FORUM REPORT

CTI PFAN India Clean Energy Investor Forum

21 October 2010 / Mumbai, INDIA

BACKGROUND

CTI Private Financing Advisory Network (CTI PFAN) is a multilateral, public-private partnership initiated by the Climate Technology Initiative (CTI) in cooperation with the UNFCCC Expert Group on Technology Transfer. USAID's ECO-Asia Clean Development and Climate Program (ECO-Asia) is the Asia Regional Coordinator for the CTI PFAN. Since April 2009, ECO-Asia has been working to establish CTI PFAN in-country networks in China, the Philippines, Indonesia and India.

CTI PFAN aims to bridge the gap between investments and clean energy businesses. In order to accomplish this, CTI PFAN identifies profitable, clean energy businesses that have good scale-up potential, are managed by skilled management teams, are socially responsible, and create a positive environmental impact. The selected projects receive complimentary mentoring services from CTI PFAN partners to improve their business plans, fine-tune their growth strategy, and develop effective investment pitches.

CTI PFAN India launched a Call for Project Proposals in April 2010, and received nearly 200 proposals from India businesses over a period of three months. Thirteen (13) projects were selected as finalists based on their technical and financial feasibility, and environmental sustainability.

CTI PFAN India held six road shows that also provided initial group mentoring to participants. The key Mentoring Workshop was held on September 24, 2010 in Mumbai, to provide complimentary mentoring services from CTI PFAN partners to the selected "finalist" projects to improve their business plans, fine-tune their growth strategy, and develop effective investment pitches. The mentoring workshop was highly appreciated by the finalist companies according to the feedback from the participants.

The one-on-one mentoring to these fourteen finalist companies by panel of Indian mentors experts were also undertaken between September 24 and October 20, 2010, to assist the finalists to improve and develop their business plans, and prepare their investment pitches. CTI PFAN India organized the Clean Energy Investor Forum Preparatory Workshop on 20th October in Mumbai, India.

The 1st CTI PFAN India Clean Energy Investor Forum was held on 21st October in Mumbai, India to enable mentored projects to present their investment pitches to local and international investors, and also promote CTI PFAN India to local stakeholders.

OBJECTIVES

The objectives of the forum were to:

- Officially introduce CTI PFAN India to local and international stakeholders
- Explore the environment for clean energy investments in the region
- Showcase the 13 CTI PFAN-mentored clean energy businesses through a business plan/ investment pitch competition
- Attract local members to join CTI PFAN India

- Attract more project developers to have their clean energy projects included in the CTI PFAN India pipeline of projects

PARTICIPANTS

The Forum was attended by more than 300 participants including representatives from the local banking sector, investment community, policy makers, consultation groups, clean energy project developers and members of civic organizations and academe. The list of all participants to the Forum is provided in Annex I.

AGENDA

The Forum consisted of a keynote address, Clean Energy Business Plan Competition, Awards Ceremony, as well as a Networking Reception. The agenda of the Investor Forum is in Annex II.

OPENING CEREMONY

The Opening Ceremonies was led by Kavita Kaur, Deputy Country Manager of the ECO-Asia Clean Development and Climate Program (CDCP) in India. Special Address was given by Jeremy Gustafson – Director, Clean Energy and Environment Office, USAID India.

In his address, Mr Gustafson expressed his best wishes to CTI PFAN India for organizing the Investor Forum. He said that the US Government supports initiatives such as PFAN as they are an effective way to directly reduce greenhouse gas emissions by increasing clean energy deployments. He commented that both the US and India have set aggressive clean energy targets in order to improve energy security, create a new clean energy industry and address climate change. Mr Gustafson spoke of PFAN's success stories and said that to date, twelve PFAN-mentored projects in Asia have achieved financing with a total of just under $150 million in investment and he hoped that PFAN India will replicate this success.

