Benchmarking Wastewater Systems in Portfolio Manager

U.S. Environmental Protection Agency (EPA)
May 2010

ENERGY STAR Program

- ***70%+*** Public awareness
- ***12,000*** organizations engaged in manufacturing, delivery, and adoption
- ***2.5 billion+*** qualified products sold to date
- ***~850,000*** new homes
- ***~12%*** of new homes starts
- ***60,000+*** buildings benchmarked

Environmental Results Positioned to

Double

over next 10 Years

ENERGY STAR

Accomplishments

In 2006, Americans with the help of ENERGY STAR:

- ***37 MTCe***

  GHG emissions prevented = ~25 million vehicles

- ***$14 billion***

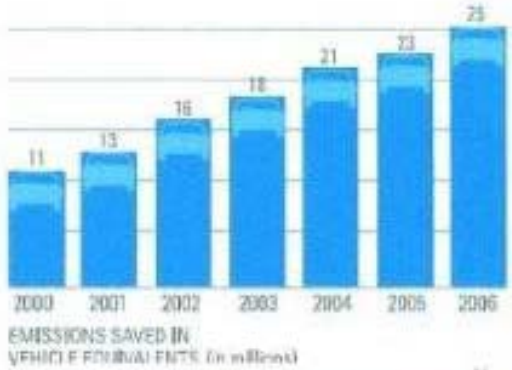
