

Bringing the sun alive at night

solar-powered advertising

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Introduction

Are you mistaken at the thought of the sun making a brief appearance at night nowadays? Certainly not since the sun happens to be the most powerful entity breathing life into anything and everything. A quick detour along the countryside brings alive the role of sun at night. The rural homes cheer about the presence of solar light, the young student studies by the side of a solar lantern, and an artistic hand somewhere weaves dreams of change. That is not all. The use of solar energy is now moving into new frontiers, some as varied as illuminating the billboards. Perhaps the sun is becoming brighter as the day progresses more so in the rural landscapes and lately within the urban ambiances too. The moot question that remains is whether

there is a compulsive need to use solar energy for urban uses like advertising? This article delves deep into a few such reasons finally leaving the choice of use with the end-user itself.

It has been well said that take business to people rather than taking people to the business. There is nothing wrong with this proclamation excepting the fact that power is playing hide and seek with those who try to enforce this maxim. To remedy this situation, the generators are there as a standby option, but offend the sensibilities of quite a few for the following few reasons mainly.

- Encroach on the limited space available (within the commercial complexes like office buildings, shopping malls, and so on)
- Lead to noise and smoke pollution (not all the generators work in a silent mode)

- Use the vital import dependent commodity (that is, outflow of precious foreign exchange)

It would not be out of place to mention here that the sun has been advertised in the open for many years now. The most well known example is that of solar street lighting systems in the sense that it stood out when everything else failed on the road. However, it cannot be taken as a concrete example of solar advertising. Before we delve deeper into issue, let us try to mention a few compelling reasons in support of using solar powered advertising. These mainly include the following few.

- Conventional power is not available in a full measure for meeting the basic needs.
- Conventional power used for advertising in a large measure drains the already limited supply of power.

- There may be a public appreciation to look at such glowing signages, but a section of public opinion is surely against use of grid power for such purposes.
- Solar power is a clean source of power and works in a silent mode without slicing any share of the power that may have been intended for any community use.
- Solar-powered advertising can well be taken care of by the elite corporate entities, keeping in view its high initial capital cost.
- Solar offers immense environmental gain as against the conventional power.

There is nothing new per se in the concept having been put into action more than a decade back. However, what is certainly new is a renewed liking and thrust to make it happen on a more visible scale. Let us analyse some of the most tried out solar mediums of advertising here.

Solar signboards

These systems akin to a normal solar street lighting system were initially put up at selective few places. For example, one could see an array of such sunlit boards along the Lady Shriram College stretch in New Delhi. These worked well for some time before fading into memory not necessarily for want of any repairs and so on.

Solar bus shelters

The garden city of Bangalore in particular experimented with the solar power lit bus shelters. In fact, a still role was conceived for such locations.

Solar on-line news

A private news channel came up with a bright idea of displaying the news as it unfolds on the solar-operated panels close to the busy traffic intersections.

This proved to be of a good news value mixing both the ancient and modern source of energy together. There are still quite a few such systems installed in places like Delhi and Noida in the NCR region.

Solar traffic kiosks

Manning traffic on the congested roads of a metropolis like Delhi always poses its own difficulty. The traffic personnel, often very few in numbers, struggle to direct such traffic. Solar kiosks put up on a few intersections were a true delight to watch for some time at least. One could for example feel satisfied watching a traffic policeman guiding traffic through solar-operated public address systems. The kiosk offered succour to the occupant by way of a solar run light and fan. However, what one saw after a while was the open vulnerability of such systems put up by a reputed south-based solar manufacturer. These were vandalized though standing in a full public view by perhaps those who liked to bask in the winter sun, but unaware of its great roadworthy promise.

Solar bus route panels

An upcoming company in New Delhi tried to sell the concept of illuminating the bus route number plates fixed at numerous bus shelters in the capital city. The sheer logic was that a large number of commuters fails to read the bus route numbers when more often than not, streetlights fail at night. A few such systems were put up on a trial



basis to be dispensed with after a very limited period of demonstrated use.

A typical conventional advertising hoarding

Large-sized hoardings are in full display across big cities and towns in the country (see Table 1).

A possible technical option is to bring in solar power to take care of small hoardings in the first instance. These may well be operated during the peak hours from 6 pm to 10 pm. To meet this objective, it may well suffice to install a 1-kWp solar power system.

