



IDCOL's Solar Energy Program

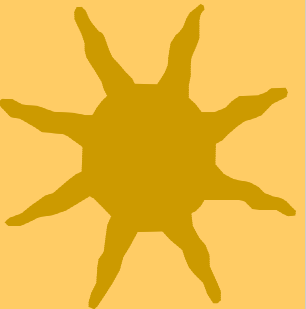
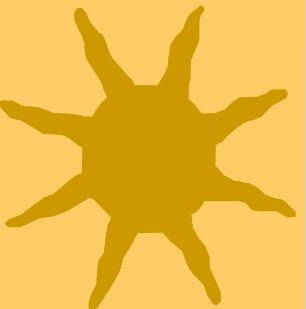
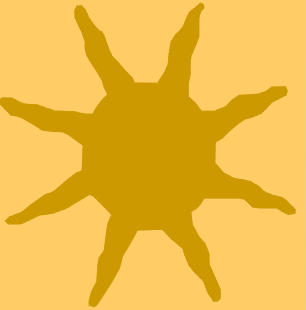
Infrastructure Development Company Limited
(IDCOL), Bangladesh

www.idcol.org



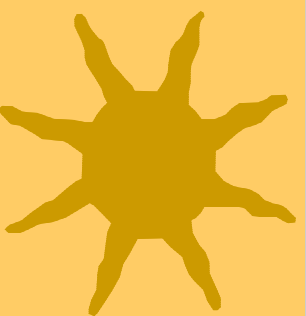
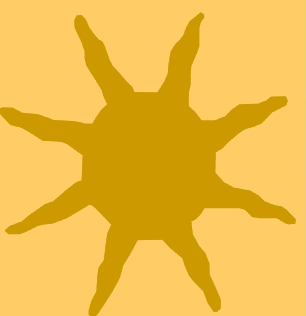
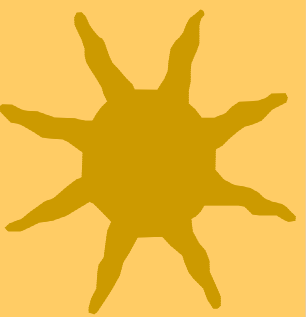
June 2008

