

## Wave energy machine's finishing touches

ALASDAIR MCGREGOR, 29 April 2009



**Trident Energy patented system for converting sea wave energy directly into electricity at Small & Co dock in Lowestoft. L-R Steve Packard CEO, Hugh-Peter Kelly Founder & Technology Director, Malcolm van den Bergh Engineering director and Andrew Hine Finance Director at Trident Energy.**

Looming high over the docks in Britain's most easterly town, this machine could hold the key to mass-production of electricity by harnessing the power of the waves. The finishing touches are being put to the construction at the Small and Co boatyard at Lowestoft before it is towed out to its test site off the Suffolk coast during June.

Yesterday, bosses of the machine's pioneers, Trident Energy, proudly showed off the fruits of their labours, offering invited guests the opportunity to scale the 16 metre- high machine for a demonstration. Inventor Hugh-Peter Kelly said the strength of the wave energy machine was its simplicity. Special floats moved up and down with the waves to drive generators, which converted the motion into electricity.

"It's our aim to crack wave energy. The vast advantage of this is its simplicity," added Mr Kelly. "It's just a straight up-and-down motion of the floats in the waves. The smallest motion will create electricity; it will work in the most modest of wave conditions." The machine will be situated about five miles off the coast at Southwold and will remain in place for a year as tests are carried out.

Trident claims its patented method of generating electricity directly from waves is the simplest system of its type because no hydraulic equipment or air compression is required.

Only the platform and about three metres of the machine's massive legs will be visible above the sea as the floats harness the energy of the waves.

The machine will be supported by submerged pontoons anchored to the sea bed.

Special sensors to detect stormy conditions will pull the floats up automatically and protect them from serious damage until the danger has passed. The model being built in Lowestoft will be smaller than those ultimately developed for commercial use, which individually could provide enough energy to power about 700 homes. However, larger wave farms could provide power for between 60,000 and 70,000 homes, according to Mr Kelly.

During the trial the electricity will be burned off at the platform, but once up and running power would be sent back to land by cable and connected to the national grid. Trident Energy chief executive Steve Packard said: "We need to be efficient in the way we take the energy from the waves and we hope the technology will become technically viable."

Waveney District Council's head of regeneration, Malcolm Perrins, said the development of the Trident wave machine was another example of Lowestoft's growing influence in green power. He pointed out that it came only months after the OrbisEnergy centre for renewable energy companies had been opened in the town. "It shows we are serious about offshore renewable energy and gives us a lot of credibility," added Mr Perrins.