Case specifics

Let us take the example of a conventional advertising hoarding publicizing some product or service. Each such hoarding uses at least a couple of halogen lamps of 460 watts each. This brings its daily energy consumption to nearly 1 kilowatt. Let us assume that it runs for just 5 hours a day meaning thereby an

Table 1 Description of various hoardings

Lamp Type	High-intensity halogen lamps
Average number of lamps used	4–12 lamps
Average hours of operation	10–12 hours
Average energy consumption	Few kilowatts
Likely benefit of avoided power use	May well be used to light up small towns and villages still reeling in darkness especially between 6 pm and 10 pm every night.



average power consumption of 5 units per day. Thus, a single hoarding is going to consume about 1825 units in a year and this number multiplied by a fairly large number of hoardings in a city like Mumbai for example takes the power consumption to new heights at least not in that sense of connotation really.

Is solar power the real alternative?

The figures projected above point to an alarming need for saving such misuse of power for other more productive purposes. Even if any viable alternative like solar power could lead to savings of just about 10% or so, it could well spell immense overall gains in the real sense. Few most distinct advantages that solar mode of advertising could offer are as under.

- Substitute high power lamps with minimal power LED lamps
- Offer automatic timer-based operation, which sense the available sunlight and accordingly switch on/off the system
- These do not produce heat and thus have no carbon emissions associated.
- Can be used practically with any type of hoarding
- Need minimal maintenance on a daily basis

The ministry outlook

The MNRE (Ministry of New and Renewable Energy) has embarked on an ambitious plan to enhance the visibility of solar power in the urban areas in terms of supporting the demonstration of various end-use applications like

solar advertising. According to ministry sources, the street lighting and outdoor advertisement panels in the country amounted to a power consumption of about 20 000 MW. The intention is to make state governments see sense of purpose in moving towards the use of solar power for such applications. In fact, the honourable minister himself has already undertaken wide-ranging deliberations with the state governments of Andhra Pradesh, West Bengal, Maharashtra, and Karnataka.

The response to this proposal has been by and large positive with even hope of advertisers being ordered to experiment with the use of solar power instead of conventional power. If implemented, it could signal a big change in the urban landscape, which is struggling hard not only to meet its power needs, but also to keep it clean. In fact, the MERC (Maharashtra

Electricity Regulatory Commission) has already banned the use of conventional neon signs that illuminated hoardings and floodlights in the city of Mumbai between 5 pm and 11 pm. The obvious choice is to use solar power at least for a small number of such hoardings to begin with.

Supporting the initiative

The concerned ministry is finally supporting the use of illuminated hoardings (see Table 2).

SPV systems have been widely demonstrated in the rural landscapes with a fairly good degree of success with each year of experience gained. The time has come to replicate the success at least in a small measure within a chosen few cities in the country. MNRE has just announced that Nagpur in the state of Maharashtra is going to be the first solar city by 2012 followed up by a well-designed plan to build 60 more such cities. The intention is to have at least one city in each state to a maximum of five cities in a state during the ongoing Five-year Plan period (that is, 2007–12). The distinct reasons for doing so are the following few.

- Minimize dependence on the use of fossil fuels and expensive oil and gas
- Encourage the use of renewable energy
- Generate all round awareness for stimulating the interest of potential buyers of solar systems for example

Table 2 Ministry's efforts on the initiative	
PV module capacity	Up to 1 kWp
Threshold area under illumination	2 square metre
Daily hours of operation	About 6 hours
Grant available from the ministry (that is, MNRE)	50% of the total cost or Rs 15 000/100 Wp, whichever is less
Total number of hoardings to be supported per year	Maximum of 500 (limited to just 20 hoardings per corporation)
Implementing agency	Municipal corporations

A variety of systems are going to be introduced in the solar cities coinciding with a larger aim of generating requisite awareness amongst the public at large. These mainly include the following.

- Solar hoardings
- Street lights
- Garden lights
- Traffic lights
- Solar water heaters
- Energy-efficient green buildings

Quite clearly, the solar way of advertising may receive the much-needed fillip so as to be increasingly visible.

It is quite logical to assume that those using solar power daily for their bare minimum lighting needs (say for example in the rural areas) are more aware of the immense power of the sun and thereby the solar technology. However, that is not exactly true with the urban dwellers. There are several key reasons for this.

- Major chunk of the population relies on grid power
- Solar systems are switched on mainly at night, when it's the time to rush for home
- More often than not, the solar use of the system is not properly and clearly highlighted (solar module is not always instantly recognized by a majority as being a power generating device)

However, there is more than what meets the eye on road. The advertisement panels seem to blink as time advances for whatever reasons. Amongst the few possible reasons could be the following.

- The system is mostly installed on roads with a high traffic density. It leads to accumulation of atmospheric impurities like dust on the surface of panels.
- The panels go without regular cleaning for many days at a

stretch and thus lead to low power generation and hence less storage capacity of the associated battery.

- The battery needs to be topped up at regular intervals, even if it is a low maintenance tubular plate battery partly due to being positioned in that kind of ambience.

In view of above, the roadside perception of the general viewers does not emerge very favourably.