IDCOL Solar Energy Program

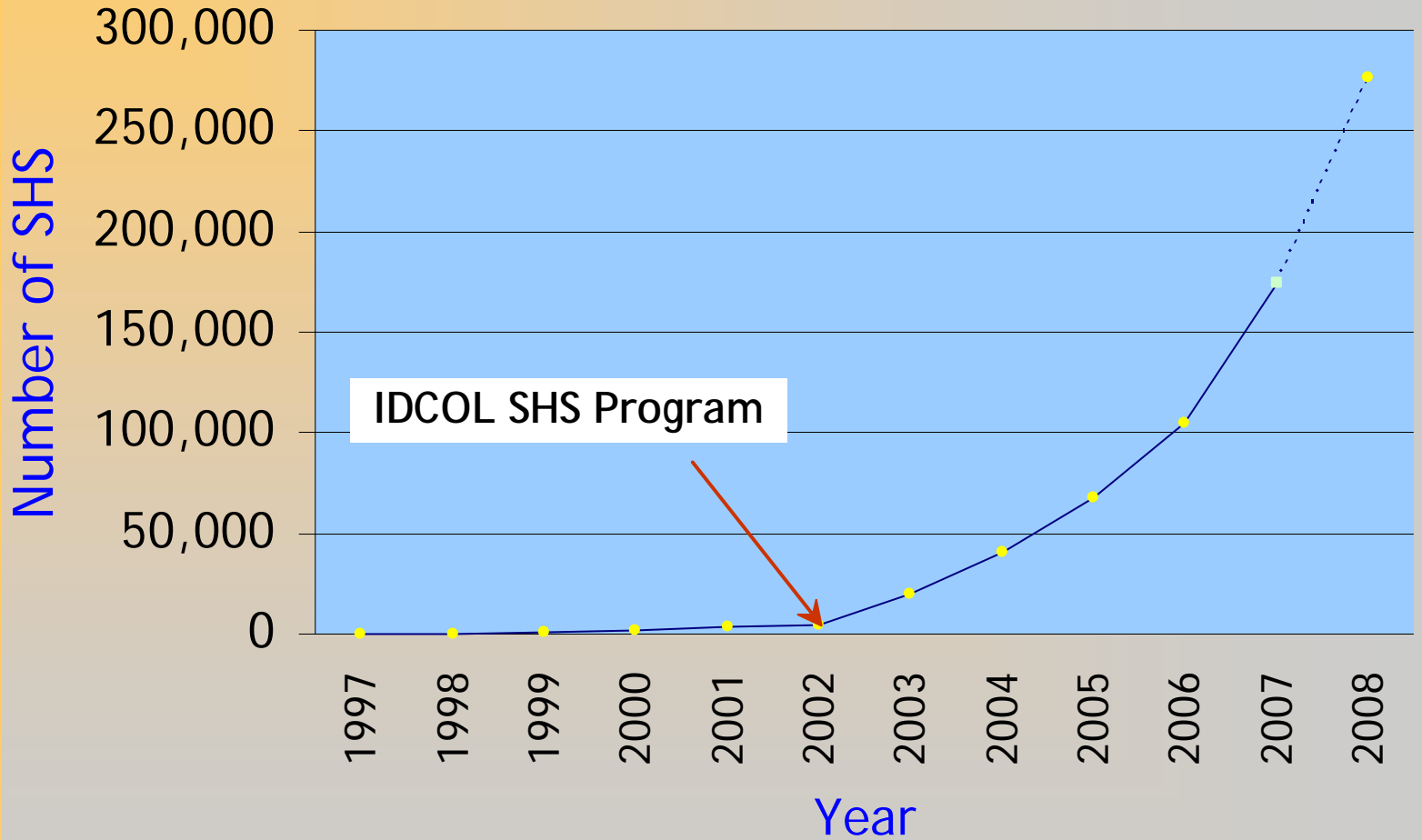


- ★ IDCOL started its solar energy program in January 2003 with the support from IDA and GEF.
- ★ Initial installation target was 50,000 solar home systems (SHS) in off-grid areas within five and half years.
- ★ Target was achieved in August 2005, 3 years ahead of completion date and US\$ 2 m below estimated cost.
- ★ Following this success, World Bank, GTZ and KfW have extended support.
- ★ Asian Development Bank is expected to support the program.
- ★ IDCOL has revised its target to 1 million SHS by 2012.
- ★ Installation of SHS up to May 2008 is 211,000 (11+ MW) i.e. more than 1 million users are getting electricity.





SHS Installation Status in Bangladesh





Carbon Credit

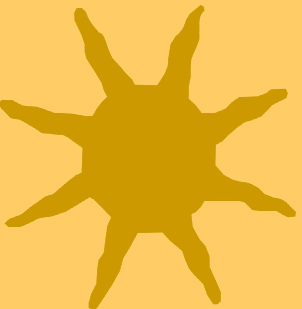
- ★ IDCOL signed Emission Reduction Purchase Agreement (ERPA) with IBRD on December 19, 2007, to avail Community Development Carbon Fund.
- ★ IDCOL is acting as bundling agency for the fund.
- ★ IDCOL will sell CERs for SHS installed during 2007 to 2012 at 9 EURO per CER.
- ★ Exploring the VER market for IDCOL's bio-gas program
- ★ This fund will be passed to the POs for further development of the program.



A Collaborative Effort

★ A collaborative effort of five partners:

- IDCOL: A Government of Bangladesh, owned financial institution having project finance and project management expertise. Works only for Private Sector development.
- Multilateral Agencies: Global experience in renewable energy projects, and financial resources
- NGOs/Micro-finance institutions: Operate at grass-root level and have expertise in micro finance activities
- Manufacturer/supplier: Dynamism in operation
- Professionals: Expertise in technology and rural development



Role of the Partners



★ IDCOL

- soft loans/refinance to POs on project finance basis
- grants to POs to reduce SHS cost and capacity building
- capacity building & technical assistance (training of PO staff and customer, logistic and promotional support)
- implementation agency and management of the program
- funds manager of bi-lateral agreements

★ Multi-lateral Agencies:

- provide grant and soft loans to IDCOL, directly or under bi-lateral agreements

★ NGOs/MFIs (Partner Organizations/PO's):

