the green page

News and information from the Hebden Bridge Alternative Technology Centre

ATC CONTACTS

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Calling all pensioners!

Mirror, mirror on the wall, who's the greenest of them all?

Well, believe it or not it's you, the older generation, those of you who lived through the Second World War! You beat us 'green' hands down in those days. Recycling, re-using and reducing consumption were second nature and it's a fact that children brought up in those days had a far healthier diet than the youngsters of today do.

I can remember my mother talking about growing carrots under the flagstones in Rochdale and my Gran using a hay-box cooker to save fuel. Empty jam jars would be taken to the cinema for the entrance fee and energy saving was the order of the day.

We think there are a few things we can learn from you 'oldies'(no offence). So, delve into your memories, put pen to paper and let us have a few of your war-time hints and tips for energy saving; making do and mending; growing and cooking; recycling and re-using and anything else you can think of. We especially want any tales with a local flavour, and if you have any photo's please let us know (we'll make copies and leave the originals with you).

The best ideas will be printed, along with your name, in a future issue of the 'Green Page', if we get enough there might even be a book in the offing - send your entries to the 'The Green Page', ATC, Hebble End Mill, Hebden Bridge, HX7 6HJ.

The Human Power Station
The Deputy Mayor of Calderdale, Councillor Graham Hall, tries out the ATC's 'Human Power Station' at the Big Green Roadshow in Halifax. An electric bicycle like this is ideal for cycling around Hebden Bridge, making molehills out of mountains (well almost!). You can retro-fit your existing bicycle and flatten out those hills. It drives up to 15 mph but can pedal faster. More information from the ATC or on our website.

What on Earth is ……. Alternative Technology?

Well, we are the Alternative Technology Centre after all, so we should be able to explain this one. Here goes….

Technology is, to coin a phrase, 'the appliance of science'. Technologists keep developing applications from the knowledge that scientists keeping acquiring.

Scientists discover electricity and the technologists develop machines to make it (coal and oil fired power stations) and to consume it (vacuum cleaners, toasters, light bulbs). They discover radio waves and we get radio, television, mobile phones and the rest. Einstein realises that E=mc2 and we end up with 'virtually free'(so they once said) nuclear power.

So far, so good. Few would say that electricity hasn't improved conditions for all those that have access to it. Our lives are easier, our streets are better lit, we're warmer and we no longer have to cook over a log fire.

That's Conventional Technology – it's what we've always done. Built better bridges, increased food production, made faster cars and aeroplanes.

Until recently we thought that this was a 'good thing'and then a few people started to suggest that we were actually starting to change the condition of our planet – for the worse.

So here are a couple of definitions:

Conventional Technology strives to improve conditions for the earth's population.

Alternative Technology strives to improve conditions for the earth and its population.

Only two words difference, but a world of difference.

Alternative Technology looks at the broad base of science (not just the latest science) and makes a decision about how to apply it to improve our lives AND the planet. Some of it is pretty old technology, some is very new.

Here are a few examples, I'll leave you to work out which belongs to which technology (sorry no prizes):

Large scale intensive farming with pesticides, growth hormones and genetic modification vs. organic farming with crop rotation, companion planting and natural compost.

Coal, oil and gas fired power stations vs. wind, solar and hydroelectric power

Building with concrete, bricks and steel vs. building with wood, straw (yes!) and earth.

Lighting your house with incandescent bulbs vs. lighting with low energy bulbs and LED's (on its way!)

You can see, and find out about, these and many other examples of Alternative Technology at our centre.

Next month – *What on earth is… Sustainability?*

NEW FUELS ON THE HORIZON

There is suddenly, not surprisingly, a lot of interest in alternative fuels.

Those of us who drive a car have, until recently, had the simple choice between polluting petrol and polluting diesel. But the choice is no longer so limited. Many alternative fuels are now being introduced into the British market.

Here is a look at what is currently, or will soon be, available.

GAS

Petrol and diesel engines can be converted to run on LPG (Liquefied Petroleum Gas) or CNG (Compressed Natural Gas). Both are very cheap due to the significantly lower fuel duty imposed by the Government. A litre of LPG currently costs less than half the price of petrol or diesel on the forecourts.

CNG is a highly compressed form of methane. CNG-run vehicles are quiet and waste less fuel when at a standstill, but there are very few public refuelling points.

LPG is much more accessible and new refuelling points are being introduced all over the country. There are now over 350 (and the number is expected to double within two or three years) including ones in Halifax, Keighley, Huddersfield, Burnley and Bradford, but not, as yet, Hebden Bridge. A list of sites in West Yorkshire is available at the ATC or on the Energy Savings Trust Powershift website (see below).