The need for solar-powered advertising

Youth is fun (pun unintended) makes a very good target segment for use of solar advertising. Colleges in particular can be ideal spots to popularize such new generation systems. A few solar-powered advertising companies, though in a limited manner, have been able to display the messages of corporate houses in the premises of both educational and professional institutions. However, it may not be economically viable to use solar power for advertising anywhere and everywhere. Nonetheless, one could

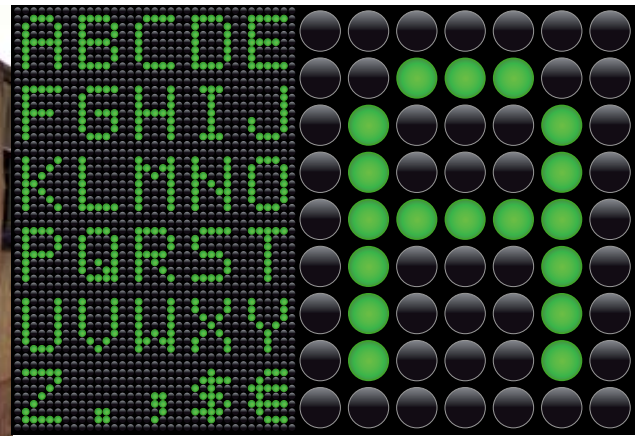
think of few ideal spots for solar power use as mentioned below.

- Eco-tourism cottages, where visitors could get across the message of using solar power crisp and clear. They may also not be reluctant to part with some part of their earning for such a cause.
- Pathways of famous mall roads be it Shimla, Mussoorie, or any such place in the country. The product appeal in those type of serene surroundings may be a thing to watch, when the message to use solar power is loud and clear.
- Hotels, motels, and dhabas, which act as stop points during a long outstation journey on the highways offer a definite scope for embracing solar advertising.
- All major places of pilgrimage, where people throng in lakhs could be given a serving of solar advertising. Quite often, such devotees queue up for long hours and thus could imbibe and admire the concept of sun being there at night as well—be it flashing of token numbers on the



panels or announcements displayed.

- Majority of commercial complexes, where roof space is available and could be utilized for the purpose of advertising.
- Popular heritage sites and monuments, and even parks and gardens, could find solace with solar power messaging.



The moot question is whether solar power can lift up the spirit of people while they go out. For example, why do we see so little of it even in this age of high environmental consciousness? There seem to be a few compelling reasons to do that, which may be mentioned as under.

- A conventional power hookup still seems to be an easy way out.
- Not all locations are well suited for using solar power.
- Solar system vulnerability in the outdoor environment is still an issue to reckon with.
- The high initial capital cost consideration does not seem to fade away especially when it comes to having large number of sun-powered hoardings.

The way forward

We now have a glaring example of how solar power is gradually replacing the use of diesel generators for a critical application like running of base transmitter stations for mobile telephony. Till just recently, such an option was being ruled out on various grounds—some flimsy too. The same type of situation could be witnessed for a variety of the following few considerations.

- Someone has so well said that if people cannot come to business,

take business to the people. This clearly means that advertising is going to stay here for long. So, it does need power all the time.

- There is an increasing gap between the demand and supply of conventional power. It surely leaves a window of opportunity for solar power to peep in.
- The standby mode of power, predominantly the generators especially those being used in a haphazard manner and with little regard to noise and emissions are lately being viewed as high-risk elements too.
- The price of conventional power is moving way up and it may not be long before solar power actually prices itself competitively.
- A section of population, even though still small in number, has developed a certain fervour for eco-friendliness and they would like to view it in all ways possible.
- The issue of climate change is now receiving attention at the highest level and solar power is an in-thing now waiting for a green signal to take it places—a good advertising medium indeed.

It is crystal clear that the sun can come out in the open at night too. There seem to be various niche areas of its presence during those odd hours

as well, not to talk of beaming breaking news on panels through the day at busy crossings for example. It is in the fitness of things here to lay bare the expectations from the solar power community, that is, all those who are votaries of this clean source of power.

- Design, develop, and demonstrate truly well performing systems, which will work flawlessly over long periods of time.
- Small is beautiful maxim may well apply in this case, as it is somewhat easy to make someone (even a corporate entity) pay up for solar power use.
- A bigger system is not necessarily the best for quite a few reasons. More often than not, it becomes a huge burden to mobilize resources for replacement of battery bank. Thus, the idea should be to go for small systems mainly.
- The trick of the trade seems to be in garnering support from every possible quarter and not just the corporate sector alone.

Conclusion

The solar way of reaching out to the masses is possible in more ways than one. However, what is certainly needed is to instill confidence in such systems and leave the rest wide open for others to rejoice at.