Accessing Private Capital For Clean Energy Investments in Developing Countries

An Introduction to CTI PFAN

Elmer Holt / Peter Storey / Taiki Kuroda
19th November 2012
Contents

- Introduction
  - Introduction to CTI
  - Background & Evolution of CTI PFAN
- Overview of CTI PFAN
  - CTI PFAN Services
  - Project Criteria
  - Network
  - Sample Projects
- CTI PFAN & Adaptation
- Lessons Learned & Benefits
- Other Linkages
- CE Financing Fora / AFCEF3
- Summary
Overview of CTI

- Implementing Agreement under the IEA in support of UNFCCC objectives. Currently 11 Member Countries:
  Austria, Australia, Canada (Vice-Chair), Finland, Germany, Japan (Vice-Chair), Norway, South Korea, Sweden, UK & US (Chair)

- To promote more rapid development and diffusion of climate friendly and environmentally sound technologies through multilateral and international cooperation between the public and private sectors and between OECD Countries and Non-OECD Countries

- Private Sector Focus – working extensively with business and financial sectors

- CTI works with
  - Governments
  - IEA & UNFCCC Secretariats
  - International Organizations (WB / UNDP / UNEP / UNIDO)

connecting clean energy businesses with financing
Lack of sufficient public funds to make an impact on the technology needs of developing countries to address climate change

- Need for Private Sector to play an expanded role.

- To develop an innovative solution to finance technology transfer
- Brought together government, non-government, private sector business and finance representatives

Missing Middle
- Lots of Projects / Lots of Investment
- Little & insufficient interaction & communication between the 2 sides

PFAN seeks to bridge that Investment Gap
- Acts as a broker between the money and the projects
- Strengthens the capacity of the project developers to present their projects in a way that investors and financiers can readily understand
CTI PFAN – Objectives

How a multi-pronged approach can scale up clean energy deployment

The Missing Middle: Lack of Access to Financing

Seeking financing
Seeking projects / businesses

Coaching & mentoring

"PUSH"

"PUSH"

"PUSH"

Clean Energy Businesses & Projects

Investment Sources (Financiers, Banks) ¥€$

Government (policies)

Policy Dialogue (barriers and solutions)

Training Financial Institutions

connecting clean energy businesses with financing
Introduction to CTI PFAN

- CTI PFAN is a Multi-Lateral Initiative:
  - CTI Countries / ICETT / REEEP / USAID

- Network of Private Sector Professionals
  - Investors / Consultants
  - Exclusive focus on developing countries

- CTI PFAN goals:
  - to accelerate technology transfer and diffusion under the UNFCCC
  - to promote low-carbon, sustainable economic development
  - to increase financing opportunities for promising clean energy projects

- Connects CE projects with Investors / Financing

- Triple bottom line approach
Successful Track Record

- 164 Projects in the Development Pipeline
  - USD 4.9 billion of Investment
  - 7 million tonnes pa CO2 e GHG reduction potential
  - > 2.041 MW of clean capacity

- 34 Projects Closed / USD 412 million raised
  - 310 MW of Installed Clean Capacity
  - 1.8 million tonnes CO2 e reduction pa
  - 94.5 GWhrs pa Energy Savings (EE projects)
Pipeline Analysis

By Region
- Southern Africa: 15%
- SE Asia: 29%
- China: 12%
- East Africa: 20%
- LA / Brasil: 6%
- W Africa: 2%
- Central Asia / CIS: 1%
- S Asia: 15%
- W Africa: 2%
- LA / Brasil: 6%
- S Asia: 15%

By Technology
- Solar: 17%
- Wind: 6%
- Hydro: 15%
- W2E: 4%
- Biofuels: 10%
- Biomass: 16%
- Biogas: 14%
- EE: 10%
- Other: 4%
- Clean Transport: 2%

connecting clean energy businesses with financing
Closed Projects by Technology

- Biomass: 20%
- EE: 18%
- W2E: 9%
- Biogas: 9%
- Solar: 9%
- Biofuels: 12%
- Wind: 3%
- Clean Transport: 3%
- Hydro: 17%

Connecting clean energy businesses with financing
Connecting clean energy businesses with financing

Closed Projects by Region

- SE Asia: 35%
- S Asia: 9%
- W Africa: 3%
- E Africa: 12%
- China: 23%
- LAC: 6%
- Southern Africa: 12%
Expanding the Scope

Prior to 2012, Principal Focus on Mitigation Related Projects

- Since 2006 we have tested and refined the CTI PFAN paradigm
- CTI PFAN has established itself as a credible vehicle for accessing private capital to implement clean energy projects in developing countries
- Continuing to scale up our operations and conduct financing forums

