



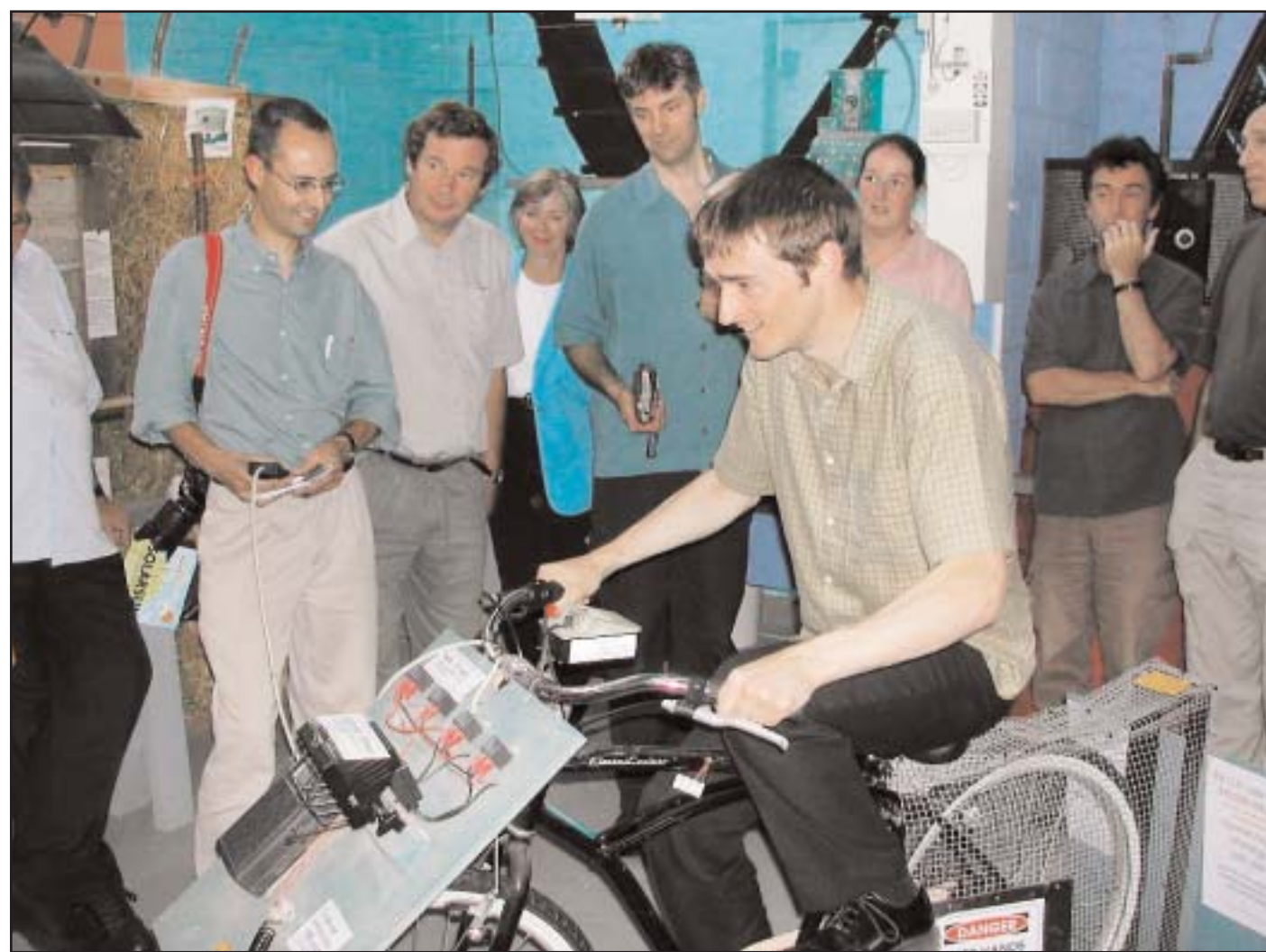
## THE HUMAN POWER STATION

The Human Power Station, a converted bicycle which can generate about one tenth of a kilowatt of electricity, is just one of the attractions in the Alternative Technology Centre's Energy Room. Along with information and displays about energy efficiency, generation, and conservation, interactive displays currently include a heat pump for

water heating, a solar fountain, wind power demonstration, water wheels, and energy from the sun generating electricity for a variety of uses either directly or through the "power lines" around the room. The latest hands-on exhibit is the electricity generating Fuel Cell, which is driven by hydrogen that is produced by visitors to the Energy Room

with the help of solar power!

