PROMOTING BEE STAR LABELLING IN PUMP SET INDUSTRY BY STRENGTHENING BUSINESS DEVELOPMENT SERVICES

A case study in Rajkot Engineering Cluster

SIDBI
भारतीय लघु उद्योग विकास बैंक
SMALL INDUSTRIES DEVELOPMENT BANK OF INDIA

DFID Department for International Development

World Bank

teri
The Energy and Resources Institute

PROMOTING BEE STAR LABELLING IN PUMP SET INDUSTRY BY STRENGTHENING BUSINESS DEVELOPMENT SERVICES

A case study in Rajkot Engineering Cluster

Department for International Development

DFID is the British government department responsible for Britain's contribution towards international efforts to eliminate poverty. DFID works in partnership with developing country governments towards poverty alleviation. DFID supports long-term programmes to help tackle the underlying causes of poverty. DFID recognizes that the development of micro small and medium enterprises (MSMEs) is key to creating the jobs and income needed to reduce India's poverty. DFID is supporting the development of the MSME sector in India through MSME Financing & Development project (SMEFDP) being implemented by SIDBI. SMEFDP aims to enhance MSMEs' access to institutional finance and to market oriented Business Development Services. The Technical Assistance part of the project is funded by DFID.

MSME Financing and Development Project

SIDBI is implementing a multi-agency/ multi activity project (SMEFDP) for MSMEs. While SIDBI has been assigned the reasonability of implementing the project, the Department of Financial Services, Ministry of Finance, Government of India is the nodal agency for the same. The World Bank, Department for International Development (DFID) UK, KfW Germany and GTZ Germany are the international partners in the project.

The World Bank

The World Bank is a vital source of financial and technical assistance to developing countries around the world. Its mission is to fight poverty with passion and professionalism for lasting results and to help people help themselves and their environment by providing resources, sharing knowledge, building capacity and forging partnerships in the public and private sectors.

The World Bank is not a bank in the common sense; it is made up of two unique development institutions owned by 187 member countries: the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). Each institution plays a different but collaborative role in advancing the vision of inclusive and sustainable globalization. The IBRD aims to reduce poverty in middle-income and creditworthy poorer countries, while IDA focuses on the world's poorest countries. Their work is complemented by that of the International Finance Corporation (IFC), Multilateral Investment Guarantee Agency (MIGA) and the International Centre for the Settlement of Investment Disputes (ICSID). Together, they provide low-interest loans, interest-free credits and grants to developing countries for a wide array of purposes that include investments in education, health, public administration, infrastructure, financial and private sector development, agriculture and environmental and natural resource management.

The World Bank, established in 1944, is headquartered in Washington, D.C. It has more than 10,000 employees in more than 100 offices worldwide.

Published by

The Energy and Resources Institute (TERI), T E R I Press, Darbari Seth Block, IHC Complex, Lodhi Road, New Delhi – 110 003. India

For further details contact:

The Energy and Resources Institute, Darbari Seth Block, IHC Complex, Lodhi Road, New Delhi – 110 003

Tel. +91 (0) 11 2468 2100 or 4150 4900

Introduction

Micro, small and medium enterprises (MSMEs) play a very significant role in India's economy in terms of industrial production as well as employment generation. At the same time, many MSMEs continue to face barriers to their growth such as lack of awareness on or access to clean energy efficient technologies and operating practices; paucity of technical, management and marketing capacities; difficulties in accessing bank finance and R&D facilities; and so on. These barriers must be addressed and overcome in order to enable Indian MSMEs to face the challenges of an increasingly competitive globalized environment.

Towards this, the Small Industries Development Bank of India (SIDBI) is implementing a World Bank-led multi-agency/multi-activity project titled 'Small and Medium Enterprises Financing & Development Project' (SMEFDP). The aim of SMEFDP is to establish and strengthen business development services (BDS) at the cluster level in order to provide MSMEs with the technological, management and marketing support services they require for improving their productivity and profitability. The Energy and Resources Institute (TERI) has executed the project in two important engineering clusters: (1) Rajkot, in Gujarat, and (2) Mohali–Panchkula–Chandigarh, in Punjab/Haryana.