Beginning in 2012, Exploring the Application of CTI PFAN Methodology to Adaptation Related Projects

- Growing importance of Adaptation Related Projects
- During June 2012 organized workshop in cooperation with UNEP to explore whether this success approach could be applied to adaptation related projects.
- Results Encouraging
PFAN Services

- Free Coaching on Project Development & Financing
- Matchmaking – Sourcing of Equity & Debt
- 2 Entry Points
  - Unsolicited Proposal Submission for Development Pipeline from any Source
  - Regional & Country based RFPs / (CE Financing Fora)

Project Proposal → Coaching → Bankable BP Investor PPT Project Data Sheet → Introduction to Investors → Showcasing at Investor Forum → Financial Close

Compressed Time Cycle → Long Term Development Open Time Cycle

connecting clean energy businesses with financing
Project Criteria

- USD 1 – 50 million Total Investment
- Micro Projects (< USD 1 million)
- Wind / Solar / W2E Biogas / Hydro / EE / Biomass / Biofuels / Geothermal / Rural Electrification / Clean Transport / Mitigation / Adaptation
- Technology Neutral

connecting clean energy businesses with financing
Network Structure

- 5 Regional Networks
  - Dedicated Country Networks
  - In Africa: 3 Sub-regional networks - SADC / EAC / West Africa

- Network Coordinator for each Network
  - Business Development – Project Identification & Network Build Out
  - Implementation of SoW

- > 60 Network Members
  - Signed into PFAN MoU
  - Affiliate Members
  - Resource Partners: ADB / E4A / CII / / InWEA / DBP

- Areas of Expansion
  - Southern Africa & West Africa
  - Central America & Caribbean
  - SE Asia / South Asia
Expansion in Asia

- Expansion of dedicated Philippines Network (from Sep 12)
  - Expansion of project development capacity
  - Dedicated country events – Financing Forum / CB & TT Workshops

- Major Scale-Up of Regional Network (from Q1 2013)
  - Reinforce existing networks in India, Indonesia, Thailand

- Establishment of Additional Country Networks
  - Cambodia, Laos, Malaysia, Vietnam
  - Bangladesh, Nepal, Sri Lanka (from 2014)

- Leverage ca. USD 1 billion of investment over a 5 year period
Asian Success Stories

- ASEA 1 / 12 MW Biomass Power Plant in the Philippines / USD 30 Million
  - Rice Husk / 1st of 4 Phases ($ 236 million total)
  - Innovative Project Structure to secure feedstock
  - CTI PFAN helped develop the BP & Financing Structure

- W2E Project in Thailand / USD 5 million
  - 80 tonnes MSW / day anaerobic digestion to biogas / 1 MW
  - Scale up to 300 tonnes / day - ca 3,5 MW
  - Introduction of gasification for solid waste / non organic component
  - 4 Revenue Streams: Gate Fee / PPA / Sale of Fertiliser / CDMs
  - Replication across Thailand & Laos
Other Project Samples

- Rural Electrification & Lighting Models
  - Barefoot Power / Tough Stuff / Prakruthi Power
  - BoP / Innovative Distribution Models / Utility Model / Market Size Driver
  - Commercial Models supported by Donor activity in Training & CB

- Productive Use of Energy for Agriculture
  - Particularly in Africa

- Clean Transport
  - E-trikes / Urban transport systems (Philippines / Indonesia / Nepal)

- RiverGen
  - Innovative Model for bundling SHPs in Indonesia

- Technology Developments
  - Wave Energy (Finland / Singapore)
  - Roadway Power Generation Systems
  - Biomass Pelletisation

cisting clean energy businesses with financing
Lessons Learned

- Importance of the Business Model
  - Integration of a technology to deliver a product or service which is needed and affordable by its targeted customers
  - Investors don’t finance technologies per se

- Need for Capacity Building with Investors
  - To help them understand and price the risk of new models & technologies which drive them

- Emergence of Specialist Impact Investors
  - Looking for Social & Development Impacts (as well as financial return)
  - Challenge of quantifying & validating the accruing impacts
  - Specialist Exchanges & Intermediaries (IIX / NEXII)
  - Role of PFAN & PFAN Consultants

- Importance of Enabling Environment & Regulation
  - Correlation with Closed Projects
CTI PFAN & Adaptation

- Launched Adaptation Stream of Activity in late 2011
  - To see if successful PFAN methodology for mitigation can be adapted and applied to adaptation related projects