Also on display in the ATC's Green Shop are a state-of-art solar powered car battery charger and an all purpose solar powered charger for electrical goods such as mobile telephones, lap-top computers and digital cameras.



Graham Ayling from the South West Energy Agency experiencing the Human Power Station in the ATC's Energy Room.

## A to Z of recycling

**Every piece of unnecessary packaging that is refused, each carrier bag that is re-used, all electrical goods that are repaired instead of being thrown away, and every bottle, can or jar that is recycled saves money, energy, reduces pollution and helps make things better for us all! Daventry district council currently recycles 43% of its household waste, what's holding us back?! Onwards with the A-Z of recycling**

### P's

P is for

**Packaging:** Recent estimates suggest that up to 30% of domestic "waste" is packaging. Producers have a theoretical responsibility to reduce packaging but consumers will force change by demanding goods with minimal packaging and a high recycled content, returning unwanted packaging,

supplying their own bags whenever possible, and buying loose products for which packaging is not necessary.

**Paint:** Community Repaint is a network of paint re-use schemes across Britain that collects leftover re-useable paint and re-distributes it for re-use! Contact [www.communityrepaint.org.uk](http://www.communityrepaint.org.uk) for your nearest scheme.

**Pallets:** Wooden pallets that cannot be re-used make excellent frames for compost and leaf mould bins, and trendy furniture.

**Paper:** Our use of all types of paper must be fundamentally re-considered. Paper consumption can be reduced, recycled paper goods should be purchased at every opportunity, and paper must be re-used whenever possible. All used paper can be recycled. Contact Kerbside (01422) 811100 for local paper recycling information.

**Paramilitaries:** Often recycled into MPs of various political leanings.

**Parkas and pogo sticks:** Surely it's time to dig out those fur lined fashion statements of

the seventies and bounce into town to join in the current Retro bonanza.

**Plastics:** Re-use plastic carrier bags, refill washing-up bottles, buy recycled plastic goods, avoid products made from PVC (polyvinyl chloride) or mixed plastics, write letters to local councillors demanding plastic recycling facilities, and support your local plastics recycling project! With careful product design the use of plastic can lead to energy and resource savings when compared with other materials.

**Plywood:** If buying plywood check that it is not made from an unsustainable source. Consider buying salvaged timber or imitation wood made from recycled plastic instead.

**Postage stamps:** Used postage stamps are currently collected by those lovely people at the Post Office, Holme Street, Hebden Bridge.

**Popycock:** Regularly recycled by a former Prime Minister's press secretary in his monthly contributions to the Hebden Bridge Times.

## WHAT ON EARTH IS...

### Tidal Power?

Not to be confused with electricity generated from waves, tidal power uses the force of water driven by tidal currents to produce renewable energy. Tidal power benefits from the fact that tidal currents are very predictable (increasing and decreasing in a constant cycle) and that the water only moves in two general directions as the tide ebbs and flows.

The technique of making energy from

tides is one of the oldest, with tidal mills dating back to Middle Ages in Europe. The modern-day principle of making electricity from tidal power is much the same as wind power. In both cases the amount of energy produced depends on the speed and volume of the water or wind. Wind speeds are greater than tidal speeds but the density of water (about 1,000 times greater than air) makes tidal power as efficient as wind power.

A tidal power station that was completed in 1966 still generates 240MW of power at St Malo, France. A smaller facility operates in Nova Scotia, Canada. Tidal energy is easier to convert to electricity than wave energy and Britain is very well sited to benefit from this potentially huge power source.

