



# Resource Conservation Management

2011 Annual Report

## Energy Conservation

### Our Goal:

Reduce Pierce County's  
**energy use by 15%** and **water use by 10%** by 2015

In 2009 Pierce County set a goal of reaching 15% energy reduction and 10% water reduction within 5 years as a way to reduce utility costs and lessen our impact on the environment. Since then we have been actively tracking and identifying opportunities to save and reduce by implementing resource conservation measures throughout Pierce County.



### How we are working to meet our goal:

#### Energy Benchmarking

By understanding and evaluating how we are using energy in our buildings, we are able to focus on particular projects, both capital and operational, that have a significant impact on our overall energy reduction. Benchmarking also allows us to compare our buildings' energy performance against national averages.



#### Building Commissioning

Pierce County's knowledgeable building operators have been pivotal in reducing energy consumption County-wide this year. We have worked together to commission building systems for optimal operating efficiency and then assess and evaluate our results through benchmarking. We have worked to find ways to reduce energy demand through no-cost measures and operational changes.



## Energy Audits

By partnering with WSU Extension Energy Program in 2011, we successfully completed extensive energy audits for all of Public Works & Utilities' buildings. Our objective was to identify energy conservation measures that are cost effective and in line with our overall energy reduction goal of 15%.

## Capital Improvements

Pierce County's ongoing effort to be increasingly sustainable through energy efficiency was prevalent in 2011 with the completion of multiple capital improvement projects. Whether it's an LED lighting upgrade at the County-City Building, high-efficiency boilers at Meridian Habitat Community Center, or a full energy efficient building system remodel such as Sprinker, Pierce County is working to reduce energy consumption on all fronts.

## Education and Outreach

Providing information on how our buildings are performing raises awareness of conservation for employees and citizens. In 2011, we posted building energy performance scores in visible locations within our buildings, and provided extensive information on our website on ways to reduce energy.

## Renewable and Alternative Energy

In addition to conserving resources, Pierce County is supporting clean renewable and alternative energy options.

- Five electric vehicle charging stations were installed and three electric vehicles were purchased in 2011 to reduce petroleum-based emissions.
- A community solar lease agreement process was initiated with Public Works & Utilities' Airports & Ferries Division, which is paving the way for community-based organizations to install solar arrays on Pierce County sites.
- Once a waste product, Pierce County's Jail grease is now being converted into clean energy at a local anaerobic digestion facility.



# Water Conservation

## Capital Improvements

Pierce County has decreased overall water consumption by 6.3% through improvements to building fixtures, including low-flow faucets and toilets. High water use building systems, such as the Sprinker ice rink, were also updated or replaced in 2011.

## Irrigation Meter Management

By implementing a seasonal metering program for irrigation meters, Pierce County will save \$12,533/year in utility costs moving forward. Since most irrigation meters are only used through the summer months, we are able to disconnect them when they are not needed, which will result in significant utility savings.

## Smart Irrigation Technology

In 2011, we identified new opportunities for expanding the smart irrigation infrastructure that is already being used at many Pierce County facilities. Smart irrigation technology uses significantly less water since it is able to sense when irrigation is needed, rather than using only a timed schedule.



## Water Benchmarking

To track the impact and progress of Pierce County's Resource Conservation Management efforts, we actively track monthly water consumption at all of our facilities. This allows us to easily identify fluctuations in use, which may signal a faulty building system or leaking irrigation system.



# How we are doing so far:

## Energy: reduced by 12.4%

Energy Conservation	2009 (baseline)	2010	2011	Results
Electricity Use	47,246,938 kWh	44,589,194 kWh	43,529,199 kWh	12.4% weather-normalized reduction in energy
Natural Gas Use	955,356 therms	736,177.5 therms	766169 therms	
Money spent on electricity and natural gas	\$3,337,537.20	\$2,922,385.76	\$2,888,712.70	\$857,965 in avoided energy costs since 2009
Average Energy Star Portfolio Rating (1-100, 75+ = Energy Star)	64	65	65	Increased by 1 point
Wastewater Treatment Plant Energy Star Score	51	55	56	4.8% reduction in energy
Average cost of Energy per square foot	\$1.26	\$1.13	\$1.14	Decreased by \$.12 per square foot since 2009
Total Utility Incentives for Energy Efficiency Projects	\$0	\$14,951.00	\$68,923.00	Total Utility Incentives: \$83,874

## Water: reduced by 6.3%

Water Conservation				
Water Use	67,714 kGal	63,213.4 kGal	63,445 kGal	6.3% reduction in water, totaling 4,269 kGal saved
Water Cost	\$193,156.02	\$197,190.90	\$211,220.72	\$22,099.58 increase in water costs since 2009

Total Savings since 2009: **\$919,739**