- Background Paper

- Exploratory Workshop in June 2012 in Nairobi
  - To frame the issues & map out work plan
  - Project identification

- Pilot Programme / Case Studies
  - 5 projects inducted into pilot programme
  - Capacity for more projects
Adaptation Stream – Initial Observations

- Poor understanding of what adaptation is and the opportunities it holds in both Public & Private Sectors
  - Difficulty of Project Identification

- Irrelevance of definition between Adaptation & Mitigation for Investors
  - Risk Return Criteria (Importance of understanding risks)
  - Accruing benefits are the key Investment Drivers

- Important Role for Impact Investors
  - Difficulty in quantifying & validating accruing impacts

- Lack of seed capital / Lack of collateral & guarantees

- Challenge of Passive Investment Structures

- Need for Innovative PPP models and blended investment / finance
Adaptation Stream – Target Sectors

- Access to Energy
- Agriculture & Agri-business
- Water & Sanitation
- Forestry & Eco-System Services

Cross-Cutting Sectors & Coping Mechanisms

- Urban Development
- Adaptation Products & Services
- Micro Finance & Micro-Insurance

connecting clean energy businesses with financing
Other Linkages

- Cooperation with UNEP on TNAs
  - TNAs / NAPs / NAMAs feed into CTI PFAN

- Cooperation with SS Gate (UNDP) as project source

- Link with SANAICTT (UNEP)

- Link with Climate Innovation Centres
  - InfoDev / Worldbank / GEF Initiative

- Cooperation with IEA Technology Platform

- Cooperation with EEP

- Possible link with UNFCCC Climate Technology Centre & Networks
  - Endorsed by COP as a useful mechanism for financing TT

connecting clean energy businesses with financing
Broader CTI PFAN Role

CTC&N

TNAs / NAPs / NAMAs

CTI PFAN
Filter Process

PPPs

PRIVATE SECTOR

Project Development driven by Private Sector Champion Financing with Private Sector Capital

PUBLIC SECTOR

Project Development driven by Public Sector Champion Financing with Public Sector / Donor Resources

• Commercial Projects & Businesses
• Good Returns
• Well defined & self-contained Cash Flows

• Policy Initiatives & Projects
• Low Returns
• Social & Developmental Benefits
• Little identifiable Cash Flow

connecting clean energy businesses with financing
Benfits for Business

- CTI PFAN is open to Business
  - Business Development & Support Tool
  - Project developers with Projects in Developing Countries
  - Consultants working in PFAN Network Regions & Countries
  - Investors as a source of Deal Pipeline

- Access to existing networks of professionals in country locations
  - Network Effect
  - Local Knowledge & Know-how / Global Leverage

- Provides Stamp of Credibility for Entrants in New Markets
  - Commercial / Technical / Environmental / Sustainability

- Services are Free
Leverage & Donor Benefits

- High Financial Leverage achieved
  - Average over whole activity ca 1 : 100
  - REEEP1: USD 140,000 Funding led to USD 18,15 million of Investment

- Automatic 1:1 leverage built into the PFAN Business Model
  - PFAN consultants contribute their services at fee levels of about 50% discount to market

- Successful PPP Model

- Tangible Impacts on the Ground (not process)

- High Visibility (esp. the CE Financing Fora)

- Popularity (Project Developers / Investors & LDC Governments)

- Feedback Loop / Reality Check for Policy Development
Added Value of CTI PFAN

- Early stage development tools like PFAN are important
- Resource Optimisation
- Access to Deal Pipeline for Investors
- Direct Access to Investors for Developers
- Network Effect
- Risk Reduction through targeting of key risk points
- Reduction of Transaction Costs for all parties
- Accelerated Development Progress
Clean Energy Financing Forums

- Typical CE Financing Forum Format
  - Call for Proposals – project selection & shortlisting
  - Intensive 1-on-1 coaching
  - Project Development & Financing Workshops
  - Investor Workshop to target projects at investors
  - Showcasing of projects thru an “Investor Pitch”
  - Business Plan Competition
  - CTI PFAN CE Financing Awards for best projects

- Successful Tool for Project Identification & Network Expansion
  
  connecting clean energy businesses with financing
AFCEF-3
Initial Selection

- RFP - 40 Project Submissions from 12 countries

- 18 Shortlisted Projects
  - Scored > 50
  - Mature projects ready for intensive coaching and able to be presented to investors within a short period