Recent proposals for tidal power plants in

the River Severn estuary would alone produce almost 7% of the UK's total electricity demand. This would be an ideal replacement for the old nuclear power station at Hinckley in Somerset that is due to stop producing electricity (but not radiation!) in 2011. The Swansea Bay offshore tidal project, which is due to begin in early 2004, should supply half of the town's electricity needs at a price similar to the cost of conventional gas-fired power.

Unlike traditional "barrage" systems, modern offshore tidal power schemes involve minimal environmental impact whilst producing clean, pollution free renewable electricity.

### YET MORE FANTASTIC PLASTIC

The ATC's innovative plastic recycling project, which allows local residents who are club members to recycle much of their "waste" plastic, continues to prosper. The recently improved recycling unit at Hebble End Mill currently displays a selection of the high quality hand-made products it produces using previously discarded items such as carriers bags, plastic milk bottles, frozen food bags, CD and cassette cases, plastic milk bottle tops, and bread bags. All of the plastics are heated, shredded, pressed and moulded on site. The products are also displayed on the ATC's website at [www.alternativetechnology.org.uk](http://www.alternativetechnology.org.uk)

### SCHOOL TEACHERS WANTED

The ATC is commissioning a series of workshops for its SUSchool project that will help school communities to learn more about sustainability and environmental issues. School teachers with a few hours to spare over the summer holidays and experience in developing dynamic lessons and workshops should contact the ATC as soon as possible. Extensive knowledge of environmental issues is not essential! The ATC is also interested in hearing from qualified teachers who would be interested in joining their pool of staff to deliver the workshops at the Centre. For further details contact Gail on 01422 842121.

### ALTERNATIVE INSECT REPELLANTS

Essential oils such as peppermint, lavender and citronella are effective, eco-friendly and relatively cheap insect repellents. Citronella repels common flies, gnats, ticks and mosquitoes; lavender is effective against blackfly, greenfly, mosquitoes, moths, fleas and whitefly, whilst peppermint works against ants, aphids, fleas, bean beetles, cabbage root flies, common flies, mosquitoes and moths. All of these oils can be used in oil burners, as a spray, in pot pourri, or diluted when watering plants but it is important to wash your hands after using these oils. Also available in the Green Shop are commercially produced insect repellent incense sticks, garden flares and hanging sachets that use natural, environmentally friendly materials.

## BEYOND THE VALLEY

*Positive green news stories from outside the Calder Valley.*

### SMALL IS BEAUTIFUL

Six of Norway's biggest energy producers have formed a new company to specifically develop and operate small-scale hydro-power projects. Unlike most large hydro-power projects which involve constructing dams, flooding vast areas of land and potentially creating a supply of harmful methane gas, micro hydro-power schemes have relatively few adverse effects on the environment, are excellent ways to bring new income into rural areas where traditional industry and enterprises might be under threat, and can allow for an element of local control in energy production. Small hydro-power schemes are proving to be increasingly cost effective and many of those recently developed in Norway are already profitable.

### GM FREE BRITAIN?

Warwick has become the latest County Council to declare itself a Genetically Modified (GM) free zone. As well as banning the cultivation of genetically modified crops the council voted to keep all of its services, including school meals, free of GM foods. Cornwall and South Gloucestershire Councils voted to go GM free earlier this year, whilst the whole of Wales, Lancashire, Devon and Dorset are taking steps to follow suit. The London Biodiversity Strategy, backed by Ken Livingstone, "opposes the commercial or experimental release of genetically modified organisms into the environment", whilst the National Trust has also banned its 2,000 tenant farmers from growing genetically modified crops.

### WIND AHOY!

Wind turbines installed off the coast of Britain will undoubtedly make a vital contribution to our country's long-term secure energy supply, even according to the government! Seven projects, including those at Rhyll Flats in North Wales, Barrow in Cumbria, Kentish Flats, North Kent, and the Robin Rigg project in Solway Firth, have already received planning approval and will provide about 1.5% of Britain's total power demands. Two further projects on the Norfolk coast and at North Hoyle on the Welsh coast were approved in October last year. Construction work has recently begun at North Hoyle. Offshore wind farms are expected to generate 4% of Britain's energy production by 2010.

