



UNEP

# INDIAN SOLAR LOAN PROGRAMME

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UNEP  
RISØ  
CENTRE

ENERGY, CLIMATE  
AND SUSTAINABLE  
DEVELOPMENT

*Programme Overview and  
Performance Report  
February 2005*



**CRESTAR CAPITAL**



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UNITED NATIONS  
FOUNDATION

PROMOTING A MORE PEACEFUL, PROSPEROUS AND JUST WORLD

February 2005

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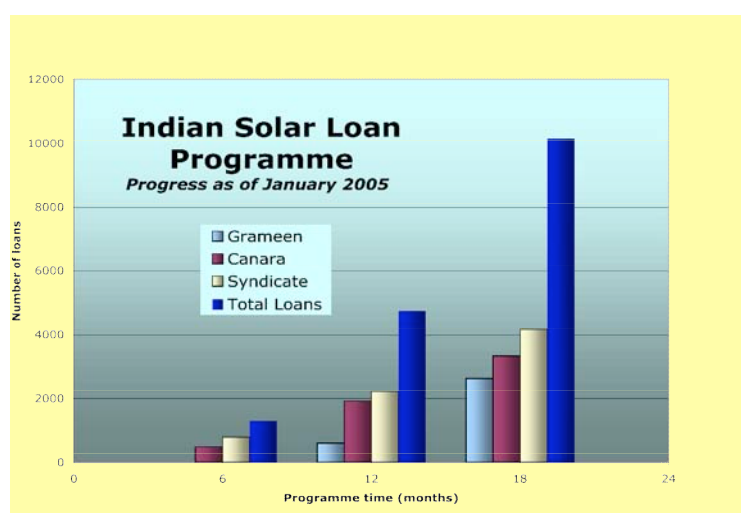
## CURRENT STATUS AND PERFORMANCE

In April 2003, the United Nations Environment Programme (“UNEP”) initiated a credit facility in Southern India to help rural households finance the purchase of Solar Home Systems (“SHS”). Two of India’s largest banks, Canara Bank and Syndicate Bank, along with their eight associate Regional Rural Banks (or *Grameen* Banks), partnered with UNEP to establish and run a Loan Programme through their branch offices across Karnataka State and part of the neighbouring Kerala State.

In addition to providing financial support in the form of interest rate subsidies for borrowers, UNEP provides assistance with technical issues, vendor qualification and other activities to develop the institutional capacity for this type of finance.

As of January 2005, the Programme has financed 10,370 loans, through 1800 participating bank branches. The fastest growth in loans is currently in rural areas, thanks in part to the increasing participation of the nine Grameen banks. Other Indian banks have recently launched competing SHS loan products. UNEP is helping these banks with technical support to establish their loan programmes (such as developing a vendor qualification process).

The three-year Programme is on target to finance between 20,000-25,000 solar home systems, making it one of the largest SHS loan programmes.



Programme highlights include:

### ▪ From Cash to Credit

The Programme has created a vibrant credit market for solar home systems. Loan approvals continue to grow, even with the recent decrease in the interest rate subsidy, indicating that a sustainable credit market is taking hold.

### ▪ Sales Drivers

The Programme is contributing to a large share of retail sales; now accounting for more than 50% of the SHS market in the two states.

### ▪ Loan Availability

The availability of loans across 1,800 bank branches - 80% located in rural areas – is now the key growth driver for this loan sector.

### ▪ Success in Karnataka

Karnataka State has performed well as the primary focus state for the Loan Programme, and is ahead of most other Indian States in commercial sales of SHS.

### ▪ New Market Development

Vendors have expanded into new marketing territories in Karnataka and Kerala.

### ▪ Good Practices

The Programme approach of qualifying SHS vendors rather than specifying system configurations has proven effective.

### ▪ Market Principles

A vibrant SHS market is emerging driven by commercial market dynamics – no market distortion has been observed to date.

### ▪ Replication

The loan product is becoming popular as more banks launch competing solar loan programmes and new applications are financed, making replication likely across India.

### ▪ Village Electrification

Due to the wider availability of loans, particularly in poorer areas, village electrification projects based on stand-alone SHS are increasing.

### ▪ Shifts in Government Policy

The need to shift approaches from capital to interest subsidies is now recognized by the Ministry for Non-Conventional Energy Sources.

# SOLAR LOAN PORTFOLIO

## UNEP LOAN PROGRAMME FOR SOLAR HOME SYSTEMS - Karnataka/Kerala

### SALES WITH HELP OF LOANS

April-January 2005

#### Karnataka State

	Canara Bank		Syndicate Bank		Grameen Banks		Apr-Aug 2004	Total		Grand Total
	Apr-Nov 2004	2003-04	Apr-Nov 2004	2003-04	Apr-Nov 2004	2003-04		Apr-Nov 2004	2003-04	
Shell Solar India Private Limited	571	1071	780	1063	564	73	1372	1915	2207	4122
Selco Solar Light Private Limited	172	366	587	754	815	432	1103	1574	1552	3126
Tata BP Solar India Limited	481	377	597	358	487	111	423	1565	846	2411
Kotak Urja Private Limited *	not received	104	not received	38	not received		166	166	142	308
<b>Total</b>	<b>1224</b>	<b>1918</b>	<b>1964</b>	<b>2213</b>	<b>1866</b>	<b>616</b>	<b>3064</b>	<b>5220</b>	<b>4747</b>	<b>9967</b>