- 12 Projects for Possible Induction to Development Pipeline
  - Scored 40 - 50
  - Less mature require longer term development & support
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Value Proposition &amp; Business Model</td>
<td>15 %</td>
</tr>
<tr>
<td>2 Market Understanding &amp; Analysis</td>
<td>10 %</td>
</tr>
<tr>
<td>3 Management Team</td>
<td>10 %</td>
</tr>
<tr>
<td>4 Implementation &amp; Operations Plan</td>
<td>10 %</td>
</tr>
<tr>
<td>5 Financials</td>
<td>15 %</td>
</tr>
<tr>
<td>6 Risk Mitigation</td>
<td>10 %</td>
</tr>
<tr>
<td>7 Environmental &amp; Development Benefits</td>
<td>10 %</td>
</tr>
<tr>
<td>8 Project Maturity</td>
<td>5 %</td>
</tr>
<tr>
<td>9 Technology / Service Innovation</td>
<td>5 %</td>
</tr>
<tr>
<td>10 Growth / Replication Potential</td>
<td>5 %</td>
</tr>
<tr>
<td>11 Professionalism / Presentation</td>
<td>5 %</td>
</tr>
</tbody>
</table>
Objectives of the PD&F Workshop

- Kick-off of Intensive Coaching Process
  - Opportunity to meet coaches

- Provision of general / global inputs into coaching process in group situation

- Exposure to Investors & Banks in a “safe” environment

- Building of Capacity & Confidence of Project Developers
  - Group Interaction - Comparison & Orientation
  - Sharing of Experience
  - Learning Effect of Network

- Provision of Interactive Forum for all Participants
  - To demonstrate & disseminate best practices for project development & financing

- Further Direct Feedback to CTI PFAN & Coaches on the Projects
AFCEF-3
Selection of Finalists

<table>
<thead>
<tr>
<th>No.</th>
<th>Assessment Criteria</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Value Proposition &amp; Business Plan</td>
<td>10%</td>
</tr>
<tr>
<td>2</td>
<td>Readiness for Implementation</td>
<td>10%</td>
</tr>
<tr>
<td>3</td>
<td>Market Analysis and Competitive Advantage</td>
<td>10%</td>
</tr>
<tr>
<td>4</td>
<td>Management Capability</td>
<td>15%</td>
</tr>
<tr>
<td>5</td>
<td>Technical &amp; Operational Feasibility</td>
<td>15%</td>
</tr>
<tr>
<td>6</td>
<td>Economic Attractiveness</td>
<td>15%</td>
</tr>
<tr>
<td>7</td>
<td>Risk Mitigation</td>
<td>15%</td>
</tr>
<tr>
<td>8</td>
<td>Industry Expert Feedback</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

- Draft Business Plan is reviewed by multiple experts
- Selection of 10 Finalist projects from the Shortlist of 18
AFCEF-3 Forum

- Preparatory Workshop
  - 2 days before the Forum
  - Mock Presentations and Expert Feedback / Input
  - Final preparations of the investor Pitch

- The Forum – 22 February 2013 in Singapore (Concorde Hotel)
  - 15 minute Investor Pitch by the Finalists to Investors and Financiers
  - Expert panel of judges use 10 parameters to award points (100%)
  - 3 -4 Award Winners selected at the end of the Forum
Coaching Outputs

- Investor Ready Business Plan
- Executive Summary of the BP as a separate document
- Completed & Adapted Project Data Sheet
- Investor Pitch PPT summarising the BP
Projects for Pipeline Induction

- Projects invited to participate in the Project Induction Workshop

- Orientation & Comparison of where they stand in relation to the shortlisted Projects

- Allocation of Coaches
  - Same support & development process
  - Outputs: BP & PDS (Investor PPT)
  - Not competitive or time constrained

- Introduction to Investors on an Individual Basis when ready
Summary

- Strong Development Pipeline Growth & Activity levels
  - Dedicated Regional & Country Coverage is growing

- Facilitating Technology Transfer and transition to a Low Carbon Economy both inside & outside the UNFCCC Mechanism
  - Potential for further Scale-Up and Positioning post 2012

- Value Provided to Investors & Developers
  - Accelerating Success Rates / Getting More Projects to Financial Close

- Value provided to Donors
  - High Financial Leverage > 100 : 1
  - Impacts on the ground with real projects financed with private capital
  - High visibility

- We look forward to questions and to working with you soon!
Contacts

- Elmer Holt, Vice Chair of CTI / PFAN Manager (elmer.holt@hq.doe.gov)
- Taiki Kuroda, Programme Secretariat (kuroda@icett.or.jp)
- Peter Storey, Global Co-ordinator (peter.storey@ppl-int.com)

www.cti-pfan.net
www.climatetech.net

Thank You