

Dear Sirs

The following is a contribution to the current Energy Review, which may contain items of interest to you

The Grünhaus Project based on Liverpool England, is being set up as a database of technology for all forms of Renewable and Sustainable Technologies, Old, Now and New. Apart from providing in due course a "one stop shop" for these technologies the comment has been made that it will help us all from "re-inventing the wheel" !!

While the database is being set up, I am collecting together contacts who may be able to provide information for it, and make use of information from it.. Two small websites are so far available see below.

You can find some of my previous reports to the DTI and the Welsh National Assembly by entering *ferrand stobart* into Google, and the following notes have been prepared for the UK's current Energy review.

Somehow we have got to get off "central power generation", which is mostly extremely energy wasteful, both with the waste heat at the power station, and the line losses in transmission, but "power stations" will undoubtedly be required for "transport power", electric trains and trams. Re the latter, the Grünhaus Convenor, Prof Lesley, is running the final trials of his new lightweight tram [built of standard components] at Blackpool at present see www.trampower.co.uk

The Government's concern about Gas shortages with Nuclear as an alternative seems only to deal with Power Station use, which, unless CHP [Combined Heat and Power], will waste about 65% of the available energy in the gas [and Nuclear] , as opposed to CHP's much better thermal efficiency.

Heat is of course the largest single domestic energy demand. Hence local CHP should be a "must" powered by hydro, tide [which can drive heat pumps direct], and biofuels see www.greenfinch.co.uk and www.biomass-uk.com. This gets round some of the line loss problems of the grid, and using "district" heating, the heat inefficiency of large power stations. Also with the advent of "clean coal" technology, power stations could be located in/near large conurbations to provide CHP to local communities, something not feasible for Nuclear. [Which is somewhat less thermally efficient than a high pressure coal fired station without CHP]

Then to the domestic scene electrically. A lot of today's domestic equipment actually runs on low voltage DC, computers, TV, mobile and some fixed line 'phones and so on. One prime target for "off grid" is the "set top box" for digital TV, which being necessary, and left permanently on, will consume 11 times about 22 million watts continuous. Does the Government realise the extra electricity demand they are creating by going over to digital ? 11 watts [typical box loading] is not too great a target for small Solar or Wind turbine powering and I am hoping to make a short TV programme soon locally to emphasise this point.

What has to happen is that Solar Panels must come down first to USA costs, £2.50 per watt, as opposed to the about £5/watt common in UK at present.

And then down to the target figure of £0.25/watt see

<http://www.electronicweekly.com/Articles/2005/10/10/36498/STdevelopsdye-sensitisedsolarcells.htm>

Dye Solar Cells can be made in smaller "runs" than Silicon, and as UK does not have an indigenous solar electricity manufacturing facility yet, this technology is a prime opportunity [point made to my MP recently]

Small roof top wind turbines are also starting to appear see

<http://www.renewabledevices.com/swift/>

Finally there are moves to "outlaw" incandescent light bulbs, so once all are "fluorescent" the lighting demand in the average house will be much lower, and within the possible range of "off grid" supplies.

I have been "off grid" for much of my early life, grandfather did have his own generator, but my parents, except for a rented house during WWII did not have electricity until 1954. Gt grandfather ran his farm [and his pipe organ blower] from the 1850's on two hydro units, both still very viable for both here and especially overseas "under developed" communities. They were still working up to about 1935 !!

Against that my late father in law Eric Colbeck, invented the Boron Steel that made all Nuclear power feasible.

And the [in principle] inefficient mechanical technology of today's "wind turbines" goes back the the machine Nicholas rented from the Knights Templars in E.Yorks in 1185, and possibly back to the technology used by the "slave skilled in the manufacture of windmills" who slew Sultan Omar of Baghdad c 645 AD.

Honnef's contra rotating concept, developed by the 3rd Reich Wind Energy Ministry 1935-45 and Trimble Windmills 1976-81 is technically much more energy, and probably cost efficient, but development work is needed see <http://myweb.tiscali.co.uk/aferrand> Wind section. This also covers Tidal power [Hydro section] , but see also

<http://www.uh.edu/engines/epi1654.htm> for the 1921 book on this subject, which I almost copied [unwittingly] in my paper in "Marine Scientist", No.9 Q4 2004 page 42.

Back to "off grid" in the home. This could provide some security of energy supply, for lighting and communications, which may be of "political" interest in today's disturbed world, aside from possible "environmental" benefits

best regards

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www.grunweb.org.uk