#### Kerala State

	Canara Bank		Syndicate Bank		Grameen Banks		Apr-Aug 2004	Total		Grand Total
	Apr-Nov 2004	2003-04	Apr-Nov 2004	2003-04	Apr-Nov 2004	2003-04		Apr-Nov 2004	2003-04	
Shell Solar India Private Limited	69				19		65	88	0	88
Selco Solar Light Private Limited							0	0	0	0
Tata BP Solar India Limited	126				126		140	252	0	252
Kotak Urja Private Limited	not received				not received			not received	0	not received
<b>Total</b>	<b>195</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>145</b>	<b>0</b>	<b>205</b>	<b>340</b>	<b>0</b>	<b>340</b>
<b>GRAND TOTAL</b>	<b>1419</b>	<b>1918</b>	<b>1964</b>	<b>2213</b>	<b>2011</b>	<b>616</b>	<b>3269</b>	<b>5560</b>	<b>4747</b>	<b>10307</b>

\* data for Kotak Urja is incomplete, hence only sales up to end-Sep 2004 have been considered

# BACKGROUND

## Villages Without Power

Although India has pursued an aggressive rural electrification strategy over the past decade, many households are still continuing to rely on inefficient and polluting energy sources. At the same time, the Government was aggressively promoting renewable energy. In 2001, India had one of the largest and most active renewable energy programmes in the world, with a significant part of that directed towards meeting rural energy requirements. This is still the case.

The contribution of renewable energy had reached 3000 MW in 2001, or 3% of total grid capacity. India has one of the largest solar energy programmes in the world and an estimated renewable energy

In 2001, India had nearly 67,000 bank branches, of which over 70% were in rural areas.

potential of 100,000 MW.

However, the overall impact of the renewable energy programmes was limited compared to the magnitude of the energy problems faced by Indian villages. In 2001, commercial sales of Solar Home Systems were minimal although 60 vendors of PV products were established throughout India, mostly supplying products and services under various government-sponsored programs.

## Solar lighting preferred

With no electricity grid or erratic grid power, rural households are mostly without reliable lighting. But even if a solar home system is the best option, little or no access to credit means it is simply unaffordable, and without credit, the growth of the SHS market is also impeded.

Indian Banks have ample financial resources and nearly 67,000 bank branches, of which over 70% are in rural areas. They are also required to lend 40% of their loans for priority purposes (such as causes with strong social objectives), including agriculture.

However, this system was not being used effectively to increase credit access for SHS customers in rural areas - due largely to a lack of what SHS could technically achieve. Conditions prevailing in the year 2001 have hardly improved, despite substantial efforts by government and private agencies.

### **Power Stats**

- *Over 85% of India is electrified but more than 80,000 villages and 70% of rural houses were not connected to the power grid.*
- *Contribution of renewable energy reached 3000 MW in 2001, or 3% of total grid capacity. Estimated potential for Renewable Energy technologies is 100,000 MW*
- *India has one of the largest solar energy programmes in the world.*

### **Solar Loan Programme Fulfills a Need**

- **Facilitates access to credit**  
*Stimulate the market for rural credit finance, specifically for the purchase of SHS*
- **Funds the cost of financial incentives**  
*Help provide concessional finance that will no longer be required once barriers to mainstream financing – such as technology perceptions – have been overcome*
- **Encourages banks to lend**  
*Counterbalance the distortions inherent in a subsidy-led product programme by drawing more banks into launching commercial loan products and creating a stronger customer base among rural households*
- **Pursues a commercial solution**  
*Creates a sustainable and replicable programme for lending to buy SHS; increase retail and commercial lending to the this sector*



# PROJECT STRATEGY & STRUCTURE

## Solving Several Challenges

Most rural Indian households are not connected to a power grid. Even if the grid is available, it is often unreliable. These households depend on kerosene for their lighting needs, which is costly, frequently unavailable, hazardous, and produces unhealthy fumes and smoke. Depending on their incomes, these households can consider a range of alternatives, including SHS, Inverters, and generators.

One technology that is not favoured, however, is the solar lantern. Although they are the focus of most Government-sponsored programmes, solar lanterns are not widely sold outside these programmes because they are perceived to be unreliable, due primarily to poor quality after-sales service.

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A recent Customer Satisfaction Survey for the Indian Solar Loan Programme showed that customers bought SHS because of power shortages in their area.

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Despite high capital costs, Solar Home Systems have emerged as an attractive long-term option. Such systems guarantee good quality power and offer total independence from the grid, unlike other alternative power systems. SHS are relatively simple, reliable and quickly constructed.

Rising tariffs for conventional grid power are increasing the financial attractiveness of SHS. UNEP is facilitating commercial sales of Solar Home Systems by using the existing vast Indian rural banking infrastructure

## Reaching Poor Customers

Government-sponsored efforts reach out to un-electrified villages and rely on heavy subsidies to provide lighting solutions to the very poor. The financial contribution of most households is small and there is often limited motivation for them to want to pay for lighting needs.

Banks often find that lending to the very poor is not commercially viable. Although they are keen to lend for SHS, they must also be commercially

prudent. Since the overriding objective of the Loan Programme is to develop a sustainable commercial market for SHS, it is targeted at those who can afford to service loans out of their own earnings.