In the Rajkot cluster, TERI has focused on two important industrial segments: (1) foundries and (2) pump set manufacturers. This case study highlights TERI's work in the pump set industry segment. It provides a brief and simple account of how TERI has successfully identified and strengthened the capabilities of local consultants to promote the Star Labelling Scheme for energy efficiency (launched by Bureau of Energy Efficiency) among pump set manufacturers in Rajkot.

Backdrop

Pump sets are widely used to lift and transfer water in the agricultural, domestic, municipal and industrial sectors. According to industry estimates, about 10 million pumps are produced in India every year and the turnover of the industry is about ₹4,000 crores. The market for pumps is growing at an annual rate of 8%. Indian pump sets are also exported to several countries in the Americas, Africa, the Middle East and South Asia.

With nearly 250 manufacturers, Rajkot is one of the largest pump manufacturing clusters in India; others include Coimbatore and Ahmedabad. Most of the pump set manufacturing units in Rajkot are in the MSME category, and only 100 manufacturers have obtained licenses from Bureau of Indian Standards (BIS) for their products (figure 1).

The demand for pump sets is increasing with the rapid depletion of water resources across the country—leading to an increase in the number of pump set manufacturing units as well. The agricultural sector alone uses around 20 million pump sets for irrigation. These pump sets account for most of the electricity consumed by the agricultural sector (estimated at around 18%[1] of total electricity

Figure 1 View of factory floor, Falcon Pumps Pvt. Ltd

Source TEDDY 2010, The Energy and Resources Insititute, New Delhi

production in India). Studies and various pilot initiatives suggest that there is considerable potential to improve the energy efficiency of existing pump set models—in both hydraulic and electric motor components. Replacing all the 20 million pump sets used in the agriculture sector by energy efficient pump set models could yield electricity savings of up to 40%: this is equivalent to around 41,000 GWh annually (which is about 7.2 % of the total electricity production in India). Thus, there is a huge potential to save energy at the national level by a demand-side management (DSM) initiative to introduce energy efficient pump sets in the agriculture sector.

Clearly, there is need as well as enormous potential for conserving energy nationwide through the promotion of energy efficient pump sets. Such an initiative would help achieve two key objectives:

- reduce the overall electricity consumption in India
- reduce the subsidy burden on different state governments in respect of electricity supplied to the agricultural sector.

In order to promote the manufacture and use of energy efficient pump sets, the Bureau of Energy Efficiency (BEE) has come out with a 'Star Labelling Scheme' (BEE-SLS) for pump sets manufactured in

PUMP SETS AND ENERGY USE

Pumps are used to transfer water (or other fluids) from one place to the other, and often from lower levels to higher levels. For instance, a pump is used to move water from an underground water source or open well to the surface or from a pond or lake on the surface to a tank on top of a building.

Pumps need mechanical energy for 'pushing' or 'pulling' the water. Usually this mechanical energy is supplied by a motor, which runs on electricity. Hence, a pump set is made up of two main sections: an 'electrical' section comprising the motor and affiliated components, and a 'hydraulic' section comprising the mechanical components that are in actual contact with the water.

Different types of pump sets are used depending on the height through which the water has to be raised—called 'head'—and the volume of water discharge—called 'flow'. Small centrifugal pumps are used where the head is small, e.g. in areas where the water table is close to the surface, while submersible pumps are used in areas where the head is large, e.g. where the water table is deep beneath the surface. Submersible pump sets account for about 70% of all pump sets used in India. The Rajkot units manufacture four main categories of submersible pump sets: V3 (i.e. for 3-inch bore well) V4 (for 4-inch bore well), V6 (for 6-inch bore well) and V8 (for 8-inch bore well). They also produce centrifugal pumps mainly for the domestic and industrial sectors and mud-pumps for specialized applications.

BEE STAR LABELLING SCHEME

As part of its mandate to reduce overall energy consumption in the Indian economy, BEE launched an innovative Standards and Labelling Program for energy efficient appliances—including pump sets—in May 2006. The Program has the following aims:

- Create awareness on the economic benefits of energy efficient appliances/equipment, which provide quick payback on relatively higher capital cost and also offer better performance over longer periods
- Provide the users/consumers with reliable information on the energy performance of appliances/equipment, so that the users/consumers can make informed choices at the time of purchase
- Thereby spur the demand for as well as manufacture of energy efficient appliances/equipment.

