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# Bridging the Gap between Investment and Clean Energy Business

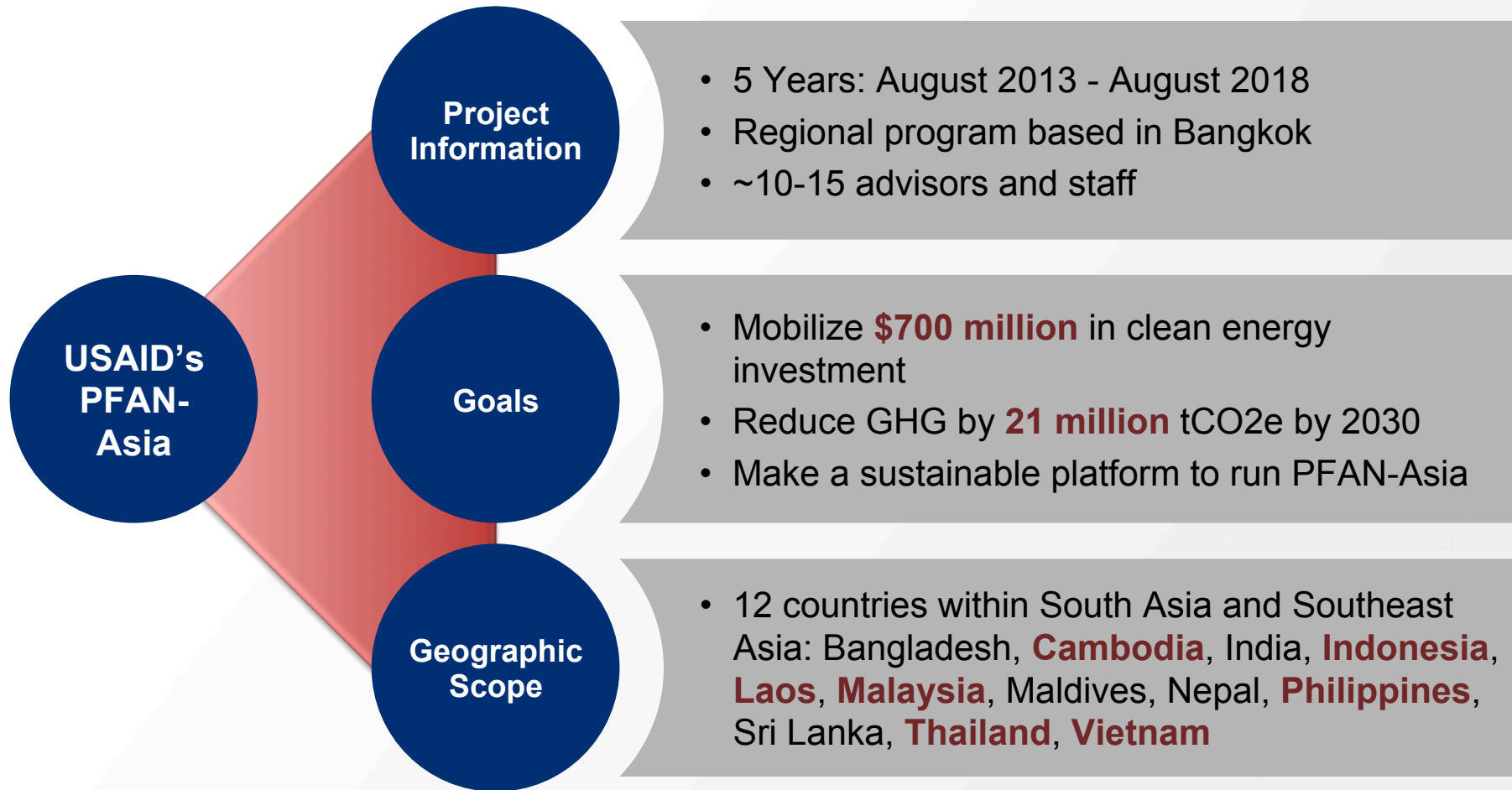
USAID Private Financing Advisory  
Network for Asia (PFAN-Asia)