The Indian Banking system *can* help the poor through other mechanisms. Group lending through Self-Help Groups ("SHGs"), for example, can reach "Below Poverty Line" (BPL) households. Lending to SHGs has been a good experience for banks and UNEP support is also available for loans provided by the banks to SHGs. In this way, poorer households can benefit from the UNEP Loan Programme.

## Vendors need to do more

More than 50 Indian vendors of photovoltaic products supply the complete range of solar lighting products, mostly for government-sponsored programs. Vendors have limited geographical focus with most sales concentrated in a few states, and further limited to specific regions of the state. Their business focus is concentrated on selling their products to the relatively affluent sections of the population in semi-urban and rural areas. Vendors have not been able to market effectively across diverse territories, mostly because of their own limited service infrastructure.

## **KARNATAKA STATE**

The choice of the Southern India state of Karnataka was made for several reasons. The region is more developed in areas of literacy, industrialisation, agricultural prosperity, economic levels and other indicators of progress. Banks in Southern India have larger branch networks, higher volumes of business, a wider customer base and report better quality of assets. The

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Apart from stimulating a higher level of commercial activity in the states of Karnataka and Kerala, the UNEP Loan Programme can encourage replication in other parts of the country.

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region also has the highest number of vendors of PV products.

Further, Southern India is homogenous in many ways, making replication more easily possible in all five States.

The failure of the local grid also presents a good incentive. Although Karnataka State claims to be fully electrified (26,702 out of 27,066 villages electrified<sup>2</sup>), only 31% of rural households have electricity compared to 76% of urban households. Chronic power shortages are endemic and individual households face power shutdowns for several hours during the day and night at irregular times. Peak hour shortages were 16%<sup>3</sup>. Power tariffs of grid power have gone up drastically in recent times and further increases are expected.

### **Good business for Vendors**

India's largest vendors operate out of Karnataka and have a strong marketing base there, as well as neighbouring States. In Karnataka, they prefer to sell their SHS directly to individual households independent of the Government-sponsored programs. Karnataka has one of the largest after-sales networks of any State in India.

The customer base is maturing with customers willing to pay for SHS from their own funds and not expecting support under the Government-sponsored programmes as in several other States. They also realize that the quality of grid power is unlikely to improve in the short-term and tariffs likely to increase.

### **Good banking infrastructure**

Karnataka State has a very large banking network with nearly 5,000 bank branches or 7% of total Indian bank branches. Most of these (67%) are in rural areas and provide ready-made platforms to deliver credit. The culture of banking is strong and credit history good.

UNEP's partner banks, Canara Bank and Syndicate Bank, are among the biggest in India, with headquarters in Karnataka and an extensive State network of more than 1,000 branches. India's largest Grameen banks, eight of which are owned by Canara and Syndicate Banks, are also from Karnataka and maintain 800 branches.

## **CREDIT ACCESS IMPACTS PV MARKET**

Access to credit is improving sales of SHS because the initial cost of buying a SHS is high and only a small percentage of rural households can afford to pay up-front to acquire a system. Loans provided at concessional interest rates have made it affordable for households.

Credit access has improved due to both the increased number of Bank branches providing finance – now greater than 1800 – and the reduced financial burden that the interest rate subsidy provides.

### **Improving credit access**

Banks only provide loans for SHS manufactured and supplied by the Qualified Vendors whose products meet set Technical Specifications<sup>4</sup>. They adhere to their normal lending policies and loan appraisal criteria, subject to UNEP-stipulated conditions in line with objectives of the Loan Programme. Market principles are followed – product configurations, choice of vendors, pricing, etc – and the banks administer loans using a decentralized approach.

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“The banking system touches the lives of millions and has to be inspired by a larger social purpose and has to subserve national priorities and objectives such as rapid growth of agriculture, small industries and exports, raising of employment levels, encouragement of new entrepreneurs and development of backward areas.”

*Government's banking policy since 1969*

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## WHY BANKS?

India has a vast rural banking system with national presence, comprising the commercial banks, co-operative banks, Grameen banks and their allied concerns. They have an extensive rural network and a wide range of banking products for the poorest segments of the population. Besides being driven by credit-linked poverty alleviation government lending initiatives, Indian banks apply corporate social responsibility principles strongly in their businesses. Their credibility, institutionalized management and control systems, understanding of local socio-economic realities and standing amongst the communities that they serve make them the best dispensers of rural credit.

Indian banks have over 47,000 branches in rural areas, constituting over 70% of the total number of bank branches in the country. Loans to agriculturists, small industries and the poor represent 34% of total lending.

### **Credit Access is Improving**

- *Increased number of Banks providing finance for SHS;*
- *Reduced financial burden for borrowers;*
- *Enabling continuity of bank loan schemes beyond the tenure of the UNEP Programme;*
- *Number of Bank branches lending for SHS is now around 1,800; and*
- *Effective interest rate for SHS loans started at 5% p.a. and is now 7%, compared to a commercial rate of 11%.*

The Banks have considerable experience designing, customising, launching and implementing special loan programmes in rural areas where they operate. Some of their products have been accepted nationally and adopted by the rest of the banking industry. They also maintain systems for handling special loan programmes.

