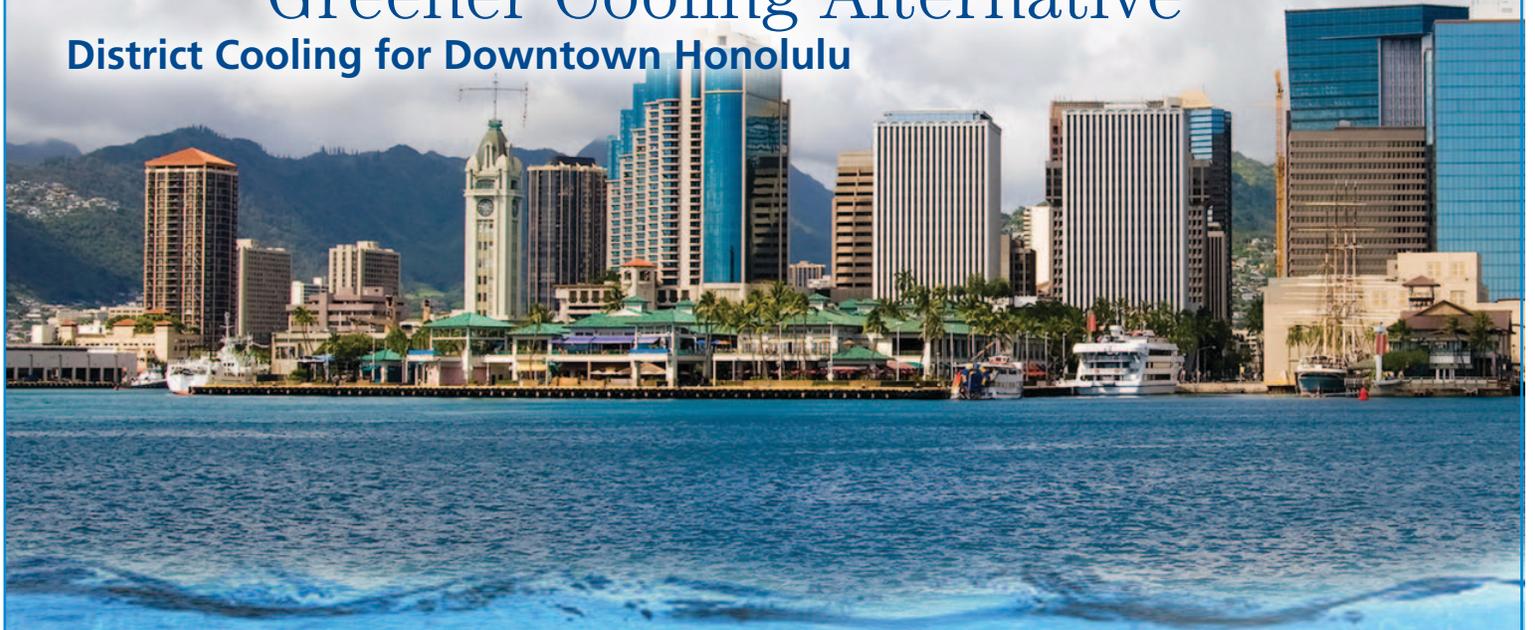


Downtown Buildings to Use Greener Cooling Alternative

District Cooling for Downtown Honolulu



The earthquake and tsunami in Japan last year resulted in a shutdown of nuclear plants across that country and a switch to using more oil for producing electricity. The increased demand for low-sulfur fuel oil in the Asia-Pacific region is the primary reason for Hawaii's high electricity costs today. This has revived a sense of urgency for renewable energy that reduces our demand for oil-fired electricity.

There are projects in development throughout the state that one day will help to completely free us from our dependence on oil. However, many of these projects are years away from making a real impact on energy costs.

However, there is one project, in particular, that is making significant progress and is poised to change the way that commercial and residential buildings in downtown Honolulu and Kakaako provide climate control.

Honolulu Seawater Air Conditioning (HSWAC) is slated to break ground this year on a 25,000-ton seawater air

conditioning district cooling system for downtown Honolulu, which will provide reliable 24/7 air conditioning service using an abundant, local, natural, and renewable resource – deep cool seawater.