In essence, the Standards and Labelling Program works as follows: (1) it prescribes certain 'minimum energy performance standards' (MEPS) for an appliance/equipment that must be met by manufacturers of that appliance/equipment; (2) it awards one or more 'stars' to the appliance/equipment, depending on whether it meets or performs better than MEPS; (3) it permits the manufacturer to affix the appropriate 'star label' on the appliance/equipment to inform consumers as to its energy performance. The energy efficiency of an appliance, and its star rating, is assessed through an elaborate testing and verification protocol managed by BEE.

The BEE 'Star Labelling Scheme' (BEE-SLS) is currently mandatory for frost-free refrigerators, tubular fluorescent lamps, room air conditioners and distribution transformers. It is voluntary for a large number of other appliances/equipment like agricultural pump sets, ceiling fans, colour TVs and washing machines.

India. However, awareness regarding BEE-SLS was very poor in the Rajkot cluster. Till April, 2009, when the project was started, not even a single pump set manufactured in Rajkot had the BEE star label.

In this backdrop, TERI intervened in the Rajkot cluster with the aim of generating awareness about BEE-SLS, and of building the capacities of BDS providers to enable pump set manufacturing units to adopt this energy efficiency labelling scheme for their pump sets.

Context

In the case of pump sets, the BEE Star Labelling System (BEE-SLS) covers only 3-phase motor pump sets of up to 15 kW in three categories:

1. open well submersible pump sets
2. submersible pump sets
3. mono block pump sets.

The minimum energy performance standards (MEPS) for pump sets under BEE-SLS are based on the existing quality and performance standards prescribed by Bureau of Indian Standards (BIS) for pump sets in the three categories. Specifically, BEE-SLS takes the BIS level of energy efficiency as the 'baseline' case for each category of pump set. Stars are awarded, one star at a time, for each 5% increase in energy efficiency of a pump set over this baseline. Hence, the difference between the baseline (BIS level) and the 5-star level under BEE-SLS is about 20 % in terms of energy efficiency (Table 1).

TERI had to consider a number of issues at cluster level while formulating its strategy to promote BEE-SLS among pump set manufacturers in Rajkot. These issues are briefly described below.

- Pump set units typically cater to a diverse market—ranging from bulk purchasers such as state government bodies, which procure pump

Table 1 Star labelling system for pump sets

BEE-SLS star rating	Overall energy efficiency of pump set (BIS = 1.0)
1 star	>= 1.0 and <1.05
2 star	>= 1.05 and <1.10
3 star	>= 1.10 and <1.15
4 star	>= 1.15 and <1.20
5 star	>= 1.20

BIS CERTIFICATION FOR PUMP SETS

The Bureau of Indian Standards (BIS) has a Product Certification Scheme aimed at providing users/ consumers with an assurance regarding the quality, safety and reliability of the products they buy. Manufacturers whose products meet the standards specified by BIS are allowed to affix the 'ISI Certification Mark' (also known as 'Standard Mark') on their products. BIS ensures that manufacturers conform to its standards through regular factory inspections and through testing of samples drawn both from the market and factory.

In the case of pump sets, BIS has notified standard specifications for various types of pump sets—covering, in each case, the materials used in components of the pump and the motor as well as the minimum energy performance of the pump set. There are nine BIS laboratories, as well as 121 BIS-recognized laboratories, in which pump sets can be tested for obtaining BIS certification. The procedure for obtaining BIS certification is broadly as follows:

- The manufacturer tests a pump set independently (either in his own lab or in a private lab) in order to ensure that it meets the minimum energy performance standard prescribed by BIS for that pump set category
- The manufacturer then presents the pump set along with relevant documents and prescribed fees to a BIS-recognized laboratory, which tests the pump set in order to confirm that it meets the various BIS standards including that for energy efficiency. A BIS inspection team may also visit the manufacturing unit to check on processes and quality control systems.
- If the test and inspection reports are satisfactory, BIS grants the manufacturer license to affix the 'ISI' mark on the pump set. The ISI mark is required to be renewed annually.