  saved on energy bills

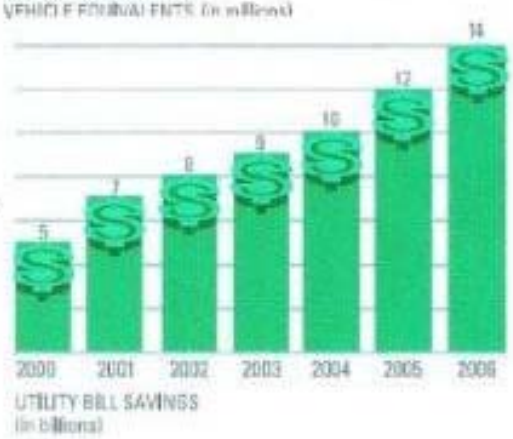
- ***170 billion kWh***

  lower energy use – almost 5% of US electricity sales

- ***1/3 total US GHG***

  emissions reduction from EPA's CCP's





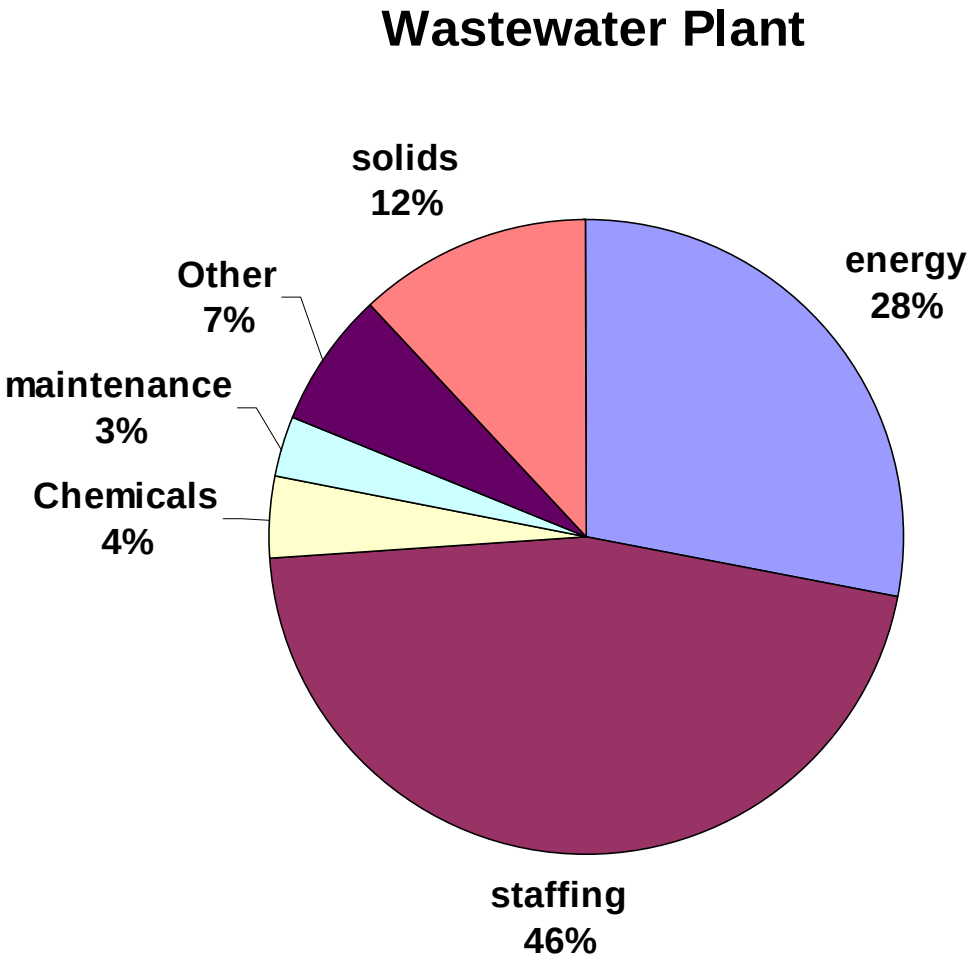
Municipal Water/Sewer Plant Energy Use

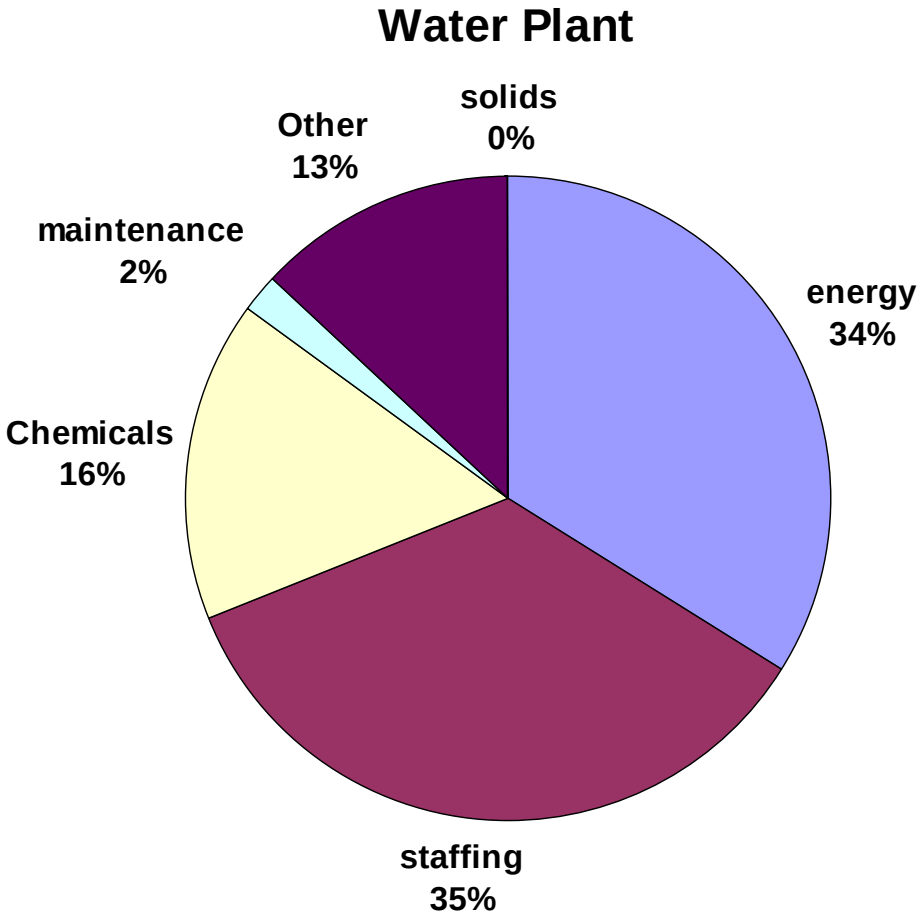
- **U.S. total* = 75 billion kilowatt hours per year**
- **3% of total U.S. consumption of electricity**
- **Equal to entire residential electricity demand of California**
- **More than entire energy-intensive pulp/paper and petroleum sectors *combined***
- **Public bill = Already $4B/yr. Increasing.**

