

## **Issue 1 , April 2001**

### **Welcome to Issue 1!**

This is the first newsletter of the Himalayan Light Foundation. Much like a freshly charged lead acid battery it is small, square, caustic if handled incorrectly and full of punch. However do not attempt to start your bike with it as you will be very disappointed with the results and there may be a fire. A Nepali version is coming soon. In the meantime send comments and new info to Nick Banks at HLF.

### **EVs R Us**

Himalayan Light Foundation is pleased to announce the award of a major fund from the British Embassy in Kathmandu for the development of a four-wheeled electric vehicle. Once the prototypes are developed, the private sector will be brought in to establish a new electric vehicle industry in the Kathmandu valley - much like that which already exists for the three-wheeled tempos. Large-scale introduction of four-wheeled EVs will create huge improvements in the air quality of the valley, improve the health of Kathmandu's long-suffering commuters and enhance Nepal's image amongst tourists.

**More panels for Bongadovan** It seems the people of Bongadovan just can't get enough solar power into their village. Twenty more systems are to be installed in April. **Solar sisters swamped by eggheads**

Dr Jutta Beier of Germany installed a 36-Watt solar system at the Dorje Sangling Monastery in Dhawalagiri whilst in January Dr Nick Banks of the UK installed a similar system at the Sub-Health post in Bongadovan, Baglung. When asked why people with too much education wish to install solar power in remote Nepali villages Dr Banks replied, "I don't know. Maybe it makes them seem a bit more interesting". Suprabhat Basnyat had a different view. He says either they are just plain nice or they can use the experience to get an even better job when they get back home.

### **Thangka School gets government recognition**

The National Tribal Development Committee of His Majesties Government of Nepal has recognised the good work of HLF and the Buddha Darshan Club in restarting the Thangka painting school in Kavre. The agency has donated 10,000 Nepali rupees to the project.

### **Baglung bags are baggable**

The ladies of Bongadovan in Baglung have been producing high quality crochet bags to repay the cost of their solar systems. These unique products are now for sale. Contact us for details.

### **Charged!: PV is expensive. When is it going to get cheaper?**

Dr Gavin: As you say the cost is often prohibitive. The costs are coming down - slowly. It is very difficult to predict how quickly this will occur. I haven't done a recent survey but one certainly should be able to get crystalline modules at a good deal less than \$10/W. Cost price is between \$3 or 4\$/W. Of course transport has to be added on to this. This is usually a fairly fixed cost, so unit transport costs decrease with order size. Another point to note is that quoted costs are often for installed price per W. This is 50 - 100% higher than the cost

of modules - you have to add the cost of installation, mounting frame, inverters and batteries.

### **Charged!: Will new PV technologies make things cheaper?**

Dr Gavin: The current goal of thin film technologies is \$1/Watt and this is expected within 10 years - but that has been the case for a while. Thin film technologies have not delivered their promise of economies of scale - because not enough have been sold! - big investment is needed to kick start the market.

### **Charged!: What about the future? Any technological breakthroughs coming soon?**

Dr Gavin: At Imperial College, London they are working on a PV "paint". It relies on cheap production of polymer PV. There are other possibilities for cheaper materials and for higher efficiency ones at the same cost - although they are probably all at least 5 years from commercialisation and in some cases about 20 years. One of the most promising cheaper materials is the "dye sensitised cell". This is made from titanium dioxide (paint/toothpaste whitener), with a layer of dye deposited on it, all at low or room temperature. Device efficiencies are up to a few percent - but they are, as yet, unstable with time. There is a semiconductor version being researched that promises higher stability.

In terms of higher efficiency of existing technologies have a look at following site for some strange ideas on 3rd generation cells.

<http://www.pv.unsw.edu.au/thirdgen.html>. I think this is the route that should be taken - greater use of the available sun's energy. In principle the costs are similar to current devices, once the research and volumes allow costs to come down close to materials costs - a big once!

### **Dr Gavin Conibeer is a research scientist at Oxford University's physics and materials science department Fun Corner**

There is a devil in all our names. Check out the following anagrams (i.e. recombination of letters) of "Himalayan Light Foundation"..

Ha Ha! a moon-landing futility<sup>1</sup>  
I am a hooligan<sup>2</sup> and filthy nut  
I am a filthy and haunting<sup>3</sup> loo<sup>4</sup>.  
I am a foul, tiny loathing<sup>5</sup> hand  
A loathing of inhumanity, lad<sup>6</sup>  
Dial fat, tiny, human hooligan

- 1 Futility is "CHHUDRATA"
- 2 Hooligan is a "GUNDA"
- 3 Haunting is "BHUTAAHA"
- 4 Loo is "CHARPI"
- 5 Loathing is "GHRINA"
- 6 Lad is "BALAK"