BIS certification is essentially voluntary for pump sets. However, manufacturers are motivated to obtain BIS certification for their products by the fact that ISI-marked pump sets are specifically called for by state governments while procuring agricultural pump sets in bulk for supply to farmers under various subsidy schemes.

sets for supply to farmers at subsidized rates, to individual customers like urban householders. The needs of different clientele vary widely in terms of pump set head and flow. Hence, a pump set unit typically has scores or even hundreds of pump set models, differing in head and flow as well as in design and materials used.

- Out of the 250-odd pump set units in Rajkot, only around 40 units have standardized brands of their own that are ISI-marked and marketed nationwide (and in some cases, overseas as well). The remaining 210 units are tiny in scale; these units are primarily engaged in assembling different components of pump sets into products that are sold mainly in local markets. Only some of the pump sets assembled by these tiny units are ISI-marked.
- Under the BIS certification scheme, license for the ISI mark is given to any pump set that achieves the minimum standard set for energy performance in its category. Intrinsically, therefore, the BIS scheme does not provide any incentive for manufacturers to declare an energy performance of their products that is beyond (better than) the set minimum BIS standard. As a result, before BEE-SLS was introduced, manufacturers were content if the testing laboratory certified a pump set model as achieving only the 'minimum' standard required under BIS —even if the lab tests showed that the pump set was actually yielding a higher level of energy efficiency!
- At the time of commencement of the project, not a single consultant was available in the Rajkot cluster to provide information and/or support in regard to BEE-SLS.
- Even the few manufacturers who were aware of BEE-SLS saw little benefits in obtaining BEE star ratings for their products, because:
  - they were already obtaining ISI marks for some or all of their products from BIS
  - the ISI marks from BIS were enough for them to bid for tenders floated by government bodies for bulk purchase of agricultural pump sets
  - application for BEE star rating had significant financial implications including a one-time security fee of ₹ 25,000 for MSMEs (₹100,000 for large scale units); a registration fee of ₹1000 for each pump set model; labelling fees; and renewal fee of ₹500 per label after 3 years.
  - With just one laboratory accredited by BIS for testing of pump sets in Rajkot, the testing of pump set performance afresh for BEE star rating would be a time consuming affair. Moreover, the testing cost would go up substantially, if the pump set had to be sent to the BIS-accredited laboratories in Ahmedabad or Vadodara.

Intervention

Approach and target

Keeping in view the cluster level issues summarized above, TERI evolved a two-pronged strategy to promote the BEE-SLS among the Rajkot pump set manufacturers:

1. Generate greater awareness within the pump set industry on BEE-SLS and the benefits it offered to manufacturers in terms of increased marketability and competitiveness of star-labelled products
2. Identify a BDS provider who could provide the pump set industry with technical advice as well as documentation support and other services required for obtaining star ratings for pump sets under BEE-SLS.

At the core of this strategy lay the recognition that BEE-SLS is not a replacement for the existing BIS certification scheme, but rather complements it; that BEE-SLS does not change or modify the modalities of pump set testing and performance assessment under the BIS scheme, but rather, only builds on

it by stimulating the market demand for energy efficient pump sets while simultaneously motivating manufacturers to produce more energy efficient pump sets.

Activities

The project established its cluster office in the premises of Rajkot Engineering Association (REA) in Rajkot. This proximity to the leading industries association helped the project's cluster team in coordinating its activities with REA, and in remaining closely engaged with pump set entrepreneurs and other industry stakeholders throughout the project tenure.

During 2009–10 the project interacted extensively with the pump set manufacturers in the Rajkot cluster, both through awareness generation meets and by visits to some of the leading pump set manufacturing units for one-on-one dialogues (figure 2). These interactions helped create awareness among the entrepreneurs on the BEE-SLS. They also enabled TERI to understand the issues and challenges already being faced by the pump set manufacturers in obtaining BIS certification, and to try and address them while promoting BEE-SLS under the project.

As mentioned earlier, at the start of the project there were no BDS providers involved in promoting BEE-SLS in Rajkot. Indeed, till 2009, not a single star label had been obtained for any pump set manufactured in Rajkot. The awareness generation meets and interactions with REA and pump set

PORTRAIT OF A BDS PROVIDER—LABH CONSULTANCY

Labh Consultancy was founded in 2004. Its proprietor Mr Shailesh Goswami began his career as a lab assistant in an engineering college in Rajkot. After a stint at a thermal power plant in Jamnagar, he returned to Rajkot in 1994 where he established himself as a consultant providing pump set units with testing, documentation and other support services in regard to BIS certification, ISI marking, registration of units with government procurement agencies, etc.

