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Seawater air-conditioning plan aims to break ground in 2011

Stalled by recession, developers expect to create 1,500 new jobs

Premium content from Pacific Business News by Sophie Cocke, Pacific Business News

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A seawater air-conditioning project with the capacity to cool half of downtown Honolulu's central core, and provide a boost to the island economy, plans to break ground in September 2011.

The \$250 million project being developed by Honolulu Seawater Air Conditioning will issue requests for proposals around April for \$200 million worth of contracts that will be awarded to an estimated five to 10 companies.

The project is expected to create 1,500 jobs, primarily in the construction industry, but also for surveyors, engineers, equipment providers, harbor workers, insurance providers, lawyers and accountants.

Fifteen downtown buildings and companies have provided letters of intent to sign up as customers, comprising 75 percent of the system's capacity. Twenty-five-year contracts that provide steady customer rates below the cost of electricity provided by Hawaiian Electric Co. still need to be finalized and signed.

"One of the main features of the system is that we have a stable cost," said [Ingvar Larsson](#), vice president of engineering for Honolulu Seawater Air Conditioning. "As it operates now, electricity is dependent on the cost of oil, which a couple years ago went up to \$145 a barrel — customers' cooling costs can go anywhere."

The system will draw cold seawater from four miles offshore at a depth of up to 1,800 feet. The water will enter a heat exchanger that works to cool the buildings and the circulated water is deposited back into the ocean.

The company began the project's design and development stage in 2003 and had hoped to begin construction over a year ago, but the economic recession dried up financing.

"In 2008, we had raised some money and started marching down the road, and then it just stopped," said [Tom Wilkolak](#), the company's chief operating officer. "With the crisis in the economy no one was even giving out car loans. But now it's back on the road."

Honolulu Seawater Air Conditioning has since attracted the bulk of the needed funding, 20 percent in equity and 80 percent in loans. The debt portion consists of \$145 million in state special purpose revenue bonds and another \$58 million of taxable debt. The state bonds are tax-exempt. The company still needs to raise \$34 million of the \$50 million in equity by the start of construction.

A state environmental impact statement has been approved, while final details of the federal filing remain, as do some of the needed permits.

The air-conditioning system, which will displace up to 14 megawatts of electricity, is expected to begin serving customers in April 2013.

Air conditioning, which comprises a significant portion of the energy used in Waikiki and downtown Honolulu, is considered an important target for helping Oahu meet its clean-energy goals as laid out in the 2008 Clean Energy Initiative forged between HECO and the state.

HECO was one of the first companies to sign up to use the seawater air-conditioning system.

"If [the energy consumption for air conditioning] could be displaced by seawater air conditioning it would be an excellent way to lower fossil fuel use and improve our renewable standing," said HECO spokesman [Peter Rosegg](#). "So, we are looking forward to completion of the downtown project and we hope the company will then be able to consider Waikiki."

Honolulu Sea Water Air Conditioning has been working closely with other local engineering firms, including Makai Ocean Engineering at Makapuu Point, which has designed systems since the 1980s in Canada, Sweden, Bora Bora, and at Cornell University in New York. It currently is working on a project in the Kingdom of Bahrain in addition to the downtown Honolulu project. Yogi Kwong Engineers, R.M. Towill Corp. and inSynergy Engineering, all based in Honolulu, are working on engineering for the ground trenches and a cooling station.

"We're in the last stages in all of the planning and design and things are going very well," Wilkolak said. "Knock on wood."

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