CLEAN ENERGY BUSINESS PLAN COMPETITION

Mr. Suneel Parasnis, Team Leader of Clean Energy Finance, introduced the competition rules and regulations, as well as the five judges: (1) Deb Mukherjee, Managing Director - Eaga Energy; (2) S R Rao, President - Global Procurement Consultants; (3) Ankur Gulati, Investment Analyst - Draper Fisher Jurvetson; (4) Amit Oke, Manager - Technology Finance Group, ICICI Bank; (5) Ashutosh Jaiswal, Principal- Tatva Fund, Yes Bank.

The following CTI PFAN-mentored projects presented their investment pitches in the clean energy business plan competition -

1. Emerging Energies Pvt. Ltd. – Small Hydro Project
2. Instant Energy Pvt. Ltd. – Solar PV Project
3. Square Engineering Pvt. Ltd. – Concentrated Solar Photovoltaic (CPV)

4. Clenergen India Pvt. Ltd. – Biomass Project
5. InSolare Energy Pvt. Ltd. – Solar Engineering Services
6. Synergy Renewable Energy Pvt. Ltd. – PV Manufacturing Expansion Project
7. Hindustan Semiconductors Ltd. – LED Project
8. Arka Power Pvt. Ltd. – Solar Thermal Technology
9. MIECOFT Consultants and Services Ltd. – Waste to Wealth Project
10. Solkar Solar Industry Ltd. – Solar Empowerment Solutions
11. Marc Ecolighting Pvt. Ltd. – LED Lighting Project
12. Photonix Solar Pvt. Ltd. – PV Module Manufacturing Expansion Project
13. Eko Vehicles Pvt. Ltd. – Electric Two Wheeler Project

The presentations are in Annex III.

The Brief of Clean Energy Businesses and Projects

1. **Emerging Energies Pvt. Ltd. – Small Hydro Project.**

   Presenter: Chandan Shah, President

   Emerging Energies Pvt. Ltd. (EEPL) will install its innovative zero-head hydrokinetic turbines in the Upper Bari Doab Canal (UBDC) in the state of Punjab to produce renewable electricity. The turbines will be suspended from above the canal and require no permanent structure to the canal. Additionally, the project requires neither impoundments, nor closure and is a non-consumptive project.

   Developers have so far only tried to build traditional tunneled dam projects and penstock projects, which are costly, submerging and require infrastructure that can damage forest and agricultural lands with construction activities going on for several years and decades.

   EEPL has developed the zero-head hydrokinetic turbines specifically for Indian waterways which have been tested and performed according to the expected capacity of the individual units in India.

   The total asking amount for EEPL is USD 17.7m. The firm estimates the project IRR to be 28% with a payback period of 3.5 years, without CERs. With CERs, the project IRR is estimated to be 34% within three years.

2. Instant Energy Pvt. Ltd. – Solar PV Project

   Presenter: Babu Panchal, Chief Financial Officer

   Instant Energy Private Limited's is a special purpose vehicle floated by business conglomerate Videocon Group to foray into renewable energy. IEPL has tied up with

Enfinity NV as technology partner for its proposed solar farms and already has 3 projects lined up of 5 MW each in the state of Gujarat, Rajasthan and Maharashtra.

The firm has also tied up with two suppliers - Trina Solar Limited, a China-based manufacturer of mono and multi-crystalline photovoltaic (PV) modules and BYD Company Limited, a Hong Kong listed high-tech enterprise specializing in IT, automobile and new energy.

The total asking amount of IEPL is USD 10m, with a project IRR of 19.3% without CERs. The equity IRR is estimated to be 25.7%.

3. Square Engineering Pvt. Ltd. – Concentrated Solar Photovoltaic (CPV)

Presenter: Rajendra Raju, Chief Executive Officer

Square Engineering Pvt. Ltd. holds an exclusive license from Green and Gold Energy Pte Ltd., Adelaide, Australia to build solar farms across the SAARC Region using Concentrated Photo Voltaic Technology. The CPV equipment is manufactured in a modern manufacturing plant to ISO 9001:2008.

Square Engineering is the only Indian Company in the CPV segment. The firm's technology generates the highest efficiencies in the PV Industry and works on a Triple Junction Cell with Concentrator Lens and Two Axis Tracking system.

The total asking amount of the project is USD 3m. The firm expects a project IRR of 25% over a payback period of four years, without CERs.

