

Thoroughly modern marketing

A western region of 60 million people, mainly off-grid, a tempting export market, soaring energy demand nationwide, a commitment to be greener, and issues of quality assurance and consumer faith. These are the key features of the solar landscape in China today. It's a scenario that will be defined by market forces, even if they are tweaked along the way.



Coming for all the fun of the fair – including solar

It is cold, cold, cold, on the wide open plain of Maqu County in the western Chinese province of Gansu. It is August and the cold varies from biting, rain-sodden cold to just bright sunlit cold, and it is clearly going to get worse as winter rolls in. Soon it will be time for the millions of herders and their sheep and yak to go into winter mode, and life will be quieter for the merchants in market towns like Linxia and Hezhou. But now it's still a good time to party outdoors, and to do business. Solar systems salespeople included.

The long, closing-in rumble of horse hooves across the plains could, if you close your eyes tight and filtered your ears to the wind, be from two thousand years ago, the noise that of an incoming group of herder lads weary after an excursion into the rolling hills beyond the horizon. Or it could be just a few hundred years ago and the young men are the riders in the traditional annual race whose winner will be bestowed the title of King of the Tibetan Plains. Just like the King portrayed on the





massive tapestry on the spectators' stand behind you.

But your eyes are not closed, and your ears will long ago have been prised open by ten thousand shrieks of encouragement and congratulations to the approaching group of lads on horses. The winning rider will soon be adorned in cloths of green and orange and led to the winner's enclosure – the winning horse, as in horseraces all over the world, will be watered and otherwise ignored. The King of the Tibetan Plains no longer reigns, even nominally, over a vast area of land. Now he is a modern sun king.

For the wide red banner at the race's end reads: "The Sheng Guang Co. 'Summer Sea' line of photovoltaic power sources wishes all race participants good luck and encouragement. The solar energy prize for today's lucky Grassland Crusader has been donated by Gansu Province's Sheng Guang Solar Energy Company". Sheng Guang means 'grasslands'.

Many tents and stalls at the race meeting – in fact it is a farmers' fair – are lit by solar units, and several others are selling solar home systems, replete with their low-energy light bulbs, radios and cassette players. More powerful ones feed televisions and even refrigerators.

This is modern marketing, of modern energy. The modern has

been grafted with sublime delicacy onto one of the region's deepest traditions. It has happened, is happening, so quickly that it is a major reason behind the stunning rise in the use of solar energy in China. Not only has China become the world's leading supplier of much solar equipment and components, it has also given its domestic market a massive kick-start.

Bringing the market to you

That domestic market is now genuinely nationwide, from shiny rooftops of new sixty-floor apartment blocks in Shanghai to the remote western provinces where solar panels were first installed in a systematic way more than two decades ago. The solar pioneers of the seventies and eighties are now at the helm of mass-production manufacturers – as is the case with Ding Kong Xian of Jia Wei Solar China in Shenzhen – and of leading research companies like Beijing Kike Energy New Tech Development, whose Wang Sicheng, now with a tie but still in shirt-sleeves, proudly shows off films of him heaving a solar panel into place at a micro-wave transmission station in 1984.

There are two key factors in the development of the Chinese photovoltaic (PV) market. First, it is to stimulate the use of solar energy in areas, particularly in Western China, where the grid cannot yet



"the challenge is to provide equipment where marketing and after-sales costs are high"



reach, not even from local micro-hydro systems. The West has a population larger than most European countries, yet its vast expanses make for a low population density. In the government's long-term development visions, the Western region is slated to grow and become more populated. The use of decentralized solar and micro-hydro systems is, along with transport infrastructure, one of the start-up strategies.

And given the relatively low incomes of many people and their lack of access to loans, and their wish, as modern, if modest, consumers to have reliable means for lighting, entertainment and information, the challenge to the burgeoning solar industry is a complex one: to provide low-cost, high-performance equipment in an environment where per unit marketing and after-sales costs are high.

The development of a sustainable market is the first focus of the China Renewable Energy Development Project (REDP) of the World Bank which, from end-2001 to end-2007, plans to inject even more momentum into China's expansive involvement in renewable energy. That involvement is best expressed in the recently-set government target of doubling the current use of renewable energy from 5% of national capacity by 2010.

The REDP provides financing for 20 MW of wind farms in Shanghai province, for about 10 MWp of PV solar home systems (about 350,000 – and perhaps one-third of all systems in the market) in the three north-



More time now for making cheese in the kurt



western provinces and grants for technology improvement, capacity building and management.