- identify areas/zones, select customers and install SHS
- extend micro-credit to customers
- provide after sales service

★ Manufacturers/suppliers: sell SHS or its components to POs

★ Professionals: participate in technical specification and social impact assessment of the program



Committees and Responsibilities

★ PO Selection Committee:

- Consists of the representatives from IDCOL, ministry and relevant government organizations.
- Selects PO to implement the program on the basis of intent, micro-finance experience and financial ability

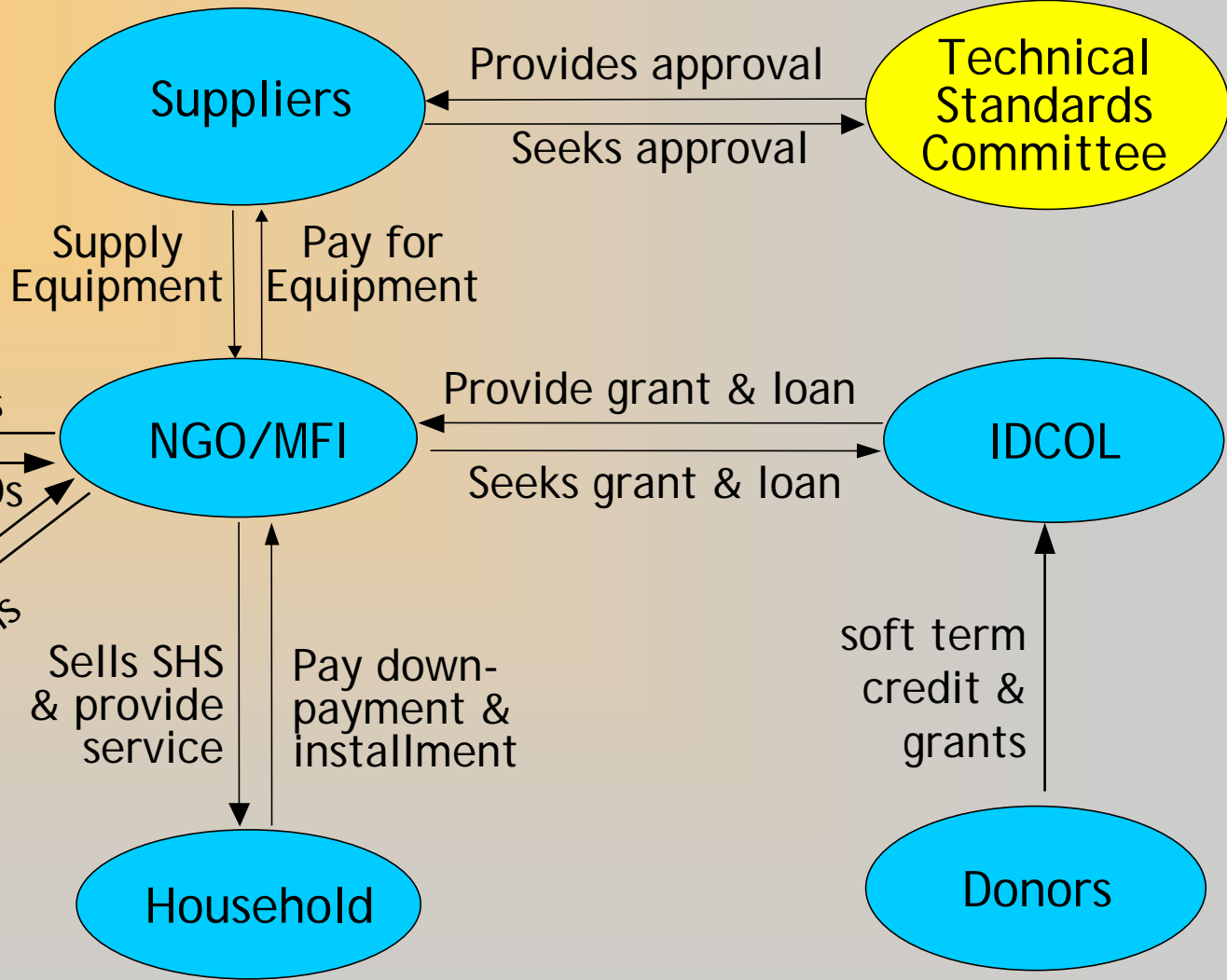
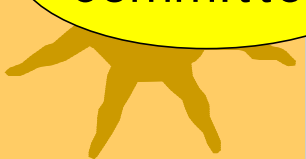
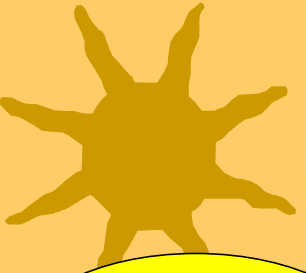
★ Technical Standards Committee:

