How to build an eco company from MDF

GREEN PIONEERS

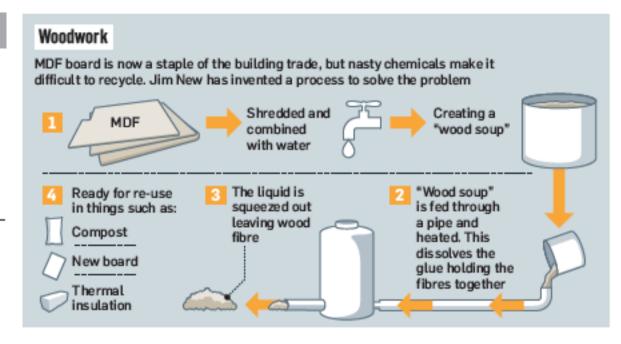
Jim New has found an efficient way of recycling the material

JIM NEW was 58 and facing the dole queue. The green technology firm he had been working for had merged with a rival, leaving him surplus to requirements.

New reckoned he was too young to retire, so he decided to resurrect an idea that his old firm had rejected— finding a way to recycle a building material that has worked its way into most British homes in the past 20 years.

MDF — medium-density fibreboard — is the staple of just about every Handy Andy on television's relentless stream of home improvement programmes. It is cheap, easily cut, and can be used to build just about anything. It is also a devil to dispose of. Putting it in landfill risks chemicals such as formaldehyde leaking into the environment.

It can be burnt and used as a



type of biofuel, but that too has problems. MDF can be burnt only in special furnaces because of the corrosive chemicals it contains.

New, however, has found what he believes is a costefficient way to recycle the board, through his new firm MDF Recovery. It could have a significant impact. Britain disposes of about 340,000 tonnes of MDF annually — and re-using the wood fibre it contains could save 11,000 acres of woodland a year.

New's former employer had been working on plans to break down MDF board using microwaves, so that it could be reprocessed. It was never more than a sideline for the firm, which spent most of its time developing technologies for making biofuels. The technique proved too expensive anyway.

The need to find a solution to the problem remained, however. New's hunch was backed up by a government-sponsored report from the Waste Resources Action Programme, which suggested that 18% of the MDF produced in Britain ended up as waste, the off-cuts of furniture production.

New started to adapt a technique called ohmic heating — more commonly used to make soups and jams or to treat sewage. By passing electricity through the MDF, the board can be heated so that the resins binding the wood fibres break down.

He teamed up with Craig
Bartlett, a technical expert in
MDF, to help him refine the
idea. The pair won three grants
from the Northwest Regional
Development Agency to
develop the process and
run trials at a commercial
laboratory in 2009.

Since then, working for no pay, they have developed the technology to continuously process tonnes of MDF. With such a high volume, the ability to keep things rolling rather than treating a batch at a time was vital.

First of all the board is shredded and combined with water so that it turns into a kind of wood soup. This is fed through a pipe where it is heated so that the wood fibre can be separated. The liquid containing the resin is then squeezed out and the wood fibre dried and fluffed ready for reuse.

The company has applied for a patent, but its trials so far have been on a small scale.

New and Bartlett are now looking to raise about £6m to create a plant that could process 30,000 tonnes of wood fibre a year, but they have found it hard to get backing.

MDF Recovery is in talks with a number of potential customers, who would use the processed fibre for insulation or for making moulded boards that could be used for things such as roof linings in cars. New and Bartlett have also looked at turning the fibre into a type of compost.

Meanwhile, burying MDF is making less sense economically as well as environmentally. "There is less space in landfill available and it is becoming more expensive to dump waste there." said New.

Sarah Butler