The Banks have a strong stake in developing their own capacity for new loan products with in-house training facilities and the resources to reach potential customers. They have the ability to significantly impact the local communities they serve, and their efforts have ultimately gained them important customer relationships in those areas. They also have the necessary skills to interact with and influence their customers – such competencies are extremely useful for UNEP and helping Vendors expand the market.

### **Canara Bank and Syndicate Bank**

UNEP's partner banks, Canara Bank and Syndicate Bank, have a significant physical presence and strong brand equity in Karnataka, particularly in rural areas. They also sponsor eight Grameen Banks in Karnataka, which allows them to reach remote corners of the State.

### **UNEP/Bank Partnerships**

UNEP has formal "Fund Support" Agreements with Canara Bank and Syndicate Bank to implement the Loan Programme through their branches and those of their Grameen Banks in Karnataka. The Banks provide consumer loans to buyers of SHS, stipulating that UNEP-qualified

### **Financial Support to Banks**

Interest Subsidy	USD 900,000
Awareness Programme Costs Grant	
▪ Promotional Costs	USD 90,000
▪ Other Awareness Costs	USD 10,000
<b>Total</b>	<b>USD 1,000,000</b>

- **Interest Subsidy** is the difference in interest rates that helps borrowers pay a lower effective interest cost while the Bank earns the Prime Lending Rate (PLR). Currently, the interest subsidy is the difference between the PLR and 7%, or approximately 11%. The entire interest subsidy is passed on to the borrower.
- **Marketing Costs Grant** helps the Banks market the SHS loan product and partly compensates them for the high transaction costs involved with disbursing small loans.



Vendors adhere to strict technical specifications, after-sales service and good practices. The Banks have created tailored lending policies for SHS buyers, such as subsidized interest rates and simplified lending procedures and practices. However, the credit decision is at the discretion of a Bank that normally follows their standard loan appraisal and management practices.

### **Banks are interested**

The banking system has ample capital and is keen to enlarge its portfolio of rural banking products. Perceptions are positive about the market potential for solar loans. Helping poor rural households buy SHS makes a powerful social slogan in banking. Although vendors are the main drivers for marketing SHS, in several places dynamic bank personnel have contributed significantly to increased sales. Most branches have internal business targets for sanctioning SHS loans. Following the Programme's launch, SHS has proved popular in several new areas of the two States.

More than a third of the total number of bank branches<sup>5</sup> in Karnataka State are involved in the Loan Programme.

## **LOAN PRODUCT STRUCTURE**

### **Demystifying a new technology**

Bankers seldom lend for an unfamiliar product and SHS is no exception. The UNEP Loan Programme helps them understand the technological issues while creating safeguards such as good practices for manufacturing, sales and service. Branch personnel at grassroots level are educated about the key concerns pertaining to photovoltaic technologies and the importance of after-sales service infrastructure. UNEP has:

- Set technical specifications benchmarked against best international product standards;
- Created a set of good practices;
- Qualified the vendors and monitored their

performance; and

- Assisted banks in training their personnel.

Both Canara Bank and Syndicate Bank have been sanctioning loans under the Government-sponsored Solar Water Heater Loan Programme. UNEP's intervention has further helped them to enter the SHS market. To date, the five Qualified Vendors have maintained good standards of product quality, information disclosure and after-sales service.

### **Building relationships**

To maintain a strong after-sales infrastructure, relationships between the Banks and Vendors have been forged to safeguard against premature failure of the product. In these relationships:

- Banks have the comfort of a 5-year maintenance contract to cover the full period of the loan;
- Vendors provide long-term product warranties;
- Vendor sales and service offices are situated in close proximity to the bank branch;
- Banks work closely with Vendors to assess credit risk and process loan applications;
- They jointly market the technology through village meetings and other publicity platforms; and
- Vendors help Banks recondition failed SHS in the event of loan defaults.

### **Encouraging good sales and service practices**

SHS specifications have been standardized, and

#### **Banks participating in the Loan Programme**

	Bank	Number of Branches in Karnataka
1	<b>Canara Bank</b>	542 <sup>1</sup>
2	Tungabhadra Grameen	169
3	Chitradurga Grameen	94
4	Sahyadri Grameen	30
5	Kolar Grameen	65
6	<b>Syndicate Bank</b>	506 <sup>1</sup>
7	Bijapur Grameen	93
8	Malaprabha Grameen	248
9	Varada Grameen	31
10	Netravathi Grameen	23
	<b>Total</b>	<b>1,801</b>

common good practices for sales, warranties and service have been implemented. Pricing is transparent and determined by the market, promoting competition and preventing price fixing. Although price lists must be published in advance, prices are not fixed by either UNEP or the Banks. They are merely indicative and meant to serve as benchmarks for Bank appraisal.

#### Limited risk of loan default

Rural lending is an attractive proposition for banks since repayment records are generally good. Banks did not see the need for a UNEP-backed default risk guarantee. The experience in the first 18 months of operations has been good with no defaults reported to date.