- Consists of technical experts from universities, engineering departments of govt. and IDCOL
- determine technical standards, review product credentials of dealers, and approve eligible equipment

★ Operations Committee:

- Consists of program heads of POs and representatives from IDCOL
- look after the operational and business aspects of the program

Snapshot of Operation

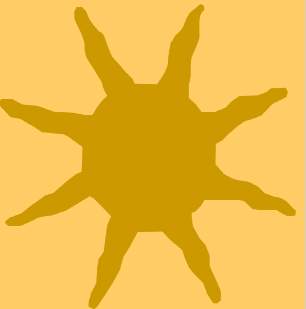
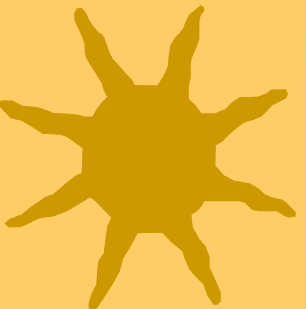




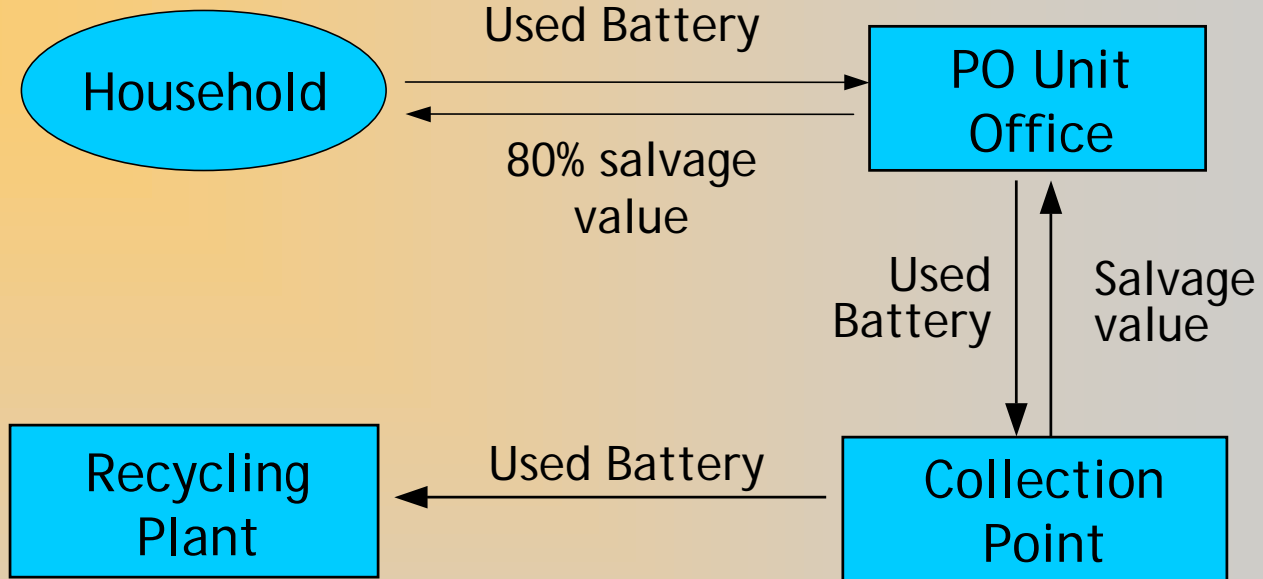
Sample Calculation for a 50 Wp SHS

Amount in US Dollar

(a) Solar Home System Cost	440
(b) Buy-down Grant from IDCOL	40
(c) Remaining Cost (b-a)	400
(d) Household Down payment [15% of (c)]	60
(e) Remaining Cost (c-d)	340
(f) Loan from IDCOL to PO [80% of (e)]	272
(g) Contribution of PO as loan to customer (e-f)	68



