

\$1M local investment in Honolulu Seawater Air Conditioning

Posted: Aug 05, 2013 6:12 PM HST

Updated: Aug 05, 2013 6:50 PM HST

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HONOLULU (HawaiiNewsNow) - A \$250 million dollar project to capture sea water and use it to cool downtown Honolulu offices now has the funding it needs to begin construction next year. Honolulu Seawater Air Conditioning is on track to launch one of the largest energy efficiency projects in the state thanks to a \$1 million local investment from Ulupono Initiative.

"No public funding was involved at all, so it's significant in that's \$250 million that's invested by the private sector for significant infrastructure improvements in downtown Honolulu and to really change the shape in which we consume electricity," said Eric Masutomi, the President & CEO of Honolulu Seawater Air Conditioning.

"We really want to make a big difference. We really want to have a big impact. We felt that this project – and getting them to the point where they can get to construction financing – just shows a lot of leverage where a million dollars can eventually get you to the point where you're building a \$200 to \$300 million system, which can reduce a lot of energy use and fresh water use here in Hawaii," said Clay Murray, managing partner of Ulupono Initiative, an impact investment firm dedicated to local food production, renewable energy production and waste reduction.

Hawaii is the nation's largest per capita consumer of electricity. A recent University of Hawaii at Manoa study determined air-conditioning is the single biggest source of energy demand for large buildings and hotels in tropical climates.

"Nature gives us endless amounts of cold sea water that we have access to. We've got hot buildings and cold sea water really close to each other, so why not bring those two things together and really just cool using Mother Nature essentially?" explained Murray.

Honolulu Seawater Air Conditioning's district cooling system is designed to collect seawater from more than 1,700 feet below sea level. It will pump back to a cooling station in Kaka'ako, where it will transfer the coldness to freshwater that will be distributed to customer buildings through underground pipes.

"Buildings can see savings of about 70 - 80% in their electricity costs that they normally would be spending on air conditioning," described Masutomi.

Project developers say it will reduce Hawaii's dependency on oil by eliminating the need for 178,000 barrels per year, while also saving about 260 million gallons of fresh water each year.

"Obviously living on an island, fresh water is an issue. This uses far less than cooling towers in the traditional types of cooling methods. If you want to think about it in terms of energy production instead of energy savings, it's about the equivalent of a 30 megawatt wind farm or a 53 megawatt solar farm," described Murray.

Organizers say the technology has been successful for many years in Europe and the continental United States – half of the Cornell campus in Ithaca, New York is using a similar system but with lake water.

"From an energy perspective, it's a great example of us using our local and indigenous resources rather than burning fossil fuels from who knows where," said Richard Wallsgrove, Program Director for the Blue Planet Foundation, which is committed to ending the use of carbon-based fuels on Earth by making Hawaii a global leader for energy independence.

Wallsgrove says all energy needs result in an environmental impact, but believes Honolulu Seawater Air Conditioning's plan is a clear improvement from the status quo.

"Right now, we're pulling oil out of the Gulf of Mexico and we know what happens when things go haywire there and then we burn that oil here. We burn it in power plants, some of which do the same thing that we're proposing for the seawater air conditioning – they pull seawater in that changes the temperature and they pump it back out – so in comparison, I suspect we'll find that the environmental impacts from a project like this are really benign and if you add that to the energy benefits and the efficiency benefits then we have a win-win situation," described Wallsgrove.

Permit-dependent, construction should begin by the first or second quarter of next year. Organizers say it will have a significant impact on the state's 70% renewable energy goal by 2030.

"It is too good to be true, but it is true. The beauty lies in the elegance of the system, the environmental friendliness of it, the reduction in energy use – the difficulty, frankly, is in implementation in terms of raising the capital to develop the project which is a primary challenge but once we achieve that, it's a wonderful system," said Masutomi.

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