#### The role of financial incentives

Borrowers are offered loans at a reduced interest rate, which is about 4% below Bank Prime Lending Rates. Even as subsidies decrease, Loan volumes continue to rise, which clearly shows that it is the *availability* of the loan and *not* the interest subsidy that is driving demand. At the same time, an interest subsidy presents a strong incentive for customers to purchase a system. The interest subsidy is:

- **Back-ended:** Banks charge customers at the commercial rates of interest and use the interest subsidy to make the final payments.
- **Phased:** The amount of interest subsidy is subject to change and will progressively be reduced to zero when the UNEP intervention ends and loan interest then linked to prevailing commercial rates.

The effective rate of interest over the lifetime of the loan was 5% for loans approved before September 2004, and is 7% for current approvals.

#### Financial incentives for the Bank

High transaction costs are one of the main deterrents to extending low-value loans for SHS. Banks are paid a promotion fee of Rs 300 per loan account to help them meet the costs of

special promotions in the form of publicity and information activities and to partly defray the transaction costs of processing loans.

The participating banks draw support funds in advance based on a 6 monthly *Business Plan*, and branches can follow simplified procedures for calculating subsidies and reporting on their loan disbursements. Vendors are also permitted to assist Banks in the processing of loan applications.

#### A wide spectrum of buyers

Loans are available for households and small businesses. The poorest households can access bank loans through Self-Help Groups of which they are members. The Programme is structured so that:

- Buyers have to pay only 15% up front, as opposed to the conventional 25% deposit normally required;
- Loans can be repaid over 5 years against the normal 3 years for other non-home banking loan products; and
- Loan security and documentation requirements are simplified, making it easier for borrowers to access the loans.

The Loan Programme is principally directed at helping rural households finance the purchase of a Solar Home System. Most of the demand is indeed in rural areas where the grid power is unreliable or unavailable. Bank lending to non-rural SHS customers is restricted to 30% of their total loan portfolio and the Rs 25,000 ceiling on loan size makes it less interesting for urban households to take loans, as their funding requirements are normally higher.

#### Building markets

The market for SHS loans is being built through village meetings to demonstrate products and educate potential customers under the auspices of the Bank branch. UNEP helps to cover the cost of publicity materials used by the Banks for such events. Vendors help Bank personnel to

#### Loan Popularity

*Loans are becoming popular due to:*

- **Reducing Down Payment on loans: from 25% to 15%, making loans accessible to poorer households;**
- **Reduced Lending Rates when compared to equivalent consumer loans at about 13%;**
- **Simplified lending requirements.**

deal with customers effectively while UNEP helps to train bankers.

## COMMERCIALISATION AND SUBSIDIES

### Subsidies and markets

In the initial stages of market development, front-end capital subsidies were needed, but continuing them has created expectations and a 'subsidy mind-set' in buyers, which has stifled commercial SHS sales. Thus, despite the fact that capital subsidies have been instrumental in accelerating sales of SHS in the initial stages, they are now hampering growth of a healthy SHS market.

A subsidy should *not* be seen as the leading factor to buy SHS; it has to be suitably packaged to ensure that customers buy SHS because it is a preferred option to supply energy. The UNEP Loan Programme is devised with this in mind, helping the borrower with a 'back-end' interest subsidy conditional on prompt repayment of the entire loan. Further, the interest subsidy is progressively reduced over the Programme's 3-year life.

Improving access to credit is a higher priority than reducing interest costs. The pressing need is to increase the number of Banks and branch networks offering loans to buy SHS. Providing financial incentives supplements the financial ability of the borrower, creates market awareness among customers and bank managers, and provides a moderate incentive to buy the product.

### Interest subsidies encourage lending

The back-end subsidy ensures that loans are not tainted by the stigma of front-end subsidies, and the levying of commercial rates on the loan ensures borrowers absorb the amortisation costs themselves. This approach also recognises the reality that SHS buyers are more concerned with obtaining access to financing than specifically reducing the cost of systems.

The back-end subsidy is a quasi-Guarantee Fund for the Banks, providing them collateral in the event of default by the borrower and elimi-

nating the need for UNEP to establish a credit risk default Guarantee Fund. Banks favour back-end subsidies, primarily because they carry a built-in incentive for prompt repayment by the borrower, partially defray the cost of bad loans and drive demand.

### Phasing out interest subsidies

UNEP will gradually phase out interest subsidies by increasing interest rates up to the commercial

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Has the Government reoriented its own approach to its large SPV programme?

*"The [new MNES] interest subsidy scheme is aimed at expanding the commercial market for SPV products in the country so that the capital subsidies can be gradually phased out." – MNES policy statement in December 2003".*

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levels prevailing at the time when the Loan Programme ends. The first mark-up in interest rates to 7% took place in September 2004 with a second increase to 9-10% (close to current PLR rate of 10.75%) scheduled for 2005.

This gradual removal of subsidies will enable the UNEP Loan Programme to reach approximately 23,000 households by the time the Programme ends.

## VENDORS & AFTER-SALES SERVICE

### Building market infrastructure

The key issues in building market infrastructure are:

- Technical standards, allowing flexibility in system types and configuration;
- Good practices for sales, service and disclosing information; and

### Qualified Vendors

	Vendor	Number of Sales/ Service Offices in Karnataka <sup>1</sup>	
		In 2002	Today
1	Kotak Urja Private Limited	5	5
2	Selco Solar Light Private Limited	17	23
3	Shell Solar India Private Limited	10	16
4	Tata BP Solar India Limited	8	14
	<b>Total</b>	<b>40</b>	<b>58</b>

- Qualified vendors capable of providing quality products and reliable after-sales service.