Down at the marketplace

How does this translate into solar white goods on shelves, and panels placed on roofs, or lent against tents? Well, it's a marketplace – and the consumer wants a choice. The REDP is working to set and maintain standards in that market, and down on the street, it is noticing the chill wind of market forces – and responding well. It offers modest grants, set to be diminished towards the end of the project, to accredited PV companies to sell their systems on a commercial basis to rural customers. For each Wp sold, the manufacturing company receives a sub-grant of US\$1.50. The number of such companies has grown from 17 at the start of the project to

You can keep your hat on, carpet man!

Mr Mayi used to be just a carpet dealer and a haberdasher (hat vendor). He is now in his second year as a solar module retailer too, and delighted in his choice.

"We sell 200 systems a month. 130 of them are too small for REDP support, being only 5 Wp – it's mainly herdsmen who buy them, for 250 Yuan (US\$ 29).

When I sell an accredited model, the manufacturer gives me an incentive payment of 10 Yuan from their grant. I sell their 10 Wp systems for 600 Yuan, a 16 Wp system for 850 Yuan and a 20 Wp system for 1050 Yuan. Trouble is, about 20-23% of these sales are not being verified – there's some slowdown in the system.

I've only ever had two batteries returned to me, but they were from my one non-accredited supplier. Never had a return from my two accredited ones.



about 30. By end-2003, annual sales were 65,000 a year (projected level was 55,000), at an average capacity of 19 Wp (projected: 24 Wp) with selling prices averaging US\$ 7.70/Wp (projected US\$ 14.5/Wp). Project expectations have – in a sign of responsive project management – been revised: by 2007, sales of REDP approved units are likely to be 405,000 units (was: 350,000), with total capacity of 9 MWp (was 10 MWp). Again this represents about 30% of the area's market.

Customer behaviour has, once again, been hard to predict fully. Whilst the total capacity of systems sold was identical to project forecasts (2.4 MWp), the volume of sales is 24% higher over the whole project period so far, and the capacity per system is 21% lower. How come? Observations in the field provide a simple answer: for reasons of portability and, it may be assumed, reliability, the principal customers (herdsmen) have been scaling down their purchases, preferring to buy two small systems to one large one. Now there's a nice little lesson in market research!

The fall in prices can be ascribed largely to unexpectedly intense competition. You'll best see that competition in a walk down the main shopping streets of Linxia and Hezhou. In most shops, different types and brands of solar systems vie for shop space with fans, water heaters, carpets and hats. A handful of shops

We shall be One, Number One

Ms Yao, a lawyer by background and a bit of a visionary, leads Wuhan Rixin Technology. This high-tech photovoltaics (PV) company is based in the 'Optics Valley of China' in Wuhan in central China and got its ISO9001 certificate in 2000



"We have had good support from REDP in training, communication and for participation in exhibitions. But the prime benefit is in contacts.

Most of our shareholders are major players in PV and REDP's support has given us a very good platform. We have two markets for solar panels. In western China, we have three agencies in Xianing, Xinjiang and Inner Mongolia and good sales. In the area of street and garden lighting, we are the best. China has 70% of the world's garden lighting market. We are confident about our future. The PV industry is now where the IT industry was ten years ago and look how much it has blossomed and boomed since then. We want our company to be Number One".

"noticing the chill wind of market forces"

Other elements than price wars are also making new demands on the project: the time and expense involved in verifying the sale of an approved device in the books of the retailer place a heavy burden on project monitoring. And other PV projects in the same or neighbouring areas, sometimes part of official roll-out programmes, are providing free or lower-cost equipment – adding a new complication to the market. Part of the project's emphasis on capacity building is aimed at engendering the attitude – in manufacturers, retailers and service agencies – that the era of the solar PV is going to be a long, long day, and we are but witnessing the first cracklings of dawn. ■

try to make their way by specialising in solar, and entice customers with give-away cassettes – or, one story goes, with priced-down cheese presses, a favourite tool in local evening livelihoods.

Good quality can make for great quantities

Quality is key to, but not limited to the PV market. The need for reliable quality PV systems is mirrored across the whole range of renewable energy technologies, from wind to wave, and not just in China. By insisting on a vigorous process of accreditation of manufacturers, the REDP is investing in building up consumer confidence. For too long and too often, solar retailers have sold, as is their right, low quality SHS, lacking controllers and thus ruining the battery, or without adequate after-sales service, or with simply unreliable components. The goal of a certification system is noble, and must be allowed to take root, even though the vagaries of some consumers,

Many hands make light work



hunting for that ever-elusive bargain of cheap price and cheap prize, may seem to hinder its progress. Yet perseverance will prove to be the only way to guarantee reliable, marketable products.

