

EXAMPLE OF AN INFORMAL STRATEGY FOR DISSEMINATION OF SOLAR COOKERS

Heike Hoedt
Solare Bruecke e.V.
G.v.Werdenbergstr.6
D-89344 Aislingen
Germany
info@solare-bruecke.org

ABSTRACT

The Scheffler Reflector is a parabolic fixed- focus reflector, mainly used for institutional cooking. Recently other applications of the thermal power delivered by the reflectors have come up, most of them using the reflectors as steam generators. Development and dissemination started 23 years ago and is still going on. The way the technology is spread and developed is uncoordinated and involves many people in different countries.

Keywords: informal cooperation, technology transfer, R&D, renewable energy, Scheffler Reflector, solar cooker

1. INTRODUCTION

I want to describe the successful and ongoing history of dissemination of a particular solar cooker, the Scheffler Reflector. The strategy of dissemination is better described as a “non-strategy”.

The term “strategy” implies that someone is planning and implementing, therefore controlling a process. Although there are some cornerstones like “sharing knowledge” the approach can not be called a “strategy”. In the case of spreading Scheffler reflectors many individuals and institutions are involved in an uncoordinated way and they all shape the process by their own needs and ideas. Therefore my attempt is only descriptive and clearly just one of the possible perspectives on the subject . I'm working with Solare Brücke, a small German NGO busy with developing technology around the Scheffler Reflector and trying to make it available to those who can put it to use in their own countries.

2. BACKGROUND

Between 800 and 900 Scheffler Reflectors have been installed in at least 24 different countries. The size varies between 2.7 m² and 16m² per reflector. The main use is for cooking in institutions. Initially all reflectors were used for direct cooking (one reflector, one cooking pot in the focal point). Since 1998 more and more large installations were set up for steam production in India. The use of the steam is for cooking. Since 2004 other applications like laundry and autoclaving have been added. The initial development of the technology started in Kenya. Recent success has taken place in India. More info: www.solare-bruecke.org

3. THIS PROJECT

A worldwide informal and quite loose network of people working on the dissemination of Scheffler Reflectors and other solar energy solutions has formed over the last 24 years. It comprises many individuals and NGOs in the North and South (in the fields of environmental protection, education or social work), small companies and religious institutions of different sorts.

In this network not everybody is in contact with everybody. Some people appear in this "world" only for a short time, others are long-time movers. The level of cooperation or activity along certain threads of the network varies a lot at different times. There is no centralized way of keeping in contact or spreading information. This only happens through meeting personally from time to time.

What connects all is the idea to do one's share in balancing out global inequality, easing the pressure on

the environment and providing energy for sustainable development. In the case of Solare Brücke this is happening in a non-profit way.

In 1982 Wolfgang Scheffler started developing a parabolic fixed focus reflector that was later named after him by his friends in India. From the beginning the technology has been free for everybody to use, replicate and further develop. Scheffler always shared his ideas with anybody interested. He very soon joined with friends, who had similar aims, to form ULOG, an informal group of people in Switzerland and Germany. Later Globosol (earlier VKSE) in Switzerland (in 1985) and Solare Brücke e.V. in Germany (in 1992) were founded by others to support the work of a slowly growing group of people. Those two associations don't concentrate on Scheffler Reflectors alone: smaller solar cookers (like the ULOG box cooker and the SK14) as well as solar dryers are included in their field of attention. Globosol has mainly been financing courses on such technologies. In the case of Solare Brücke Scheffler Reflectors have become the main focus. Mr Scheffler has been on the board of directors since 1998 and was elected president of the association in 2001. Since then Solare Brücke has developed into a center of competence for these particular reflectors and their different applications.

The aim is to develop and promote "simple" solar energy solutions. "Simple" means that it must be possible to produce solar appliances locally, with the local resources and skills. We (Solare Brücke) provide training and continuous technical support to our worldwide partners. The goal is to be independent and equal partners. Solare Brücke does research and development together with its partners, based on their requests and needs. Some of this happens in Europe, most in the respective countries. We support our partners with knowledge, but not with ongoing finance. This means that our association might in some cases cover travel costs or even a small honorary for someone who is giving training or working on a certain application and does not have another source of income.

Solare Brücke is a registered NGO in Germany, because this allows it to receive donations. No formalism, beyond the procedures absolutely required by law, is implemented. Our approach doesn't allow for a rigid administrative structure nor personal profit. This means that we personally (Wolfgang Scheffler and I) try to live a way that approximates itself to what could be sustainable for everybody on the planet. It also means that as an association we don't apply for government grants etc. because this would limit our flexibility and administering such official projects would consume too much of our energy. This approach is not shared by all

partners in the informal network. Especially in India, where the most Scheffler Reflectors are in use, some people have been working intensely with the Ministry of Non-Conventional Energies, which has sponsored some specific research and development (R&D) and is giving subsidies for institutions and industry purchasing reflectors.

R&D of a technology can be a very costly undertaking if done the normal way. The same is true for market introduction programs. Technological concepts can usually only be developed, prototypes made, tests run etc. because there is a large amount of money invested by government agencies or big NGOs (in the business sector of course bank loans and alliances with existing companies are main features). Because of the money involved, time margins have to be observed, success has to be proved within a certain timeframe to release more funds, loans have to be paid back etc. Flexibility is lost because it is necessary to cling to the budgeted items and strategies. There is usually not too much room for trial and error on the scale of an entire project. If an expensive strategy doesn't work it means that the project failed and mostly will not be retried.

Some good ideas in the field of "improved technology for people" might have never reached a considerable stage of dissemination for the above mentioned obstacles.