The Programme has benchmarked technical specifications to international standards, but aligned to Indian operating conditions. These standards mandate product testing and certification by independent bodies, and defines restrictions on warranty support and after-sales service. Banks and buyers have access to information to make informed decisions and to be aware of incidences of sales malpractices.

Unlike other programmes, UNEP sets standards for disclosure of pricing information. Actual pricing of SHS, however, is a decision between the vendor and buyer.

#### Qualification of Vendors

The Programme maintains an on-going qualification process for Vendors, who will be added and deleted from the Programme from time to time depending on an assessment of their performance and compliance with the criteria. The initial qualification was based on an open bidding process - A Request for Proposals was published in October 2002, and Vendor Participation Agreements signed with 4 selected Vendors in December 2002. The process is still open; any Vendor can obtain the qualification package and apply for qualification. One further vendor was qualified in 2004, bringing the total to five.

Qualified Vendors are reputed leaders in the Karnataka commercial SHS market with sales and service networks across the State. They participate in advertising and publicity initiatives associated PV technologies, SHS and the Loan Programme; demonstrating their products, attending village meetings and helping to train bank personnel.

Qualified Vendors offer standard product warranties and have firm service contracts for the full five-year term of the loan. Besides routine servicing, they are responsible to the Bank for repairs/ replacements/ resale of Solar Home Systems that are repossessed from defaulting customers.

## COMMERCIALISATION STRATEGY

The UNEP Loan Programme operates on market principles. Vendors are qualified through an ongoing transparent selection process with no restrictions on the number of qualified vendors. Vendors are free to decide their product configurations<sup>6</sup> and prices, and customers are free to choose a vendor.

Banks are also free to package their loan products as they wish. The only stipulations are that the borrowers get the full benefit of the interest subsidy while the Banks adhere to the principles of simplicity and ease of offering loans. More banks beyond the ten<sup>7</sup> who are partnered by UNEP are free to participate in the Loan Programme, although the present budgetary constraints only allow UNEP to provide technical support and not financial assistance.

The subsidy will be phased out and interest rates will be progressively moved up to commercial rates of interest by the end of 2005.

#### Subsidies promote commercialization

The Loan Programme demonstrates an alternative to the capital subsidy-approach. Banks charge their borrowers at commercial rates of interest, although the effective interest cost to the

borrower is reduced through the mechanism of an interest subsidy. This is similar to MNES interest rate subsidy programme for promotion of solar water heaters. However, the UNEP approach differs as interest rates are scheduled to go up over a period of time and reach market rates within 3 years from Programme launch. The Programme will be considered successful if it concludes with loan figures continuing to grow as the subsidy is removed.

Marketing emphasis is on the easier access to bank loans, not the subsidies that go with it. Subsidies are being reduced in 2 stages with an initial interest rate increase in 2004 and subsequent increases in 2005 that will end with loans charged at commercial interest rates.

### **High standards**

The Loan Programme has set high standards for sales and service that empower both the banker and the SHS buyer. Thanks to the availability of loans, Qualified Vendors have a dominant role in the industry and setting benchmarks for the other vendors to follow. Safeguards built into the Loan Programme ensure free market dynamics and ensure sustainability of the lending products. The partner-Banks adopt appraisal and lending practices that serve as a model for other banks to follow.

## **REPLICATION**

Conditions in the rest of South India are similar to conditions prevailing in Karnataka State. The four other South Indian states suffer the same electricity shortages and offer the same infrastructure in terms of banking. Some similar lending initiatives have been launched in the neighbouring state of Andhra Pradesh<sup>8</sup> along the lines of the UNEP model. Both Canara Bank and Syndicate Bank have launched similar Loan Programmes (with limited funding support from UNEP) in the neighbouring State of Kerala.

Currently, the Loan Programme works with 2 tiers of Banks:

- The Government-owned nationalized Canara Bank and Syndicate Banks that have a national presence, cosmopolitan banking culture, reach and business focus: and

- The Grameen Banks with region-specific operations and dedication to rural banking.

The Loan Programme sets standards for other similar banking entities to follow. Independently, some vendors are already discussing with other banks ways to replicate the same lending model.

### **The role of Banks**

Banks customarily lend to their existing customers and Canara, Syndicate and the Grameen Banks are no exception to this banking practice. Even under the UNEP Loan Programme, it is largely the existing customers of the participating Banks who have sought loans to buy SHS. This has stifled the buying ambitions of other households, which applies peer pressure on other Banks to follow the lending model and launch their own Loan Programmes so customers are not left out.

Other banks operating in Karnataka, including Vijaya, Corporation, Karnataka Bank and Krishna Grameen Bank, have approached UNEP to create partnerships to launch their own Loan Programmes. With budgetary constraints, UNEP has offered non-financial assistance in guiding similar Loan Programmes at these Banks. The interest displayed by the Banks demonstrates that the replication strategy is working.

When the Programme was launched, the Qualified Vendors operated out of 40 offices. They have now expanded to 58 outlets.