* 60,000 drinking water treatment plants + 15,000 sewage treatment plants

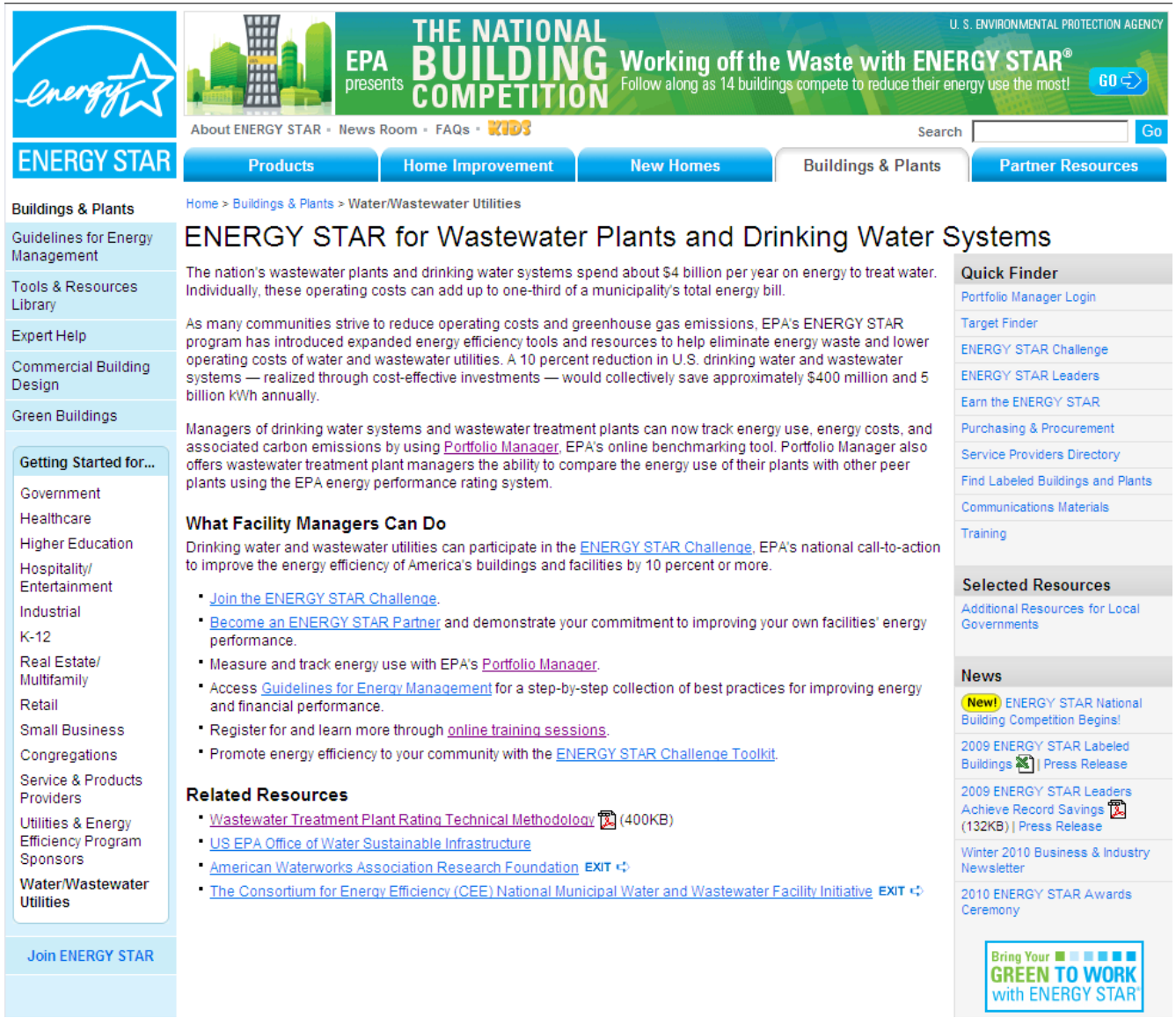
Sources: US EPA, Alliance to Save Energy, Pacific Institute & NRDC

Efficiency Opportunities: Industry Average O&M Budgets





Water and Wastewater Energy Star WEB Resources



Benchmarking

Water and Wastewater utilities to rate energy performance

- Accessed on-line through Portfolio Manager
- Normalized for external factors
- Wastewater - Resulting model shows statistical significance at 90% confidence level

Engine(s) behind the rating system

- AwwaRF Project - National Survey Data: covers water and wastewater
- Initial models developed - report to be published by AwwaRF by mid-October

Portfolio Manager for Wastewater

Input Information Needed:

- **Energy use for all fuels - monthly**
- **Average Daily Influent Flow (mgd)**
- **Average Influent Biological Oxygen Demand (BOD5) - average over 12 months (mg/l)**
- **Average Effluent (BOD 5) - average over 12 months (mg/l)**
- **Plant Design Capacity - treatment design (mgd)**
- **Fixed Film Trickle Filtration Process y/n**
- **Nutrient Removal y/n**
- **Date Plant was Constructed**

Portfolio Manager

PORTFOLIO MANAGER
EPA's system for helping you track and improve energy efficiency across your entire portfolio of buildings.