From our side we have always worked with the minimum amount of money to avoid the above described problems. Most of the work done from our side is voluntary work without financial compensation.

Then how to tackle the R&D and dissemination of a technology if you don't involve a lot of money or a professional infrastructure (as that costs money)? A main feature of our work has been that we don't set targets that have to be met. By sharing the technology and working together with motivated individuals the technology has continued to advance, especially recently the number of applications of the reflectors has increased (from mere cooking, to cooking with steam, to use in hospitals, laundries, food processing etc).

Spreading the use of the solar reflectors has always been in the hands of people and institutions situated in the respective countries. The technical support came from our side.

Many initial efforts, especially in Africa and South America, died after a short time. In some cases the motivation of our partners to make an effort on their own (this means without getting financial support organized

through us) was simply not big enough. In other cases it was too difficult for small groups or mostly even single individuals to tackle manufacturing, maintenance and promotion of this new technology all by one person in an initial stage.

This means that from the side of Solare Brücke and Globosol, the two organizations that have given continuous support to the spread of these solar cookers, there has to be a high tolerance for what might be called “failure”.

What means failure? It might mean that money, time and personal effort are invested in a project that later doesn't continue. But we think that in any case the numerous “failures” have been chances for learning. This has helped adapting our own strategy.

For example: all our interactions with government agencies, ministries and universities in a number of countries “failed”. So we now limit our efforts to work directly with motivated individuals or non governmental institutions. (Others have come to different conclusions from their own experiences.) Another feature of our way of working has evolved as the technology became more known: We don't search for allies or make plans to implement projects anywhere. We only react to requests. And as an organization we avoid growing bigger. We prefer to be a small knot in a big net.

It is often impossible for us to know in advance if our efforts will lead to an ongoing spread of solar reflectors in a particular case. We can only try our best and if many other factors are right then a project will continue and grow. But maybe that (ongoing spread of reflectors) is not the only valid definition of success, even if numbers and figures are the most accepted way of measuring it?

Because Solare Brücke and Globosol are not producing or selling they have a special roll within the network that distinguishes them from the others involved.

Some features of the business world (or let's say 'market economy') are useful for people and NGOs dedicated to improving the human situation by developing and making available sustainable technologies:

The general fact that hardware or services are sold means that less time has to be invested in search for funds, as some money is coming back from the project activity. Therefore smaller NGOs or individuals with less infrastructure and resources to apply for funds might be able to keep going, as they sell their product. The main feature is that by working towards an independence from grants and donations a project has more chance to

continue (or at least persevere) even when no support money is available.

Therefore we have always encouraged our partners to sell the technology.

We ourselves as an NGO and in our private lives are working on a non-profit base. This means our work depends on donations (and there are few). The R&D we do and the trainings we give is in most cases financed by well wishing people. But our partners, independent whether they are socially oriented business people or NGOs (most of them with a religious background) sell their solar products.

Generally speaking: I believe that market mechanisms for assessing the price for goods have broadly failed in bringing beneficial technologies to economically weak people.

Scheffler Reflectors are almost always used in institutions (only very recently in industries). This has helped in assessing the sales price. Institutions are keeping track of their energy spending and if the payback period through fuel savings is appealing to them they will buy a solar installation (apart from considerations like protecting the environment, which is often a criterion for choosing solar). This means that because the Scheffler Reflectors are mostly used by institutions it has not been a big problem for manufacturers to set prices that are viable for the customers.

A challenge that has only recently been taken up is to make small Scheffler Reflectors (2m², 2.7m²) available for families. Solare Brücke is encouraging people to build their own reflectors by facilitating manuals and training. In India some companies and the Barefoot College, as well as a municipal social project in Switzerland have made attempts to manufacture. But it is still not clear how the small reflectors can reach those people who might benefit most.

A process of sharing ideas and concepts is going on at the moment.

One special case is the religious institution of Brahma Kumaris who are only manufacturing the (big) reflectors for their own use. They were pioneering in the development of large scale steam applications, a knowledge now also shared within the network.

Often people in Europe find no better term than “development aid” (Entwicklungshilfe) for the attempt to spread solar cookers. Within the network of friends I'm trying to describe here we share the feeling of working together on something that is beneficial for all. There is

no “aid” in the above implied sense, rather a fulfilling feeling of working together.

Those relations along the lines of the network that are based on friendship seem to reinforce themselves, whereas connections that are solely based on commercial interest have usually died out after some time. Once friendship is the base of interaction some of the negative features of the “business world” and also the “NGO world” are no longer very prominent. Competition is a characteristics that separates people from each other as it doesn’t allow you to freely share your knowledge.

When the relationship with all involved is that of real friendship people feel happy. Maybe this is a better criterion for measuring success? Of course friendship is a process and not all the paths lead there, but it’s worthwhile to start walking.

People who tend to keep in mind mostly their own profit, rather than being beneficial for everybody, have not been much attracted by this “strategy”. There have been people who tried to make use of the fact that there is no patent on the reflectors, even claiming that it is their own invention, but somehow they never managed to get very far, probably due to lack of understanding the quite complex technology. A self regulating mechanism is immanent to the described network of friends: someone who doesn’t share his/her ideas with others and doesn’t recognize others’ achievements can not profit from the knowledge and possibilities available within the “group.” (The term “group” is a little misleading as it might suggest more uniformity than there is.)

4. CONCLUSION

There is no overall “strategy” behind the development and dissemination of Scheffler Reflectors. Different people and institutions follow their own ideas on what would be a suitable way to put this technology to use. But similar ideas about the role technology should play in human development and about positive interaction seem to be shared by all. A unique informal and open network, based on personal friendship, plays a supportive part.