Both Canara Bank and Syndicate Bank have proposed to extend the Loan Programme to other districts in the neighbouring states of Kerala and Andhra Pradesh. In early 2004 the loan Programme was extended to some regions in Kerala, and 340 loans were processed between April and November. UNEP is in discussion with the Rayalseema Grameen Bank in Andhra Pradesh to adopt the same lending model with limited UNEP support.

## **Built-in replication**

The Loan Programme is structured to operate in a decentralized fashion, which relies on grass-roots marketing and loan sanctions. Other than basic guidance and control systems, individual offices of Vendors and Banks transact loan business independently and follow simple procedures for funding, capacity building, loan processing and reporting. There are no special banking procedures to be followed, and the Loan Programme conforms to the normal standards of bank policy and practice. Any bank at any location in India can replicate these procedures without any special intervention.

By its design and structure, the Loan Programme will hopefully encourage commercial loan replication through:

- *Larger loans:* Banks now finance at commercial interest rates larger SHS where the loan size exceeds Rs 25,000, the loan ceiling of the UNEP Loan Programme<sup>9</sup>.
- *Alternating Current SHS:* Currently, the technical specifications only permit funding to buy DC Solar Home Systems. The increasing popularity of higher-end AC systems is putting pressure on banks to extend loans at commercial rates of interest for AC systems.
- *Government-sponsored programmes:* Banks have been granting loans for SHS that use capital subsidies provided by the Government<sup>10</sup>.
- *Simplicity of lending model:* With its Vendor qualification process, the UNEP Loan Programme can serve as a model for other banks to follow regardless of whether financial assistance is available or not.

## **Vendors and Dealers**

Prior to the launch of the UNEP Loan Programme, SHS were popular in only some regions of the State. But the marketing strategies employed, strengthened by the easy availability of loans, have encouraged Vendors to venture into new regions in the State and to build new markets.

Up until April 2004, only the Qualified Vendors were eligible for funding under the UNEP Loan Programme. Recognizing that Qualified Vendors often have dealers who are active and dynamic marketers of their suppliers' products, these

dealers will be permitted to seek loans for their customers. This moderation in the entry criteria is expected to aggressively drive dealership sales and stimulate loans in certain areas.

## **Government**

In December 2003, the Government announced its intention to launch a loan programme to finance photovoltaic (PV) systems using the subsidized-interest model. When launched, it is likely to complement the existing UNEP Loan Programme and result in a larger coverage of bank branches for solar lending.

## **Village Projects**

Qualified Vendors have reported successful marketing to household clusters in some villages, which has resulted in SHS sales for 50-150 houses at a time. This mass conversion has the potential to motivate other villages to follow suit and signals a significant shift in the customer mindsets and Vendor marketing strategies.

The *Shree Kshetra Dharmastala Rural Development Project* ("SKDRDP") has been working in several dozen villages to help disadvantaged households in 2 districts in Karnataka to buy Solar Home Systems entirely on commercial terms. Of late, SKDRP-sponsored households have also started seeking loans under the UNEP Loan Programme.

## **SELF HELP GROUPS (SHGs)**

### **Reaching poor households**

In a customer survey, 7.5% of households in a portfolio of around 850 loan accounts<sup>11</sup> in several branches of Canara and Syndicate Banks revealed that most borrowers earn upwards of Rs 50,000 per annum. This is primarily because (a) these customers have the capacity to repay the loans, and (b) Banks view them as an acceptable credit risk. In view of their higher social standing, it is also expected that they serve as demonstration models for poorer households to follow. Vendors appear to skew their SHS marketing to the more affluent rural households.

Vendors have no marketing strategies for the very poor despite the fact that each bank branch has several credit-linked Self-Help Groups<sup>12</sup> ("SHG")<sup>13</sup>. For the most part, the Banks' enthusiasm to lend more money to SHGs is not matched by marketing efforts on the part of the Vendors. Vendors need to be better informed about the potential to sell SHS to SHG member-households and intensively market SHSs in collaboration with bank branches.

Consequently, SHGs are the best route to extend SHS to poor rural households and obtain loans from the banking system.

## BUSINESS PLANNING, REVIEW AND FEEDBACK

### Bank Planning

Banks file a *Business Plan* every 6 months estimating the volumes of loans that they expect to disburse, which UNEP then uses to estimate

#### **SHG Plan of Action**

- *Help Vendor sales personnel discover marketing opportunities in SHS member-households and address banking issues relating to credit off take by SHGs.*
- *Village meetings are to be organised to help Vendors interact with SHGs that are credit-linked to the various bank branches.*
- *Large capacity building platforms for interacting with SHGs will be exploited such as training institutes run for SHGs by the Banks.*
- *With the best rural banking networks and the maximum number of SHGs, Grameen Banks will be motivated to carry out special SHS marketing campaigns and encouraged to increase the loan exposure to SHGs that buy SHSs.*
- *The present ceiling on loan size will be specially increased for lending to SHGs*
- *A different interest rate scheme will be tailored for SHGs which will protect them from the progressive increase in interest rate – i.e. SHGs may continue to take advantage of the loans at the subsidized interest rate of 5% while the rate for other categories of borrowers will be 7.5% or higher.*

financial and technical assistance. The financial support sanctioned for the ensuing half-year is then paid to the Banks in advance. The *Business Plan* also defines the plan of action for increasing accessibility of the loans to the target customers and reviews the process of commercialization.