"In 1994 there were barely 8–10 pump set units in Rajkot," Mr Goswami recalls. "But in the years that followed, the number of pump set units increased rapidly and so did my business! The pump set industry is still growing; now, there are over 350 pump set units in Rajkot."

The rapid increase in his business led Mr Goswami to set up a regular office under the name Labh Consultancy in 2004 (Figure 3). It was in 2010 that he first heard about the TERI–SIDBI project and its aim to promote BEE-SLS in the pump set industry. He was very interested in getting involved although BEE-SLS was a new area to him. Bolstered by the training on BEE-SLS he received under the project, today Mr Goswami is well known throughout the Rajkot pump set industry as the only consultant capable of assisting units in obtaining BEE star labels for their products.

Figure 2(a) Awareness generation meet
(b) Awareness meet on government schemes for procurement of energy efficient pump sets

manufacturers enabled TERI to identify a consultant—Mr Shailesh Goswami of Labh Consultancy—who not only had well-established ties with the Rajkot pump set industry, but was also keen on acquiring the knowledge and expertise required to promote BEE-SLS among the pump set manufacturers.

TERI arranged for Mr Goswami to attend a training program on 'How to apply for star labelling' at BEE, New Delhi. The three-day training program was conducted at BEE from 24–26 February 2010, and covered all the steps that must be taken by a pump set manufacturer in applying online for star rating from BEE for submersible pump sets. Thereafter, the BDS provider took up the challenge of promoting BEE-SLS among pump set units in Rajkot through meetings with entrepreneurs. On its part, TERI facilitated Mr Goswami's efforts by highlighting the benefits of BEE-SLS during its regular meetings, workshops and other interactions with REA and entrepreneurs, and during events like the 'BDS bazars' organized under the project (figure 4).

"*Initially, it was very difficult to convince pump set entrepreneurs to adopt BEE-SLS,*" *says Mr Goswami.* "*They were already getting BIS certifications and ISI marks for their more popular submersible pump set models, some of which were being tendered for procurement by government agencies for supply to farmers under subsidy schemes. They could not readily perceive the need for testing and declaring the energy efficiency of their pump sets, nor the benefits of doing so…especially when the process of getting a star label entailed additional efforts, time and costs!*"

Figure 3 Labh Consultancy - Mr Shailesh Goswami at his office

Figure 4 BDS Bazar

The BDS provider therefore focused his efforts to promote BEE-SLS on the larger, more well-known units in the cluster: the idea being that once one of these units adopted the star labelling scheme, others would be encouraged to follow suit.

Replications

Thanks to the sustained efforts of the BDS provider in promoting awareness on the features and benefits of BEE-SLS, the breakthrough came in August 2010, when the leading pump manufacturer in Rajkot, Falcon Pumps Pvt. Ltd, successfully applied for and obtained star labels from BEE for four of its submersible pump set models: three models were ranked 4-star and one, 5-star. This step by Falcon Industries acted as a powerful catalyst for other pump set manufacturers in the cluster, and in the months that followed many more units sought assistance from Labh Consultancy for obtaining BEE star labels for their products.

By August 2011, the BDS provider had assisted 13 pump set units in successfully obtaining BEE star ratings for a total of 216 submersible pump set models.

Entrepreneurs' perspectives

Although initially wary about adopting BEE-SLS, the Rajkot pump set entrepreneurs are now adopting

the star labelling scheme in increasing numbers. They have realized that unlike the BIS certification scheme—which only requires that units must achieve the minimum performance standard set for a certain pump set category in order to obtain the ISI mark—BEE-SLS provides units with an incentive to increase the energy efficiency of their respective pump sets through its system of awarding star labels for incremental improvements in performance over MEPS.

