## Shell boosts second generation biofuels

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Royal Dutch Shell is stepping up investment in research into "second generation" biofuels, putting more money into its joint venture with logen, a Canadian biotech company, in spite of having made only slow progress so far.

Shell is raising its holding in the logen Energy joint venture to 50 per cent from 26.3 per cent and is making what it called a "significant" additional investment in the venture's development programme.

It did not give a figure for the size of its commitment.

logen is a specialist in the attempt to develop commercial production of cellulosic ethanol.

That is road fuel made not from food crops such as corn and sugar, as with conventional ethanol, but from plant waste such as straw.

Shell has been the strongest supporter among the big oil companies of the push for second generation biofuels such as cellulosic ethanol, which are expected to provide benefits over existing commercial biofuels in terms of their effects on greenhouse gas emissions and food prices.

However, no company has yet managed to deliver full-scale commercial production of cellulosic ethanol. Shell has had a stake in logen Energy since 2002, and in April 2004 said the company was "successfully producing the world's first cellulose ethanol fuel available for commercial use" at its demonstration plant.

More than four years later Shell is still considering whether to go ahead with a commercial plant, which would produce 90m litres of ethanol a year compared with 2.5m litres at the demonstration plant.

The company, however, insists it is making progress and has identified a possible site for the plant in Saskatchewan in central Canada.

Graeme Sweeney, Shell's head of future fuels, said the investment in logen Energy was "a strong statement that Shell is committed to accelerating the development of cellulosic ethanol in collaboration with logen".

Shell has several other projects working on biofuels, including plans to create diesel fuel from wood chips and to extract oil from algae.