"REWITABLE' PAPER CAN BE USED MULTIPLE TIMES"

Using the same piece of paper up to 100 times could be ground-breaking in changing our everyday environmental impact.

Spotted: Recycling and reusing everyday materials is a vital part of a sustainable future. Springwise has already spotted various forms of this, such as the deodorant with reusable refills, and the hydrogen fuel that can be recycled to produce more fuel. Now a group of researchers from Fujian Normal University (FNC) have found a way to reuse paper through heat-sensitive technology.

Luzhuo Chen and his colleagues started with a regular piece of paper and coated one side of it with a thermochromic blue dye, which becomes colourless under high temperatures. They coated the other side with a photothermal-converting black toner. They subsequently traced patterns on the blue side of the paper using a heat-emitting pen, or else an infrared device or a thermal printer. The toner thereby heated up, causing the dye in those areas to turn clear and selectively revealing the white paper underneath.

Such products could be revolutionary in so far as they could fundamentally change how we spread information. A lot of information publishes digitally nowadays, but short-term information still often appears via paper. In finding a way to reuse paper, this could avoid such paper products ending up directly in landfill.

The process can be repeated up to 100 times. The paper is currently in prototype stages but has huge potential for future use, and they are hoping to expand into everyday media and information dissemination modes.