Mr Dhirajlal Suvagiya, Chairman and Managing Director of the renowned Falcon Pumps Pvt. Ltd, is very enthusiastic about the potential of BEE-SLS to bring about a transformation in the pump set market. Already, Falcon Pumps has obtained star labels for about 100 pump set models; applications for around 60 more models are in the pipeline. Mr Suvagiya points out that the costs entailed in obtaining BIS certification as well as BEE star labels are usually loaded on to the cost of an energy efficient pump set, making it expensive compared to a low-performance 'unlabelled' pump set. To address this challenge, he suggests that the government should subsidize energy efficient pump sets, thereby allowing farmers and other consumers to access them and to compare their performances with the low-efficiency pump sets that still abound in the market.

"*The consumer knows how to discern the value of a good product; all he/she needs is the chance to access and use such a product. Once the farmers and other consumers become aware of the benefits of the star labelled pump sets—better energy performance, higher durability, longer life—they will only seek and purchase such models in future…even if the initial price is relatively higher.*"

Mr Suvagiya also views BEE-SLS in the larger context of national energy security. "*Agriculture consumes about 40% of the total 165,000 MW of power consumed in India—that's over 65,000 MW, most of which is used by pump sets for irrigation. Even a 15–20% improvement in energy efficiency of these pump sets would mean reducing power consumption in the country by at least 10,000 MW! The actual energy saving would be much more…because one watt saved in consumption is equivalent to around 2 watts saved in generation!*"

Mr Jayesh Patel, Managing Partner of Kiwi Pumps, reiterates the benefits as well as positive impacts of BEE-SLS. He has already obtained star labels for four of his 100-odd pump set models; another five applications are being processed. He supports the idea of making BEE-SLS for pump sets mandatory, as this would be an effective way to ensure that only energy efficient pump sets are marketed and used. He points out that the most popular (fast-moving) pump sets in the agricultural sector are in the range 5 HP–12.5 HP, and suggests that policies aimed at promoting the sales of star labelled pump set (e.g. through subsidies) should target pump set models in this range (figure 5).

Mr Chandreshbhai Pambhar, Proprietor, F-Tech Engineering Co., says his sales have gone up by 20–25% since December 2010, when he successfully obtained star ratings for six of his 200-odd pump set models. He has applied for star ratings for another 70 pump set models (figure 6).

Mr Rameshbhai Vakoria of Rotec Pumps has obtained star labels for six of his 200-odd pump set models. He presents an interesting and rather different perspective on BEE-SLS. "*I sold one star-labelled pump set to a longtime client, a farmer from Madhya Pradesh. However, within a few months he came back with the pump set, saying that it had*

Figure 5 Kiwi Pumps - view of shop floor

Figure 6 F-Tech Engineering - view of factory floor

stopped working! He insisted that I replace it with the same pump set model which he had been using earlier without problems—even though it did not carry a BEE star label! Upon investigation, I discovered that the motor in the star-labelled pump set did not function properly because the voltage in that district in Madhya Pradesh is consistently low!" For Mr Vakoria, this experience not only entailed a financial loss but also brought a lesson: an energy efficient motor needs to be coupled with an energy efficient pump of the correct size. Sub-optimal power supply conditions, like low voltage power supply could adversely affect the operating life of the pump and even lead to burning out of the motor.

One major bottleneck voiced by pump manufacturers was the process in obtaining the BIS certification from a BIS-approved lab. The Rajkot cluster has only one BIS-approved lab; the Technical Services Centre run by the National Small Industries Centre (NSIC), Government of India. In the absence of alternative testing facilities in Rajkot, the NSIC lab is overburdened with applications by the Rajkot pump set units for testing their products, leading to delays. The delays are compounded by the fact that the NSIC lab in Rajkot also has to meet the testing requirements of other industries in the cluster like foundries and machine tools. Typically it takes around two months for a unit to get a pump set tested and approved by the NSIC lab. As the unit can apply to BEE for the star label only after obtaining BIS certification, the process of getting BEE star label for a pump set takes around three months or even more! This kind of delay affects the manufacturers' marketing processes; often, it prevents them from bidding for government tenders for agricultural pump sets.

