



**Hawaii Energy**  
YOUR CONSERVATION & EFFICIENCY PROGRAM



**FOR IMMEDIATE RELEASE**

July 28, 2014

**HAWAII ENERGY, DLNR RELEASE TWO NEW HANDBOOKS  
TO ENCOURAGE WATER CONSERVATION AND GREATER ENERGY EFFICIENCY**

**HONOLULU** – Two of Hawaii’s leading authorities on water conservation and energy efficiency jointly announce the distribution of two new handbooks written for Hawaii’s water and wastewater utilities that can help save up to 20 percent, or \$16.1 million, in electricity costs annually – enough to power 9,400 homes in Hawaii.

Hawaii Energy, the ratepayer-funded energy conservation and efficiency program for Hawaii, Lanai, Maui, Molokai and Oahu, developed the *Water & Wastewater Energy Management Best Practices Handbook* to help water and wastewater facilities operate with increased energy efficiency.

The State of Hawaii Department of Land and Natural Resources’ (DLNR) Commission on Water Resource Management released the *Hawaii Water System Audits and Water Loss Control Manual* to assist all public water systems in Hawaii to assess their water supply efficiency through water audits and water loss programs.

**Hawaii Energy’s Water & Wastewater Energy Management Best Practices Handbook**

Water and energy usage are inextricably linked, referred to as the water-energy nexus, due to the significant energy required to transport and treat water and wastewater.

Based on a Hawaii Energy survey conducted in 2013, the state’s public water and wastewater systems consume an estimated 290.3 million kilowatt hours (kWh) per year, which is approximately 3.2 percent of the electric utilities’ total sales.

The generally accepted industry standard for water and wastewater facilities is that energy efficiency measures can generate 20 percent or more in energy savings. For Hawaii, the 20 percent potential savings translate to more than 58 million kWh per year (or \$16.1 million) based on an average electricity rate of 28 cents per kWh.

“The handbook is another example of our commitment to increase the adoption of energy conservation and efficiency throughout Hawaii,” said Hawaii Energy Program Director Ray Starling. “The water and wastewater best practices have been proven effective in other parts of the country, are simple to follow and offer a wide spectrum of energy-efficient measures.”

It is written as a practical guide to help water and wastewater management personnel make informed decisions to reduce energy consumption in all aspects of facility operations, repair and investment. It outlines how to develop and assess an energy management program, implement capital and operational improvements to reduce energy usage and track energy performance.

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The handbook provides an overview of each energy-efficient best practice and outlines the potential impact on productivity, the economic benefit and potential energy savings. Each practice is presented in a one-page format for easier readability and reference.

Portions of the handbook were developed with the permission of the New York State Energy Research and Development Authority and Wisconsin's energy efficiency and renewable resource program, Focus on Energy.

Municipal and private regulated water and wastewater utilities provide service to 95 percent of Hawaii's population. There are 206 regulated wastewater treatment facilities with a treatment capacity of more than 243 million gallons per day and an average daily flow of 121 million gallons, according to the state Department of Health.

The drinking water sector includes 130 regulated public water supply systems that consist of surface and ground water sources that produce approximately 260 million gallons per day, according to the State of Hawaii Annual Public Water System Compliance Report from 2010.

### **DLNR's *Hawaii Water System Audits and Water Loss Control Manual***

DLNR's Commission on Water Resource Management funded the development of the *Hawaii Water System Audits and Water Loss Control Manual*, which was prepared by the Hawaii Rural Water Association.

The commission acknowledged that a water utility's energy bill is one of its largest operating expenses. By improving water system efficiency, the utility can prevent unnecessary waste, defer costs for new water source development and reduce energy bills.

"The majority of Hawaii's drinking water comes from groundwater wells that require substantial amounts of electricity to pump out of the ground, into elevated storage reservoirs and then transported to customers," explained William Tam, deputy director for the Commission on Water Resource Management. "If a lot of water is lost during this process, more energy is needed to pump additional water to compensate for the shortfall. Reducing water loss reduces energy consumption."

The additional benefits of implementing water audits and water loss control programs include the following: increased knowledge of the water distribution system; reduced water loss by identifying problem/risk areas; efficient use of existing supplies; less legal liabilities and minimal service disruptions to customers.

The manual was developed based on the International Water Association's (IWA) and the America Water Works Association's (AWWA) "IWA/AWWA Water Audit Methodology." The methodology was selected based on its research, industry acceptance, simplicity, adaptability and standardized performance indicators.

The manual was adopted from the *Georgia Water System Audits and Loss Control Manual* (September 2011, Version 1.0) with permission from the Georgia Department of Natural Resources, Georgia Environmental Protection Division and Georgia Watershed Protection Branch.

In April 2014, the commission conducted water audit training workshops in the four counties for drinking water utilities. Future workshops may be held based on interest. Water audits are not required in Hawaii. However, the commission is evaluating the implications of requiring water audits in the future.

### **Downloadable Versions**

Hawaii Energy's *Water & Wastewater Energy Management Best Practices Handbook* can be downloaded by visiting [www.HawaiiEnergy.com/water-and-wastewater](http://www.HawaiiEnergy.com/water-and-wastewater). For more information, call 839-8800 on Oahu or toll-free at (877) 231-8222 on the neighbor islands.

To download the *Hawaii Water System Audits and Water Loss Control Manual*, visit the commission's water conservation website at [www.dlnr.hawaii.gov/cwrmp/conservation](http://www.dlnr.hawaii.gov/cwrmp/conservation). For more information, call (808) 587-0214.

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### **About Hawaii Energy**

Hawaii Energy is the ratepayer-funded energy conservation and efficiency program administered by Leidos Engineering, LLC, under contract with the Hawaii Public Utilities Commission, serving the islands of Hawaii, Lanai, Maui, Molokai and Oahu. Hawaii Energy offers cash rebates and other incentives to residents and businesses to help offset the cost of installing energy-efficient equipment. In addition to rebates, the program conducts education and training for residents, businesses and trade allies to encourage the adoption of energy conservation behaviors and efficiency measures. The program plays an important role in helping to achieve Hawaii's goal of reducing total electric energy usage by 30 percent or 4.3 billion kWh by 2030. For more information, visit [www.HawaiiEnergy.com](http://www.HawaiiEnergy.com).

### **The Commission on Water Resource Management**

The Commission on Water Resource Management (Commission) administers the State Water Code, which was created by the 1987 Hawaii State Legislature. The commission's general mission is to protect and enhance the water resources of the State of Hawaii through wise and responsible management. There are a total of seven members on the Commission.

The commission is attached to the State of Hawaii Department of Land and Natural Resources. Under the general direction of the Deputy Director for Water Resource Management, the staff provides administrative and technical support services to the Commission. The staff's primary responsibilities are to implement and administer the provisions of the State Water Code by planning, surveying, regulating, monitoring, and conserving the state's water resources within established plans that have been adopted by the commission. For more information, visit <http://dlnr.hawaii.gov/cwrmp>.

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**Recognizing the importance of the water-energy nexus, the Commission on Water Resource Management and Hawaii Energy transmit their respective water audit and energy conservation manuals to the Honolulu Board of Water Supply**



Kate Aurilio, Energy Engineer, Hawaii Energy (Left); Ray Starling, Program Director, Hawaii Energy; Ernest Lau, Manager/Chief Engineer, Honolulu Board of Water Supply and William Tam, Deputy Director, Commission on Water Resource Management (Right)

Photo Courtesy of Hawaii Energy