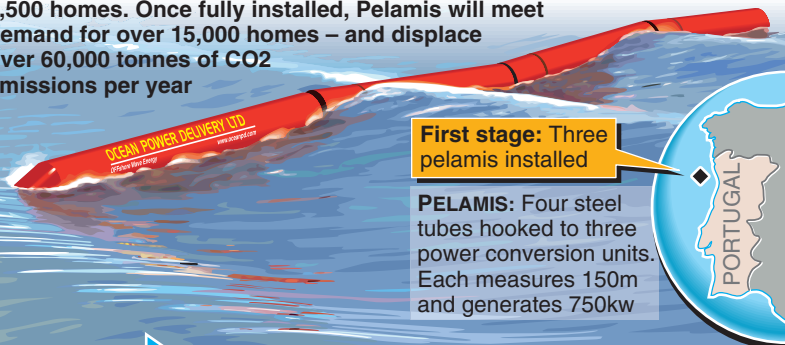


# Harvesting electricity from sea swells

The world's first commercial wave farm is to open off northern Portugal. The \$11m Pelamis project – named after a surface-swimming sea-snake – will initially generate 2.25MW of clean energy, enough to power 1,500 homes. Once fully installed, Pelamis will meet demand for over 15,000 homes – and displace over 60,000 tonnes of CO<sub>2</sub> emissions per year

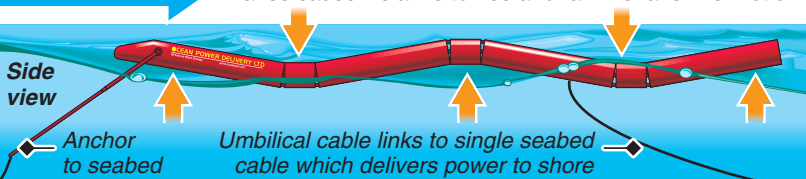


**First stage:** Three pelamis installed

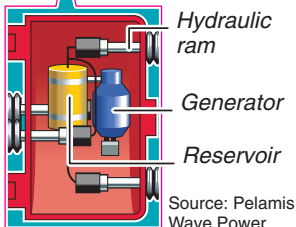
**PELAMIS:** Four steel tubes hooked to three power conversion units. Each measures 150m and generates 750kw

**WAVE DIRECTION**

Waves cause Pelamis to rise and fall in snake-like motion



**POWER CONVERSION UNIT:** Sections move against each other on hinges resisted by hydraulic rams which pump high pressure oil through generator to produce electricity



Hydraulic ram

Generator

Reservoir

Source: Pelamis Wave Power

**WAVE FARM:** Up to 40 units linked together over 1sq/km could generate up to 30MW

