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OCEAN RUBBISH DUMP COULD LOCK AWAY CARBON

By Jim Giles

Dumping crop waste in the deep ocean could be one of the best ways to rein in global warming, say researchers who have weighed the pros and cons of a range of carbon-capture schemes.

Up to 30% of the leaves and stalks that remain in fields after harvesting can be removed without causing erosion or damaging soil fertility, estimate Stuart Strand of the University of Washington and Gregory Benford of the University of California, Irvine.

This residue normally decays and releases carbon dioxide, but it could be collected, packed into bales and dropped into the deep ocean.

Worldwide crop residues contain around 600 million tonnes of carbon. If all of it was sunk in this way, the rate of annual rate of build up of carbon in the atmosphere could be cut by 14%, say the researchers.

Competitive cost

Unlike some other carbon-capture schemes, ocean sequestration offers a higher degree of security about long-term storage. Forests mop up carbon dioxide, for example, but the trees release the gas again if they burn or rot.

At depths of more than 1500 metres there is little mixing with surface waters, and this, argue proponents, combined with the high-pressure, low-oxygen conditions, would preserve carbon sunk in the deep ocean on the seafloor for thousands of years.

The costs of capturing carbon using the technique would be around $95 per tonne of carbon dioxide. That could be competitive with proposals to siphon off the carbon dioxide generated by power stations and store it in empty aquifers, says Stephen Schneider of Stanford University.

However, many questions about the crops plan remain, he adds. Little is known about the impact that the crop residues would have on ocean floor ecosystems, for example.