4. Clenergen India Pvt. Ltd. – Biomass Project

Presenter: Mark Quinn, Executive Chairman and Co – Founder, Clenergen

Clenergen Corporation is a publicly-traded company (OTC-BB Symbol: CRGE.OB) offering strategic clean energy generation and supply of biomass feedstock to address the requirement for renewable and sustainable supplies of electricity. The Indian subsidiary - Clenergen India Private Limited - is looking to raise USD 25m of equity financing for its proposed biomass projects totaling 100MW. They include expansion of existing biomass projects with different technologies such as biomethanation, gasifier and biomass combustion. The Company has identified two species of tree and bamboo suited for dedicated energy crop plantations for highly efficient biomass production.

5. InSolare Energy Pvt. Ltd. – Solar Engineering Services

Presenter: Sunit Tyagi, CEO and Founder

InSolare Energy Private Limited is a solar energy systems integration firm formed with the vision of creating and integrating competitive solar energy technology and provide

end to end solar solutions. The firm plans to offer its technology and EPC services in the Indian market, using globally and domestically sourced components. InSolare has already tied up with US-based ViaSol that provides economical and robust tracker technology which enables InSolare to reduce cost of energy generation by as much as 15%.

The total asking amount of the firm is USD 9m with a project IRR of 30% over a payback period of three years, with CERs. InSolare aims to cash flow positive by 2012, and install nearly 100MW/year by 2014, thereby providing investors a return multiple of >10 x.

6. Synergy Renewable Energy Pvt. Ltd. – PV Manufacturing Expansion Project

Presenter: Amitabh Kumar Gupta, Managing Director

Synergy Renewable Energy Pvt. Ltd (SREPL) produces PV Mono and poly Crystalline modules at its 100% export oriented unit in West Bengal, India. The firm currently has an installed capacity of 10 MW per annum which is now being upgraded to 30 MW per annum and is expected to come in line by April, 2011.

Currently, SREPL sources the most important raw material, C-Si solar cells, for making its module from outside. To secure its supply of solar cell, SREPL is planning to set up a 30 MWp capacity C-Si solar cell manufacturing facility. This project will essentially act a backward integration to its SPV module manufacturing facility.

PFAN has helped SREPL raise USD 4.25m for the first round. The firm is now looking to raise USD 22.78m of which 50% each will be in debt and equity.

7. Hindustan Semiconductors Ltd. – LED Project

Presenter: Rajesh Moharil, Chief Executive Officer

Hindustan Semiconductors Limited is promoting a green field project for the manufacturing of Light Emitting diodes (LEDs) with the installed capacity of 180 million pieces per annum. The firm initially plans to produce Genaral Purpose LEDs, Automative Application LEDs, Lighting Application LEDs in both i.e. Verticle and SMD packages, and later venture into the actual application of these LEDs.

The company has purchased a 640,500 sq ft land for its proposed plant to be built in three phases. It has tied up with Singapore-based ASM Technology Singapore Pte Ltd and Taiwan-based Chang Yu Technology Co Ltd as supplier partners for raw material and machinery.

The total project cost is USD 2,498,000. Hindustan Semiconductors expects a Project IRR of 60% without CERs with a project payback of 2.01% years. The equity payback without CERs is estimated to be 1.44%.

8. Arka Power Pvt. Ltd. – Solar Thermal Technology

Presenter: Serveshresht Sawhney, *Vice President - Operations*

The firm has developed a 100% indigineously developed patented solar technology which it claims has the lowest cost for set up of plants starting from 1MW (almost 50% lower than competitors). The plant is modular, scalable, customizable, and uses standard and readily available equipment ensuring rapid deployment and installation.

Arka Power has already set up a 50 KW Steam generation plant and is further doing R&D to develop a new technology using Fresnel Lens as the foundation to further reduce costs by as much as 50-60% of what is being offered in the market today. The firm is a technology based company providing full EPC to clients who wish to set up power plants to generate electricity. It is also targeting at small scale industries using steam or heat transfer in various processes which can use its technology to generate the same.

