4170 D108

WashWise (Clothes washers)

Tiered rebates: \$25, \$50, or \$100

70,000 rebates, 50% market share

14 – 20 gpd saved per /washer





Free Showerhead & Aerator Distribution: Water and Energy Utility Partnership

- **Over 100,000 customer requests**
- **33% of all Regional Single Family Households**
- **20% more efficient than code requires**
- **Savings per Household :**
4 gallons/day & 181 kWh per year
- **All Households: 7.5 million**
pounds of greenhouse gases &
400,000 gallons per day
- **Low cost: 20 times per gallon**
cheaper than new supply & waste treatment



Medical Air Compressor

- 40 HP replaced with 10 HP units
- Saved 6,050 gpd by air cooling
- Univ. of Wash Medical Center



Medical Vacuums

More energy efficient at partial loads, used 7500 gpd of water to generate vacuum

Korry Electronics Manufacturer

- Replace Chiller with Cooling Tower
at full loads tower uses 82% less energy
- Saved 8,000 gpd of water and sewer



Don't let your profits go up in \$team!

- **New Boilerless Steamers Save Money**
- **Incentives of up to \$1,250**



For more information contact a **Saving Water Partnership** advisor at (206) 343-8505 or a **PSE Energy Advisor** at 1-800-562-1482.

Partnership Elements


- Working collaboratively with other **partners**
- Focusing on the **most cost effective** programs
- Ensuring **equity** among partners
- Reducing costs by **avoiding lost opportunities**
- Ensuring program success by monitoring and **evaluating** program savings and costs
- Testing program design with **pilot projects**

Drivers for Efficiency Partnerships

- **Leveraged Costs and Mutual Benefits for Utilities**
- **Public Trust (united utilities, not isolated utilities)**
- **Regional Goals (climate change & environmental concerns)**
- **Improved private partnerships (vendors, service providers)**
- **Multiple Partners:**
 - Energy Utilities**
 - Solid Waste** - landscape and hazardous waste reduction
 - Wastewater** - reducing use
 - Surface Water/Drainage** – runoff
 - Business:** Private Partnership with vendors and service providers
 - Community and Environmental Groups**

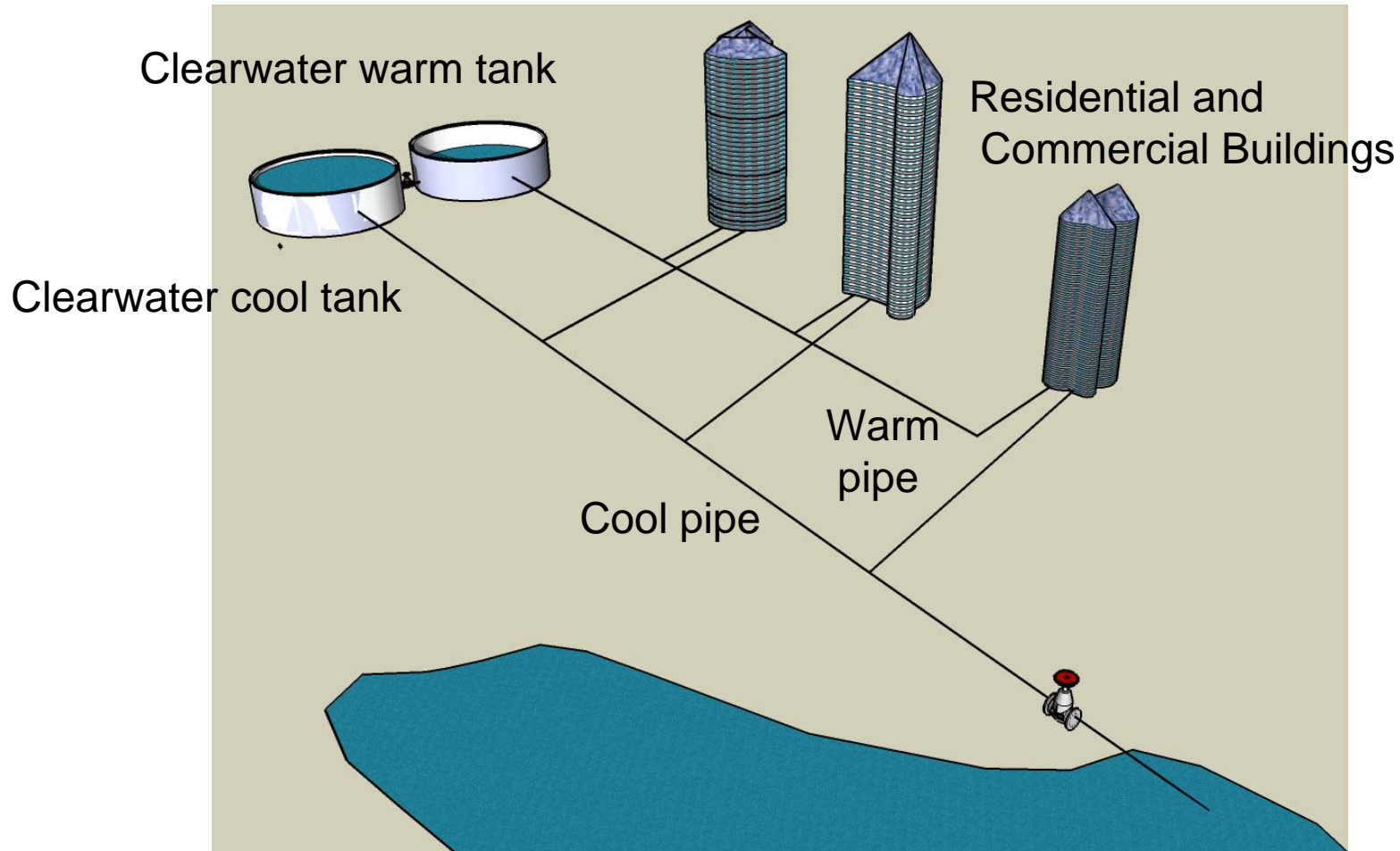
Future Partnerships?

- **Water & Wastewater Utility Energy Use (flow reduction benefits)**
 - **Industrial Equipment Cooling**
 - **Residential Dishwashers**
 - **Exergy with water/wastewater components**

 - **Combo Ovens**
 - **Commercial Dishwashers**
 - **Waste Disposals**
 - **Thawing**
 - **Woks**
- 
- Comm. Kitchens**

Exergy Concept

Clearwater: buildings without cooling towers
near-zero energy building



The **Insignia**, a massive residential complex planned for the Seattle South Lake Union neighborhood will utilize over a thousand heat pumps and circulate water through a million tons of earth below its full-city-block footprint



FUTURE DINOASURS:
ROOF MOUNTED COOLING TOWERS
REJECT “WASTE” HEAT FROM AIR
CONDITIONING BY EVAPORATING
THOUSANDS OF GALLONS OF
DRINKING WATER PER DAY

The **Insignia** *Courtesy of Embassy Development*

Don M. Iverson, P.E., LEED AP

Contact info:

Al.Dietemann@seattle.gov

(206) 684-5881

Saving Water Partnership

**Seattle Public Utilities &
Wholesale Water Providers**

www.savingwater.org