Battery Recycling

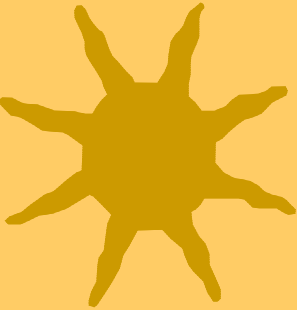


- Battery recycling under IDCOL's SHS program has been made compulsory
- Salvage value will be paid as per the contract signed between PO and battery manufacturer within 45 days of battery collection in the collection point.
- POs will not sell any new battery to the POs without collecting the old one.

Development Impact



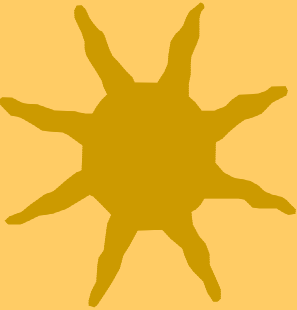
- ★ Improves quality of life of rural households through access to electricity
- ★ Provides clean lighting/energy
- ★ Improves health of children, females and other household members
- ★ No energy bills (recurring costs) for rural and less fortunate households
- ★ Provides opportunities for developing local entrepreneurship, income generating activities through micro/small business as well as extended hours of business activities
- ★ Establishes link with the outside world - entertainment, news through use of television



Development Impact

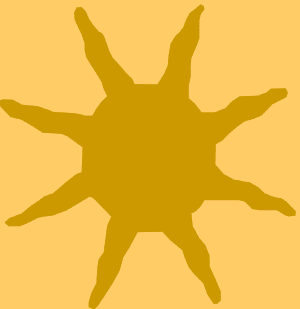
- ★ Promotes domestic industry and technology: Batteries, Solar lamps, charge controllers, wires etc.
- ★ Creates jobs opportunities and skilled resources in rural and urban areas at three levels - technical, staff employed by PO's, self employed and employment by manufacturers' of components
- ★ Benefits students through extended hours of studies
- ★ Reduces carbon emission (200,000 SHS will reduce 85,000 tCO₂e per annum)

Success Factors

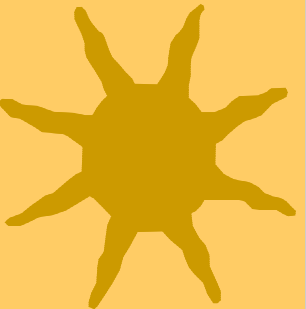
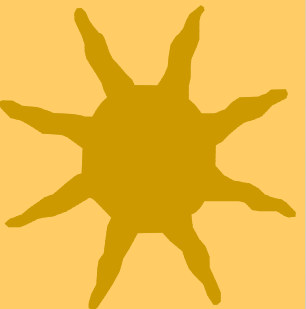
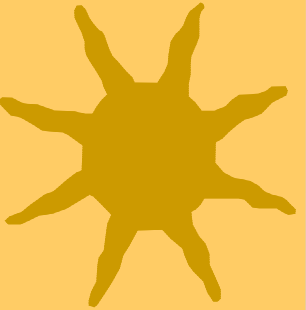


- ★ Sustainable partnership model. Apex entity managing finance, administration business of the program with various partners and other stakeholders.
- ★ Collaborative effort harnessing strengths of all other partners
- ★ Participation of customers, PO's and IDCOL in procuring SHS
- ★ Using expertise of the POs in expanding the use of SHS by using the micro-finance tool
- ★ Customers become owner between 12 to 24 months after full payment of micro loans
- ★ Technical and promotional support from IDCOL
- ★ Necessary support from donor agencies
- ★ Independent technical committees for approval of components

Success Factors



- ★ Physical inspection by IDCOL, of systems installed by POs
- ★ Ensuring after sales service to end users by POs
- ★ Prompt resolution of operational problems
- ★ Building a healthy competitive atmosphere among the POs
- ★ Facilitating continuous availability of SHS components by suppliers
- ★ Private sector participation
- ★ Transparency in dealing with stakeholders



VISION

ONE MILLION SOLAR HOME
SYSTEMS ACROSS RURAL
BANGLADESH BY 2012