The total asking of the firm is USD 3,200,000 to set up a set up 1-MW showcase plant in the state of Rajasthan. It expects the project IRR to be 9% without CERs and equity IRR of 20%.

9. MIECOFT Consultants and Services Ltd. – Waste to Wealth Project

Presenter: Malini Rajendra, Director

MIECOFT delivers eco-friendly technology solutions, with nearly 10 years in the research and development of pioneering Integrated Waste Management systems, specializing in decentralized in-situ systems. The firm produces a range of products from different waste materials through the integrated waste management projects (IWM), including revenue generating products such as alternate energy biomass, biomass and other RDF fuel (refuse derived fuels), briquettes and organic manures.

The firm currently has two pilot projects in Delhi where are handling average of 5 tonnes of waste per day. It has nearly 50 Project proposals submitted that are awaiting implementation and is targeting a steady 10-20 percent incremental growth every year in its markets.

MIECOFT requires a total of USD 8.5m, to be funded by a mixture of 70% debt and 30% equity.

10. Solkar Solar Industry Ltd. – Solar Empowerment Solutions

Presenter: K.E. Raghunathan - Managing Director

Solkar is looking for an investment of USD 5m over the period of 3 years. The immediate requirement is of USD 1m in Equity and USD 1m as Debt. After achieving the desired level of performance with this fund as projected, the next level of infusion will be USD 2

million + Previous debt of USD 1m as equity and additional USD 1m as debt to the company.

In Phase I, the funds will be used to set up a total of 15MW per annum PV module manufacturing unit, scaling up the production of solar consumer products, setting up of training center for solar engineers. In Phase II, the funds will be used for EPC contact execution for power projects and capital for scale up of operation.

The company plans exit route for the investors in all possible modes with a minimum ROI of 30% per annum - either by buy back of shares by promoters or IPO in 2015.

11. Marc Ecolighting Pvt. Ltd. – LED Lighting Project

Presenter: Balvant Sharma, Founder

Marc Ecolighting is a company promoted by first generation entrepreneur Balvant Sharma who set up a signage and branding organization and diversified into energy efficiency LED sign module in 2008.

The firm plans to capture the LED market by providing lighting solutions to industrial, residential and commercial establishments. The firm also plans to access the retrofit market in LED from existing clientele. As for March 2010 the firm has installed more than 7000 LED signage replacing conventional tube light / neon signage in eastern region of India.

Marc Eco has already tied up with global OEM of LEDs and stake holders to develop sign module, suitable for Indian standard and climatic condition. It has also associated with universities and testing Labs to set up a bench mark for standard LED module in India.

The firm is currently targeting at energy intensive industrial sectors including thermal electric power generation, railways, cement, steel, aluminum, textiles, chemicals, pulp and paper.

The total asking for Marc Eco Lighting is USD 6m with a projected repayment spread of 3 years, with project IRR and equity IRR of 27% and 35% respectively without CERs.

12. Photonix Solar Pvt. Ltd. – PV Module Manufacturing Expansion Project

Presenter: Dileep Narayan Deshpande, Director

Photonix Solar Private Limited has a automatic production line for PV modules in the state of Maharashtra, India. The factory manufactures a full range of PV modules from 3Wp to 250Wp required for various on-grid and off-grid applications. The current manufacturing capacity of the unit is 10MWp, which it plans to increase to 40MWp.

The production line for PV module is imported from Eco-Progetti S. R. L. Italy. Photonix began commercial production in May, 2010 after conducting successful trial runs with

zero rejection. Photonix has secured IEC certificate from TuV InterCert of Germany and CEC approval from the Australian Government.
The company is proposing a step by step expansion program including setting up dealer's network nationally and globally, owning solar power projects and the IPP business.

The total asking is USD 8.3m with the equity requirement being USD 1.7m.

13. Eko Vehicles Pvt. Ltd. – Electric Two Wheeler Project

Presenter: Harindranath D.R, Executive director

EKO Vehicles is a technology producer of two-wheeled electric vehicles. The firm plans to launch its vehicles in more states and expand its production capacity.