Given these circumstances, the pump set manufacturers point to the need for another BIS-approved testing centre in the cluster. In response, the project has facilitated the process of setting up a Common Facility Centre (CFC) in the Rajkot cluster. In this regard, the project has supported the formation of a Special Purpose Vehicle (SPV) in the cluster and the preparation of a Detailed Project Report (DPR) for the proposed CFC. REA has agreed to provide the land for setting up of the CFC. The SPV is in the process of submitting the DPR to the government for funding of the CFC. After its establishment, the CFC is expected to apply to BIS for getting itself approved as a BIS testing laboratory that can cater to the requirements of the local pump set industry in the Rajkot cluster.

BDS provider's perspective

Mr Shailesh Goswami too has benefited from the project. As the sole consultant for technical and advisory services related to BEE-SLS in Rajkot, he has widened his clientele as well as increased his capacities in providing a range of consultancy services related to BEE-SLS to pump set units. This in turn has greatly increased his business and also strengthened his ties with the pump set industry in the cluster.

Labh Consultancy is now able to provide the following services to Rajkot pump manufacturers (figure 7):

- assessing the energy saving potential of their various pump set models
- helping entrepreneurs in selection of pump set models for applying for BEE star ratings

Figure 7 Goswami provides guidance on BEE star labelling

- projecting the cost saving potential of the pump set models, thereby improving their marketability
- preparation of documents to support applications for BEE star rating
- filing and following up on online applications (e-filing) for BEE star rating

Mr Goswami explains why BEE-SLS is being adopted by an increasing number of pump set units. "*Thanks to BEE's nationwide awareness campaigns, farmers and other consumers are becoming more and more aware of the star labelling scheme and are regarding star labelled pump sets as being a better investment option than non-star labelled pump sets in terms of performance and long-term reliability. This acts as a 'pull' for energy efficient (star labelled) pump sets on the demand side. At the same time, on the 'supply' side, that is, among pump set units, we have been able to 'push' manufacturers to get star labels for their pump sets through creating awareness on the star labelling scheme. Once a pump set unit applies for star rating for a certain category of pump set, its competitors are motivated, indeed compelled, to do the same in order to remain competitive in the market—thus setting in motion an industry-wide thrust towards manufacturing energy efficient star labelled pump sets.*"

Mr Goswami feels that the adoption of BEE-SLS by pump set units can be facilitated at policy level—for instance, if the state and central government schemes for procuring agricultural pump sets in bulk specify that only BEE star labelled pump sets will be offered to farmers at subsidized rates. As an example, he cites a 2009–10 scheme of Gujarat Energy Development Agency (GEDA) under which GEDA established an 'approved list' of manufacturers of star labelled pump sets, and offered subsidies to farmers who bought their pump set(s) from one of these 'approved' manufacturers.

Taking stock

Table 2 lists the pump set units that have successfully obtained BEE star labels for their submersible pump set models with assistance from Labh Consultancy as of August 2011.

In addition to these 216 star-labelled pump sets, the BDS provider has processed applications for star labels for over 120 more pump sets which were awaiting clearance by BEE as of September 2011. He is also currently processing applications for star labels for over 320 more pump set models on behalf of 13 manufacturers; the models are awaiting testing and approval by BIS.

The project has thus achieved its aim of promoting the manufacture of energy efficient pump sets among pump set units in the Rajkot cluster through strengthening the capacities of a BDS provider, Mr Shailesh Goswami of Labh Consultancy, in the technical and documentation formalities required under BEE-SLS.

The pump set manufacturers are reaping the benefits of a growing market for their star labelled pump sets. They are also motivated to improve the energy efficiency—and thereby, the star rating—of their pump set models in order to maintain their competitive edge and widen their markets. On the 'demand' side, consumers are increasingly using star labelled pump sets, thereby reducing the overall energy consumption in the country.

Mr Goswami himself has seen a considerable growth in his business thanks to his increased capacities in providing consultancy services on BEE-SLS to the pump set industry. He is now training

Table 2 Units and pump set models that have obtained BEE star labels under project (2009–11)

