

ไทยธนาคาร  
BANKTHAI

# Energy Efficiency Financing (EEF)

By

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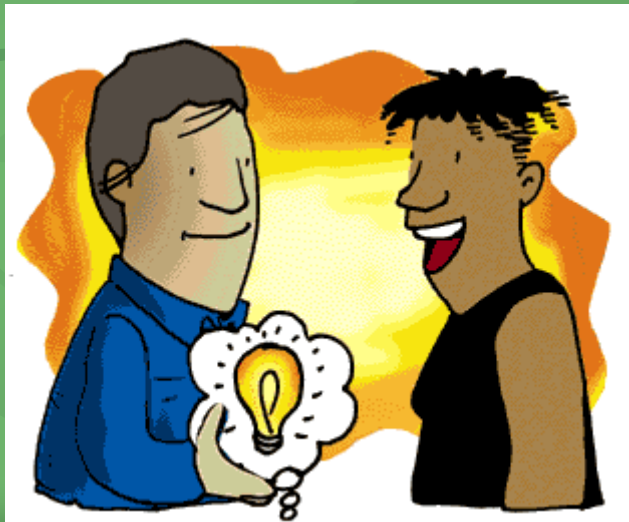
# Financial Institutions' Perspective on clean energy

- Introduction
- Principle and Rational
- Bank's roles in Energy Efficiency Project (EE)
- BankThai (BT)'s Experiences in Energy Efficiency Financing (EEF) in Thailand
- Credit Analysis / Risk Issues

# Introduction

## BankThai Public Company Limited

- Medium-sized commercial bank
- Complete financial service provider
- 143 branches throughout the country



# Principles and Rational

- Energy expenditure is one of the most significant costs for businesses
- Trend of higher energy cost in the future and needs for energy importation
- Lack of efficiency in energy consumption in the country
- To increase business competitiveness
- BT has realized the importance of EE Projects

# Bank's Roles



- To increase customer's business competitiveness / repayment capability
- To cooperate with government agencies according to government policies
- To offer full services to the customers
- To increase business transactions with bank
- To respond to the National Policy by providing EE credit facilities

# BT Energy Efficiency Financing

- Cooperation with public and private sectors,
- BT Direct Loans

Year	Government Agency (DEDE)	Others (PTT)	BT Direct Loans
2001	ESCO Pilot Project		
2002	Revolving Fund Phase I		
2005	Revolving Fund Phase II		
2006		BT NGV	BT EEF

*DEDE : Department of Alternative Energy Development and Efficiency*

*PTT : PTT Public Company Limited*

*NGV : Natural Gas for Vehicle (CNG, Compressed Natural Gas)*

# ESCO Pilot Project



- Gas Turbine Cogeneration Power Plant
- Interest free from ECON Fund
- ESCO shares the responsibility in loan repayment
- EGAT - as the third party, performs as the Independent Auditor in helping BT to consider the project's technical and work progress
- BT gains confidentiality in lending to EE project

*ESCO : Energy Service Company*

*EGAT : Electricity Generating Authority of Thailand*

# Revolving Fund Program

- DEDE allocated budgets for the participating banks
- **Phase I** : Source of fund from ENCON Fund with Interest free
- **Phase II** : Source of fund from ENCON Fund with low Interest Rate at 0.50% p.a.
- DEDE provides technical support

# Revolving Fund Program

- Source of fund from ENCON Fund
- Technical assistance from DEDE
- Key conditions
  - ✓ Loan size  $\leq$  USD 1.2 mil / project
  - ✓ Interest rate  $\leq$  4% (fixed rate)
  - ✓ Repayment in the defined time frame (7yrs)

# Revolving Fund Program

- Lending for Energy Efficiency Project  
Phase 1 (supported by DEDE)  
~ USD 12.23 mil. (Bt. 428 mil.)
- Direct lending from BT  
~ USD 59.43 mil. (Bt. 2,080 mil.)

# Revolving Fund Program # 1

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- Total Investment: USD 31 mil. (Bt. 1,085.2 mil.)
- Amount approved by DEDE: USD 12.23 mil. (Bt. 428 mil.)
- Saving cost: USD 14.22 mil./year (Bt. 497.7 mil./year)
- Total saving cost along machine life: USD 235.88 mil.  
(Bt. 8,256 mil.)

# Revolving Fund Program # 1

Sector	No. of Project	Investment (MB)	Energy Saving/Yr. (MB)	Payback Period (Yr.)
Hospital	11	89.7	22.5	1.6-6
ElectricalWire Manufacturers	4	125.8	27.6	2.4-7
Glass Industry	1	39	135.4	0.34
Solar Cell Industry	1	30.0	5.6	5.3
Tapioca Industry	1	73.0	26.0	2.8
Weaving Industry	4	64.7	59.0	1.1
Food Industry	1	59	72.0	0.8
Electricity Producer	1	604	149.6	4.0

# BT's NGV Supporting Program



- Source of fund from PTT at 0.50% p.a. interest rate
- BT supports customers who want to install NGV equipments for vehicles
- Fixed interest rate :
  - Corporate customer  $\leq 4.0\%$  p.a.
  - Retail customer  $\leq 5.0\%$  p.a.

# BT Direct Loan

- For EE Projects
- Baht 1 Billion ( USD 25 Mil. )
- Special low interest rate
  - First 2 yrs. Interest rate  $\leq$  MLR - 1 % p.a.



# Credit Analysis Process

1. Identify the Purpose of Finance
2. Identify the Source of Repayment

Energy Saving ➡ Ability to Pay

3. Risk & Mitigation
4. Loan Repayment Capability
5. Facility Requirement & Collaterals

# Credit Analysis

## Project Details

- Details of Investment
- Objectives of Investment
- Investment value
- Technical Analysis and Investment Analysis
- Return on Investment & Benefit
  - IRR
  - NPV
  - Payback Period
- Monitoring & Verification

# Credit Analysis

- Overview of the barriers and / or risks affecting investment in EE projects
- Risk / Return analysis to assess each major risk and the means to mitigate its potential impact on the project
- Financial risk management instruments currently supporting EE projects and those that could be developed to reduce uncertainty as barriers

# Risk issues that should be considered in supporting the clean energy projects

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- The project feasibility study
- The sufficiency of fuel
- The unpredictable fuel price
- The coming of new competitors in surrounding area

# Risk issues that should be considered in supporting the clean energy projects

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- **The Business Model**

- Role & Benefit of stakeholders
- Commitment & Support of Shareholders
- SPV, ESCO, Turnkey Project, Guaranteed cash flow

- **Technologies**

# Risk issues that should be considered in supporting the clean energy projects

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- **Term & Conditions requirements**
  - Condition Precedent
  - Financial Covenant
  - Assignment of Project Revenues
  - Independent Auditor / Legal Advisor
  - Project Document

# BT has learning curve with EE financing

## Advantages

- EE project can reduce costs and increase profits to enhance repayment ability
- Helping businesses increase competitiveness in the long run
- In the project where ESCO is involved, ESCO guarantees the saving amount of the project investment

## Disadvantages

- Return on investment is unclear in the short run

# BT's Viewpoints over EE Project

- To increase business competition in the market
- To help business obtain better cash flow
- To increase loan repayment capability
- To offer full and differentiated products
- To help firms get sources of fund with low interest rate
- To promote bank image in the market
- To help the country earn benefits eventually



**Thank you**

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