### Vendor Review

Meetings are convened every quarter with Vendors to review progress, discuss new business strategies and troubleshoot problems. The four most important issues discussed to date have been how to:

- Effectively market the Loan Programme to SHGs;
- Ensure adherence to good practices of sales and service;
- Prepare for the withdrawal of subsidies and transit to commercial interest rates within 18 months; and
- Introduce PV-GAP technical norms for their SHS products.

### Field Visits

Field visits are conducted by UNEP representatives to various districts in Karnataka State to monitor activity at the grassroots level. Discussions are held with bankers, vendors and customers to address issues relating to satisfaction with the product/ service, capacity building, specific projects, etc. The field visits are held meet with officials at local offices of Vendors and Banks at least once every 2 months with most districts of the State visited in the past 12 months. Every one of the eight participating Grameen Banks (except one) has been visited in addition to Canara and Syndicate Banks.

### Bank Branch Audits

Participating Bank branches must be audited during the tenure of the Loan Programme. During January-February 2003, 26 branches of Canara and Syndicate Banks were audited, and certain departures from the stipulations for sales and service were found, mostly involving price transparency and consolidating 5-year service contracts.

Suitable remedial action has been initiated to rectify these variances, including:

- Stricter vigilance over the sales/ service practices of dealers/ agents of Qualified Vendors;
- Higher standards of price transparency and information disclosures for the customer; and
- Firming long-term service contracts.

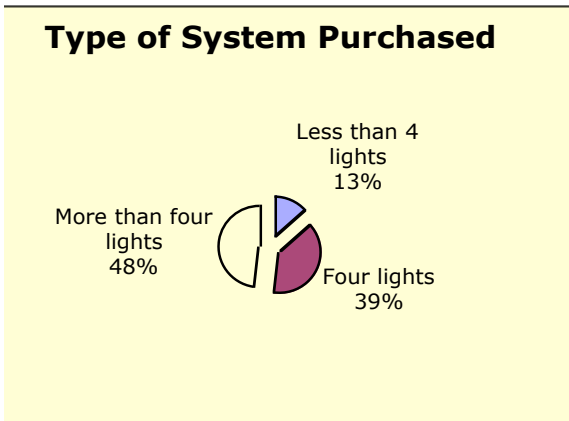
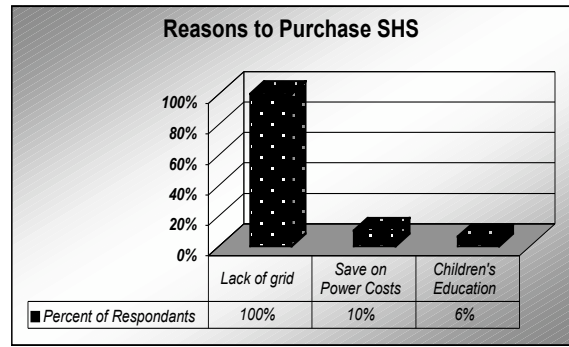
The next round of audits is scheduled for all 10 participating banks in Nov-Dec 2004.

### Feedback from Customers

A Customer Satisfaction Survey was conducted in January 2004 where 7.5% of the borrowers spread across 6 districts in the State were visited and polled on various issues. According to the results:

- The predominant reason for buying SHS was the acute power shortage in their village;
- Nearly 75% of the customers polled have opted for SHS with 4 lights or more;
- Over 90% of the customers are happy with their Vendors; and
- Customers are happy with the level of the Banks' service and loan processing protocols.

Based on the findings from the Audit and Customer Satisfaction Survey, procedure manuals have been further standardized and are being implemented at various sales offices Qualified Vendors, their dealers and Bank branches.





## FUTURE INITIATIVES

### Phasing out Interest Subsidies

Interest Subsidies are being phased out progressively with the first interest rate increase in September 2004. The Solar Loan rate will eventually align with commercial rates.

### Reaching poorer households

Marketing efforts of vendors and banks are to be intensified to sell more Solar Home Systems to members of Self-Help Groups, which represent

the poorest households in villages. To facilitate lending to Self-Help Groups, the ceiling on loan size will be increased.

### Replicating in other areas

Discussions are being held with more banks in Karnataka and neighbouring States to commence loan programmes without any financial support from UNEP.

## NOTES

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<sup>1</sup> Report of the Ministry for Non-Conventional Energy Sources, Government of India

<sup>2</sup> May 2001

<sup>3</sup> Year 2001

<sup>4</sup> Stipulated by UNEP

<sup>5</sup> Based on 2003 figures

<sup>6</sup> Within the parameters of the Technical Specifications stipulated by UNEP

<sup>7</sup> Canara, Syndicate and their 8 Grameen Banks

<sup>8</sup> In areas contiguous to districts in Karnataka State where the UNEP Programme is being run

<sup>9</sup> Under the UNEP Loan Programme

<sup>10</sup> UNEP Loan Programme does not permit a borrower to take the benefit of multiple subsidies – hence, the buyer who obtains the capital subsidy from Government is not entitled to interest subsidy under the UNEP Loan Programme

<sup>11</sup> Customers surveyed during the course of the Customer Satisfaction Survey conducted in Jan-Feb 2004

<sup>12</sup> Representing the poorest households in the village

<sup>13</sup> denotes that the SHG is entitled to credit facilities at that bank branch