The firm is also developing "Rapid Battery Charging Stations" at several locations in the cities of Bangalore and Mysore in order to enable customers to charge Eko electric vehicles in under 15 minutes. EKO is planning to introduce electric three-seater, three-wheeler and four-seater, omni-type four-wheelers with the same capabilities.

The total asking amount for Eko Vehicles is USD 3m with a project IRR of 40% without CERs and equity IRR of 35%.

The highlights of the projects are tabulated below (Table1):

	Proponent	Project	Technology	Equity Requirement	tCO2 reduction
1	Emerging Energies Pvt. Ltd. –	Small Hydro Project	Small Hydro	USD 17.7m	
2	Instant Energy Pvt. Ltd.	Solar PV Project	Solar	USD 10m	
3	Square Engineering Pvt. Ltd.	Concentrated Solar Photovoltaic (CPV)	Solar	USD 3m	
4	Clenergen India Pvt. Ltd.	Biomass Project	Biomass	USD 25m	
5	InSolare Energy Pvt. Ltd.	Solar Engineering Services	Solar	USD 9m	
6	Synergy Renewable Energy Pvt. Ltd.	PV Manufacturing Expansion	Solar	USD 15.5m	

		Project			
7	Hindustan Semiconductors Ltd.	LED Project	Energy Efficiency	USD 1.1m	
8	Arka Power Pvt. Ltd.	Solar Thermal Technology	Solar	USD 6m	
9	MIECOFT Consultants and Services Ltd.	Waste to Wealth Project	Biomass	USD 4m	
10	Solkar Solar Industry Ltd.	Solar Empowerment Solutions	Solar	USD 5m	
11	Marc Ecolighting Pvt. Ltd.	LED Lighting Project	Energy Efficiency	USD 1.5m	
12	Photonix Solar Pvt. Ltd.	PV Module Manufacturing Expansion	Solar	USD 1.7m	
13	Eko Vehicles Pvt. Ltd.	Electric Two Wheeler Project	Clean Transport	USD 3m	

Awards Ceremony

After each company made its 12-minute presentation, the judges asked questions relating to technical development, scale-up potential, and financing plan, or provided comments on investment pitch or financing strategy, which were highly appreciated by the presenters and participants.

One winner and three runners-up were announced based on the scores given by the panel of judges. Peter du Pont, Chief of Party of USAID ECO-Asia CDCP, presented the certificates to the winners as all as other PFAN finalists who presented at the Forum.

The winner is:

- Eko Vehicles Pvt. Ltd.

The runners-up are:
- Photonix Solar Pvt. Ltd.
- Solkar Solar Industry Ltd.
- Square Engineering Pvt. Ltd.

TECHNOLOGY TRANSFER – CHINA DELEGATION
Hong Miao, Country Manager of CTI-PFAN China, Forum, lead a delegation of Chinese renewable energy firms to India to facilitate technology transfer and explore business opportunities with PFAN India finalists. There was a separate display counter and desk for Deal Facilitation for Chinese firms and the overall response was very encouraging. The Chinese firms held one on one meetings with India firms and also a few investors.

CLOSING REMARKS

Peter du Pont gave the closing remarks and congratulated the winners of the competition. He also expressed appreciation of the efforts and contribution of all CTI PFAN India partners, mentors, sponsor as well as PFAN finalists who all made the Forum a great success. He said that CTI PFAN looks forward to cooperate with more partners, clean energy firms and experts to promote clean energy financing in India and facilitate climate change mitigation in the region.

A networking reception for participants including project developers and owners, banks and financial institutions, investors and fund managers, and policymakers and advisors was hosted by CTI PFAN.

FEEDBACK FROM PARTICIPANTS

The Forum participants including investors and project developers, along with PFAN finalists, provided great feedback for the Forum and called it "highly successful". The feedback and comments include:

- Showcase of good quality "Ready to invest" projects;
- Inclusion of different technologies including solar, biomass and EE
- Pertinent Q&A round between judges and finalists;
- Well organized execution and materials preparation;
- Well-managed pace of the program;
- Organized logistics.