No.	Unit	IS Standard	BEE star label licence period	No. of star labelled models
1	Falcon Pumps Pvt Ltd	▪ IS 8034:2002	▪ 09/08/2010–08/08/2013	4
		▪ IS 8034:2002	▪ 21/04/2011–20/04/2014	92
2	Rotec Pumps Pvt Ltd	▪ IS 8034:2002	▪ 20/08/2010–19/08/2013	5
3	Yash Manufacturers	▪ IS 14220:1994	▪ 02/11/2010–01/11/2013	1
		IS 8034:2002	▪ 13/12/2010–12/12/2013	4
		IS 8034:2002	▪ 18/02/2011–17/02/2014	7
		IS 14220:1994	▪ 17/03/2011–16/03/2014	1
4	Angel Motors	▪ IS 14220:1994	▪ 25/11/2010–24/11/2013	1
5	Siddhi Engineers	▪ IS 14220:1994	▪ 06/12/2010–05/12/2013	7
		▪ IS 8034:2002	▪ 14/01/2011–13/01/2014	46
6	Kiwi Pumps	▪ IS 8034:2002	▪ 13/12/2010–12/12/2013	4
7	B M Engineering Co.	▪ IS 14220:1994	▪ 15/12/2010–14/12/2013	3
		▪ IS 8034:2002	▪ 15/12/2010–14/12/2013	11
8	F-Tech Engineering Co.	▪ IS 8034:2002	▪ 22/12/2010–21/12/2013	6
9	Wealth Submersible Pumps	▪ IS 8034:2002	▪ 14/01/2011–13/01/2014	4
		▪ IS 8034:2002	▪ 14/01/2011–13/01/2014	1
10	Hero Pumps	▪ IS 8034:2002	▪ 10/05/2011–09/05/2014	6
11	Jalganga Electricals	▪ IS 8034:2002	▪ 31/05/2011–30/05/2014	4
12	Gujarat Forging Ltd	▪ IS 8034:2002	▪ 28/06/2011–27/06/2014	5
13	Alidhra Pumps Pvt Ltd	▪ IS 14220:1994	▪ 08/08/2011–07/08/2014	4
	TOTAL			216

another consultant in providing support services to pump set units for the adoption of BEE-SLS.

Thus, the BEE-SLS is well entrenched in the Rajkot cluster, with an increasing number of units applying for star labels for their products. The adoption of BEE-SLS by the Rajkot pump set industry is expected to progress on its own momentum.

The Energy and Resources Institute

TERI (The Energy and Resources Institute), a dynamic and flexible organization with a global vision and a local focus, was established in 1974. A unique developing-country institution, TERI is deeply committed to every aspect of sustainable development. From providing environment-friendly solutions to rural energy requirements to helping shape the development of the Indian oil and gas sector; from tackling global climate change issues across continents to helping conserve forests; from advancing solutions to the growing urban transport and air pollution to promoting energy efficiency in the Indian industry, the emphasis has always been on finding innovative solutions to make the world a better place to live in. To this end, TERI has established regional centres in Bangalore (Karnataka), Panaji (Goa), Guwahati (Assam), Supi (Uttarakhand) and Mumbai (Maharashtra). It has set up affiliate institutes: TERI–NA (The Energy and Resources Institute, North America) in Washington, DC, USA and TERI–Europe, London, UK; and it also has a presence in Japan, Malaysia, the UAE, and Africa.

Small Industries Development Bank of India

SIDBI (Small Industries Development Bank of India) was established in 1990 as the principal financial institution for financing, promotion and development of industries in the small scale sector and to coordinate the functions of other institutions engaged in similar activities.

Mission

"To empower the Micro, Small and Medium Enterprises (MSME) sector with a view to contributing to the process of economic growth, employment generation and balanced regional development."

SIDBI has been supporting the MSME sector with various innovative schemes and special products in the areas of cleaner production and energy efficiency with the support of various Indian and international institutions. While finance is the basic need of the MSMEs, they also require different non-credit facilities such as equity capital, credit rating, technology transfer and upgradation, etc. To cater to these needs, SIDBI has set-up various subsidiaries / associates such as:

- SIDBI Venture Capital Ltd. (SVCL), an asset management company
- Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) to provide credit guarantee support to collateral free / third-party guarantee free loans
- SME Rating Agency of India Ltd. (SMERA), an MSME dedicated third-party rating agency
- India SME Technology Services Limited (ISTSL), a platform for MSMEs to tap opportunities at the global level for acquisition of modern technologies
- India SME Asset Reconstruction Company ltd (ISARC), the country's first MSME focused Asset Reconstruction Company