## HEMPTASTIC

There is little doubt that hemp should be regarded as a wonder crop and an essential item of any sustainable blueprint. It is a low maintenance, high yield, environmentally friendly crop that will grow almost anywhere without the use of pesticides or herbicides, deters weed growth, has a root system which aerates soil and can be ready to harvest in just 4 months. It also absorbs carbon dioxide whilst growing and its processing requires very little energy input.

Prior to the 1930s it had been one of the world's major crops, valued for its excellent nutritional, medicinal and commercial values with more than 25,000 separate uses ("ranging from dynamite to cellophane") being claimed for hemp in its heyday. You can eat it, drink it, wear it, burn it, make paper, plastic and other fibres from it, and rub it on your skin. Hemp oils are used in many medical treatments and hemp seeds are low-fat, gluten free, jam-packed with essential

fatty acids Omega 3 and 6, protein carbohydrate and dietary roughage. The Magna Carta and American Declaration Of Independence were written on hemp paper, hemp sails and rigging held the British Empire's navy together and even Levi Strauss' original riveted "jeans" were made from it.

Now, in the Suffolk town of Haverhill, two houses have been built using a hemp-based construction fabric! By-products from hemp fibre production have been mixed with hydraulic lime and water, rammed into timber frames and left to solidify like concrete. The trademarked product, Isochanvre, is a construction material resistant to moisture with good heating and sound insulation properties. The housing developers also claim that it is easier to work with than brick!

And yet despite it being compulsory during Henry VIII's reign to grow hemp on all unused land, the UK is the only country in the European Union where you currently need

a government license to grow it! Unfortunately its uncanny shared looks and distant relative status to cannabis (hemp's botanical name is cannabis sativa) has officialdom running for cover. But you can't get "high" on hemp, it doesn't contain enough of the psychoactive compound THC that makes cannabis a so-called controlled drug.

But even with organisations such as the National Farmers Union recognising the benefits hemp cultivation has for its members there is hope that the government will begin to understand its potential value to the country. A recent DEFRA report emphasised the extent of new worldwide markets for hemp and in 2002 the Queen even awarded Hencore's Hemp Horse Bedding the Royal Warrant.

For more information visit [www.mother-hemp.com](http://www.mother-hemp.com), [www.yorkshirehemp.com](http://www.yorkshirehemp.com) or [www.defra.gov.uk/farm/acu/acu.htm](http://www.defra.gov.uk/farm/acu/acu.htm)



*This month's nomination for Green Room 101 comes from Nicky Headon who argues that we should avoid silk*

The production of just one gram of woven silk involves the death of at least 15 silk moths. And what a death...these moths are either boiled, steamed alive, dried in an oven, electrocuted or subjected to microwaves whilst in their cocoons that they have created to supposedly protect themselves from predators whilst they mature into

butterflies or moths. The manufacture of a silk sari will involve the death of approximately 50,000 silk moths. This is factory farming at its worst.

Unfortunately silk production has increased by almost 100% over the last 30 years. China and Japan are the world's main silk producers but India also still produces over 14,000 tonnes of silk a year...this mass destruction of butterfly lives cannot be justified. The most common species of silkworm used in silk production no longer exists in the wild.

During silk production some moths are allowed to mature in order to create new mating parents but in the process to obtain fine silk threads the wings of these moths are cut off during mating to prevent contact and contamination. Once these moths have laid their eggs they are also killed prematurely since they can only reproduce once in their lifetimes. (The process of identifying and

isolating diseased moths consists of cutting off the moth's tail to examine it under a microscope.)

Silk oil and silk powder made from dead silk moths are used by the cosmetic industry in skin and hair moisturising and conditioning products including some hair mousses, face powders, eye shadows and even some soaps. Silk must be avoided in all of its guises. Fabrics from many plant fibres are able to produce alternatives to silk, and the fibres from pineapples produce a material that is as silky as anything that traditional silk can muster!

*To comment upon this nomination, read previous suggestions or submit your own Green Room 101 nomination visit [www.alternativetechnology.org.uk/101/](http://www.alternativetechnology.org.uk/101/)*