

**ENERGY**

# Tides from stretch of water 'could power half of Scotland'

**By Emily Beament**

Enough renewable energy to power half of Scotland could be harnessed from the tides in a single stretch of water off the north coast of the country, research has suggested.

Some 1.9 gigawatts (GW) of clean energy could be generated by turbines placed in the Pentland Firth between mainland Scotland and Orkney, engineers from Oxford and Edinburgh universities estimated.

The firth has some of the fastest tidal currents in the British Isles, making it a prime candidate for ma-

rine power schemes. The engineers said their study narrowed down earlier estimates that the firth could produce anywhere between 1GW and 18GW of power.

They calculated as much as 4.2GW could be harnessed, but because tidal turbines are not 100 per cent efficient, the estimate of 1.9GW was a more realistic target.

To exploit the potential of the tidal stream in the firth fully, turbines would need to be located across the entire width of the

channel, the researchers said. They have outlined locations where they should be positioned to maximise energy production.



Professor Guy Houlsby (left), of the Department of Engineering Science at Oxford University, who led the study, said: "The UK enjoys potentially some of the best tidal resources worldwide, and if we exploit them wisely they could make an important contribution to our energy supply."