By reducing the electricity required to cool large downtown buildings by up to 75 percent, seawater air conditioning will help to stabilize energy costs while reducing our dependence on oil by 178,000 barrels each year. Stable and predictable energy prices are critical to enable businesses to accurately forecast costs and continue to provide jobs to workers and services to their customers.

HSWAC has already received almost all of the necessary approvals, including its State Environmental Impact Statement, Special Management Area use Approval and Shoreline Setback Variance permits, and a Conservation District Use Permit, which brings the idea of a green downtown closer to reality. *Continued*



COOL GREEN CLEAN™
Honolulu

Times are changing. Technologies are evolving. Our need for greener solutions is growing. With opportunity in hand, Honolulu Seawater Air Conditioning, LLC is currently developing a 25,000-ton seawater air conditioning district cooling system for commercial and residential properties in downtown Honolulu. Cost-effective and smart, this renewable energy source is Hawaii's answer to cooling buildings in the core of downtown using fresh, deep, cold seawater.

District Cooling Continued

In February 2012, HSWAC obtained a Grant of Non-Exclusive Easement and Construction Right-of-Entry from the Hawaii Community Development Authority for underground piping beneath Kakaako makai lands.

In December 2011, the company successfully completed its keyhole survey to ensure the chilled water distribution network throughout downtown does not interfere with existing utilities.

A 55-year lease was recently signed with Kamehameha Schools for a 30,000-square foot parcel in Kakaako for a pumping station and exchange facility. Bids were solicited from local firms on all construction aspects of the project, resulting in dck pacific construction, LLC, being named contractor for building the cooling station behind the former Gold Bond Building, and Healy Tibbitts Builders, Inc., for the installation of the pipes that will pump chilled seawater from offshore to its system in downtown Honolulu.

Hawaiian Electric Company, First Hawaiian Bank, One Waterfront Towers, and Finance Factors have already signed on to take advantage of reduced energy costs, improved efficiency and a sustainable future for Hawaii using clean, local and long-term renewable energy.

“Hawaiian Electric has been a leader in Hawaii’s green energy transformation and their support of innovative solutions to the state’s energy needs has helped projects like ours flourish. We are honored to provide cooling to their building,” said Eric Masutomi, President and CEO of Honolulu Seawater Air Conditioning. “We are pleased to bring this clean energy technology to Hawaii and put Downtown Honolulu on the path to being the greenest downtown in the nation. Having companies like Hawaiian Electric join this venture helps ensure its overall success.”

“Honolulu Seawater Air Conditioning is offering a renewable alternative to conventional cooling methods to some of the state’s heaviest users of air conditioning,” said Robbie Alm, Hawaiian Electric Executive Vice President. “This is an excellent use of local resources – in this case, one of Hawaii’s most sustainable natural resources, seawater – to meet our clean energy goals and ensure we have a diverse portfolio of renewable energy sources.”

When fully implemented, HSWAC’s cooling system will reduce use of potable water for air conditioning by more than 260 million gallons, sewage by up to 84 million gallons, and emissions of 84,000 tons of carbon dioxide.

Construction is expected to commence in the fall, with service to customers beginning in 2014. For more information, visit www.honoluluswac.com.

A TYPICAL SWAC DISTRICT COOLING SYSTEM IS QUITE SIMPLE AND CAN BE EXPLAINED IN FOUR PARTS.

- 1 Cold (44°F-45°F), deep seawater from more than 1,700 feet below sea level is pumped through an intake pipeline located more than four miles off the Kakaako shoreline to a cooling station on shore.
2. The cold seawater is passed through a heat exchanger at the cooling station, which transfers the coldness to freshwater that circulates in a closed loop pipeline system (district cooling). This chilled water (air conditioning service) is then provided to customer buildings. The heat exchangers ensure that seawater and the freshwater delivered to the buildings never mix. Chillers in the cooling station supplement the cooling provided by the cold water to maintain a consistent 44°F for the chilled water distributed to customers’ buildings.
- 3 The chilled freshwater is provided to customer buildings through underground pipes that are connected to each building’s existing chilled water air conditioning system.
4. The slightly warmed seawater is returned in an environmentally safe manner back to the ocean and released through a diffuser located at a depth of 330 to 425 feet.

