

Buoyed by the success of power from the deep

Conrad Walters

A PATCH of sea the size of the Sydney Cricket Ground could generate enough power for 25,000 homes, say the backers of a technology that converts the motion of the ocean into electricity.

The system, known as Ceto, uses the energy from waves to harvest power – with zero greenhouse gases – and has been labelled as a potential “holy grail” of renewable energy by the Federal Minister for Industry, Ian Macfarlane.

A Ceto prototype has been operating successfully off Fremantle for several years, and the Carnegie Corporation, which owns the rights to Ceto in the

southern hemisphere, was in Sydney last week to discuss funding for a full-scale wave farm on the Australian coast.

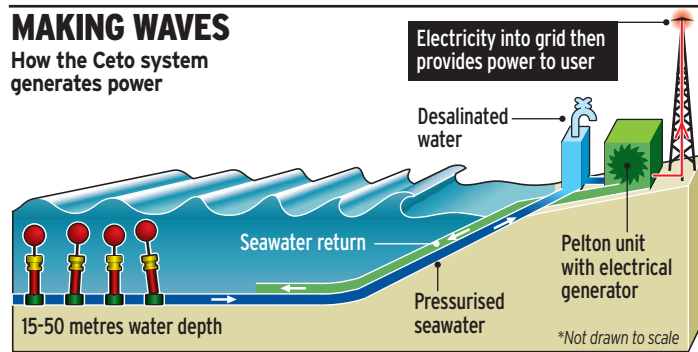
“We want to select the first site within three months,” the managing director of Carnegie, Michael Ottaviano, said. The company needs up to \$500 million to build its facility in 2009.

While most wave systems sit on the water’s surface, Ceto collects energy by tethering rows of buoys to the sea floor. As the buoys sway, they pump high-pressure water to shore and spin turbines for power.

And because Ceto sends water – not electricity, as other systems do – it can also be used for desalination, which requires high pressure to force water through

MAKING WAVES

How the Ceto system generates power



SMH GRAPHIC 3.9.07

SOURCE: CETO

the membranes used in reverse-osmosis desalination. If deployed fully for desalination instead of power, a 300-unit Ceto wave farm could produce

50 billion litres of drinking water a year, or about 10 per cent of the annual needs of metropolitan Sydney, Dr Ottaviano said.

The Ceto buoys can operate in

a two-metre swell, which bodes well for domestic needs. “Most of the southern half of Australia receive two-metre swells for at least 90 per cent of the time.” This is well beyond other renewable energy sources which depend on the sun being visible for solar power or a breeze for wind farms.

So far, the system has held up well under independent scrutiny from the Centre for Water Research at the University of Western Australia. “We’ve grilled them a couple times about different aspects of the technical side and the environmental side,” the centre’s deputy director, Jason Antenucci, said.

“We’ve been pretty impressed. It seems to be robust.”