FREQUENTLY ASKED QUESTIONS | CONTACT US | HELP

WHAT'S NEW IN PORTFOLIO MANAGER

ENERGY STAR Labeled Building Press Release Announcement Learn More

Water Treatment and Distribution Facilities
The EPA is pleased to announce the addition of Water Treatment and Distribution Facilities to Portfolio Manager. Learn More

Portfolio Manager Enhancements (Spaces Not Eligible to Receive a Rating)
Portfolio Manager now provides users the ability to manage buildings that are eligible to receive a rating as well as those that are not – all within the same online platform. Learn More

Username:
Forgot your username?
Password:
Forgot Your Password?
New User? Register Login

About Portfolio Manager

- Learn what Portfolio Manager can do for your organization
- Take the Portfolio Manager Tour
- Explore some Frequently Asked Questions about our October 1, 2007 Updates
- Train on how to use Portfolio Manager
- Review eligibility requirements to benchmark your facility
- Import facility data

Success through ENERGY STAR

- Learn about ENERGY STAR Leaders that have improved organization-wide
- Take the ENERGY STAR Challenge – improve your buildings' energy efficiency by 10%
- Find buildings that have earned the ENERGY STAR

ENERGY STAR Labeled Buildings

Coleman A. Young Municipal Center
2 Woodward Avenue
Detroit, MI 48226
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Contact Us | Privacy Policy | Browser Requirements
Buildings & Plants

Statement of Energy Performance

Statement of Energy Performance
FACILITY SUMMARY REPORT
City of Sandpoint WWTP

For 12-month Period Ending: December 31, 2007
Date Generated: August 26, 2008

This document was generated using EPA's Portfolio Manager system. All information shown is based on data provided by the Portfolio Manager account holder. Depending on the use of the SEP Facility Summary, building owners or managers may want to have a professional engineer (PE) verify that the underlying data is accurate. Blank space has been left intentionally on the SEP Facility Summary for a PE stamp.

723 Ella
Sandpoint, ID 83864

Year Built: 1984

Facility Space Use Summary

Municipal Wastewater Treatment Plant

Space Name	Average Influent Flow	Average Influent Biological Demand (BOD5) Concentration	Average Effluent Biological Demand (BOD5) Concentration	Plant Design Flow Rate	Fixed Film Trickle Filtration Process	Nutrient Removal
office/lab	3	217	12	3	N	N

Energy Performance Comparison

Results	Current (12/31/2007)	Baseline (12/31/2006)	Delta	Target	Industry Average	ENERGY STAR
Energy Performance Rating	**58**	**67**	**-9**		**50**	**75**
Energy Intensity (kBtu/gpd)						
Site	3	3	0		4	0
Source	7	6	1		8	0
Energy Cost						
$/year	116245	5083942	-4967697		127621	0
$/mgpd/year	41,221.63	1,802,816.31	-1,761,594.68		45,255.55	0.00
CO_2 Emissions (tons/year)	279	278	1		306	0

More than 50% of your building is defined as Wastewater. Please note that your rating accounts for all of the spaces listed. If you cannot see a rating, you will be compared to the national average of Wastewater.

EPA
United States Environmental Protection Agency

Training - Online

Live Sessions

Search for sessions by presenter, topic, or words in the agenda:

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English : San Francisco Time

From: 11:20 a.m., Tuesday, May 4, 2010

Show only sessions that require registration

Total number of sessions: 32

1 2 3

Date & Time		Topic	Presenter	Duration	
Jun 23, 2010	11:00 am	ENERGY STAR and Green Buildin...	Steve Jurovics	1 hour 30 mins	Register
Jun 29, 2010	11:00 am	Benchmarking Water/Wastewater...	Jason Turgeon	1 hour 15 mins	Register
Jun 29, 2010	3:00 pm	Generating a Federal High Per...	Katy Hatcher	1 hour	Register
Jul 20, 2010	11:00 am	Commercial Real Estate: Best...	Dr. Sharon L. Levin	2 hours	Register
Jul 21, 2010	11:00 am	Office Buildings: Rating Ener...	Dr. Sharon L. Levin	2 hours	Register
Sep 9, 2010	9:00 am	Energy Efficiency Program Spo...	Alison Drucker	1 hour 30 mins	Register
Oct 28, 2010	10:00 am	Energy Efficiency Program Spo...	Alison Drucker	1 hour 30 mins	Register
Dec 2, 2010	11:00 am	Energy Efficiency Program Spo...	Alison Drucker	1 hour 30 mins	Register

1 2 3

(M) = More session dates are available

= Multiple-session course

Contacts for EPA Region 10

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