Four million cars run on LPG worldwide. Italy alone has one million of these. Britain, at present, has only about 22,000 but this figure is expected to rise significantly over the next few years.

LPG consists mainly of methane produced during petroleum refining. It is a by-product of oil refining and is also found as an associated gas in natural gas (methane) fields. Emissions are generally lower than for petrol or diesel engines. It also causes less wear and tear to the engine and exhaust of the car. Disadvantages, though, include cold start problems and valve-seat wear.

Most types of vehicle can be built, or converted, to run on LPG. It is significantly easier and cheaper to convert a vehicle with a petrol engine than one running on diesel. Dual-fuel vehicles carry both petrol and LPG and can change from one to the other at the flick of a switch. The typical cost of converting a passenger car or light vehicle to run on LPG is around £1000 to £1,500.

ELECTRIC AND HYBRID VEHICLES

Britain has over 37,000 electric vehicles. They are highly efficient - it can cost as little as 1p per mile to run a car on electricity compared with around 10p for a typical petrol car. They are extremely quiet and produce zero tailpipe emissions.

Their only disadvantages are the weight and capacity of the battery (their range is only about 40 to 70 miles) and the fact that production of the electricity produces its own pollution (not if you recharge your car using 'green'electricity though, which can be bought from most suppliers – details from the ATC). Electric vehicles can be recharged from any 13 amp socket in around seven hours. Fast charging in minutes is technically feasible but currently expensive.

New generation electric-hybrid vehicles use a combination of a fossil fuel and electricity. The electric fuel system is used at lower speeds and for stop-start driving in urban areas. The fossil fuel is used either to drive the vehicle directly outside urban areas, or to travel at higher speeds, or to recharge the batteries. Switching fuels in this way enables reduced emissions. These vehicles do not require external recharging and claim to be capable of up to 80 miles on a gallon of petrol.

The extra cost of buying an electric car varies from zero to £5000. More details available from the Electric Vehicle Association on 01273-304 064.

FUEL CELLS

A fuel cell is an electrochemical device that produces energy efficiently, silently and without combustion. Hydrogen fuel obtained from water, methanol, natural gas or petroleum products, is combined with oxygen from air to produce electrical energy. The only emission is water. Like a battery, a fuel cell will deliver electrical power, but unlike a battery, a fuel cell will keep producing electricity as long as hydrogen and oxygen are delivered to it. A fuel cell car can be quickly refuelled, but the current disadvantages are the size of the fuel tank needed and the high cost of manufacturing devices.

Fuel cell vehicles are not currently commercially available. However a partnership of DaimlerChrysler, Ford and Ballard has publicly announced that it is launching a bus engine in 2002 and a car engine in 2004.

EATHANOL & METHANOL

Ninety percent of cars in Brazil run on ethanol, using grain alcohol distilled from sugar cane and rapeseed oil. Because the crop consumes carbon dioxide while growing, it makes up for the emissions released from using the fuel, so there is no global warming damage. Conventional combustion engines can run on either ethanol or methanol with only minor modifications. Although larger tanks are required, this fuel could be available in the UK by 2004.

SOLAR POWER

Solar vehicles are small, light, slow and silent. They are true ZEV's (zero emission vehicles) polluting neither on the street nor at the power station. Solar panels only need daylight, not direct sunlight, to function – but night-driving is out of the question at present! Battery design improvements should allow power from the solar cells to be stored for use during the hours of darkness, but for the time being solar technology is too expensive for the market to bear.

More information is available from the ATC.

Thanks to the Environmental Transport Association (01924-415334) and Energy Savings Trust (020 7222 0101) for the information in this article.

The EST Powershift Programme website is very useful: www.est-powershift.org.uk

Wadsworth Home Energy Day

Home Energy Efficiency was the theme of an exhibition held recently at the Wadsworth Community Centre. The event was organised by Calderdale Council's Home Energy Team to increase awareness of energy saving in the home and to highlight various schemes to improve heating and insulation, in some cases with financial assistance available. Free light bulbs were given away on completion of a home energy survey form. The information collected will be used, in confidence, to obtain a clearer picture of domestic heating arrangements in the area and to see where greater heat savings can be made.

There was much interest in the ATC's display of solar water heating and solar electric panels as well as our wind-up / solar powered radios and wind-up and solar powered torches. All these products can be seen at the ATC's Green Shop together with home energy efficiency information.

Angela Walsh from the Home Energy Team said: "The event was a great success. We had an exceedingly good turn out and we can now make progress with home energy improvements in the area."

Pictured at Wadsworth Community Centre is the ATC's John Smith showing solar electric panels to the Head of Calderdale's Home Energy Team, Andrew Cooper.