ACEF, Manila, the Philippines

June 7, 2016



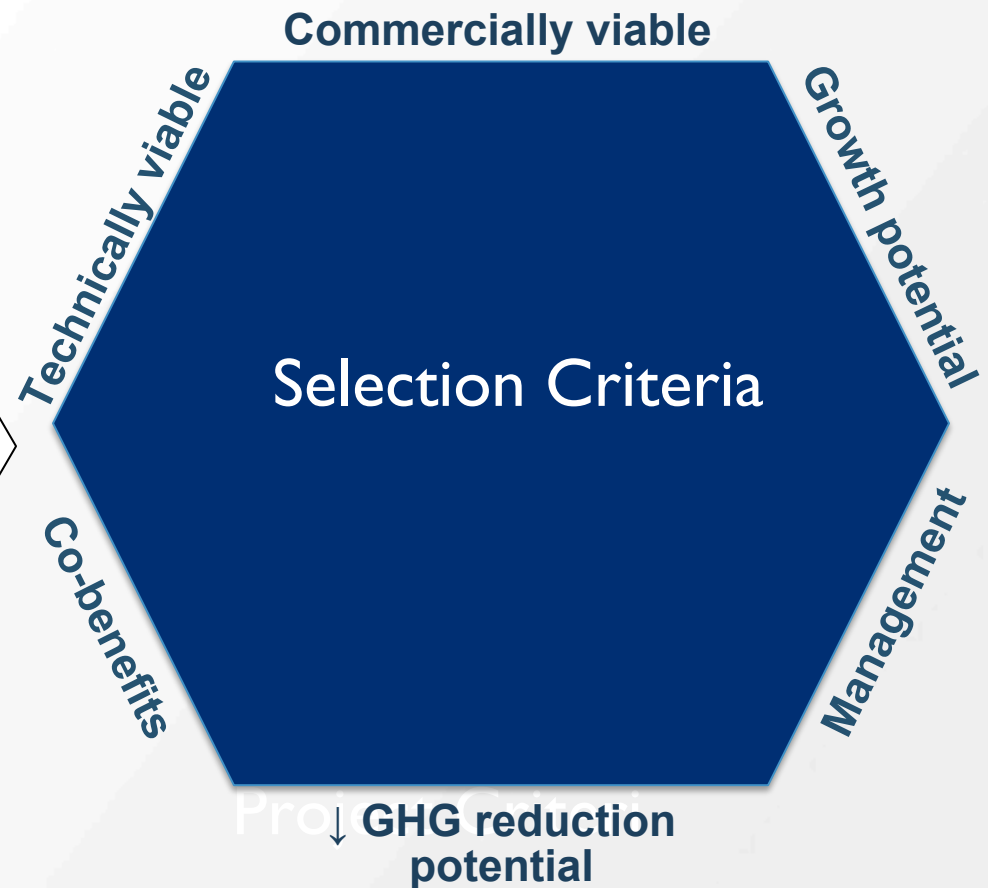
# USAID PFAN-Asia Program



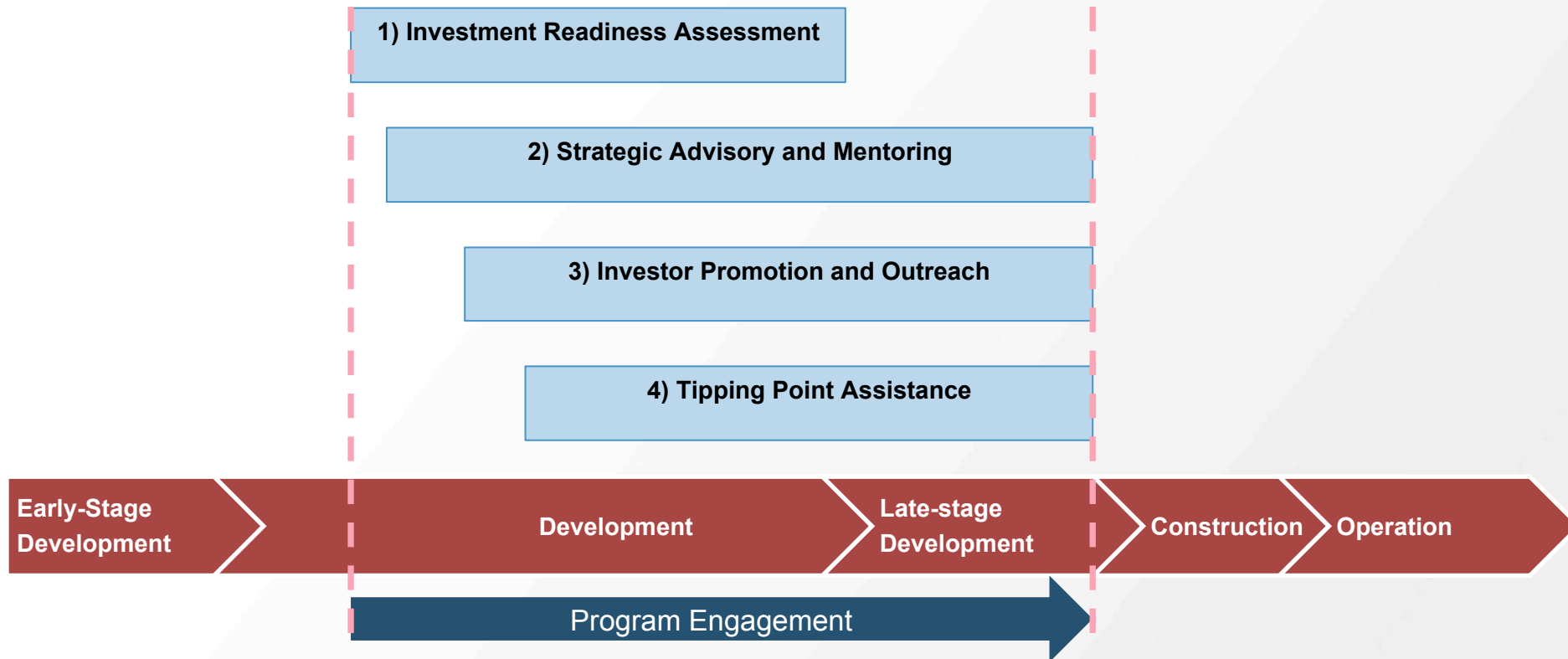
# USAID PFAN-Asia Program: Evaluates projects for support along six dimension

## Eligibility Criteria

- 1) Clean Energy Sector:
  - RE projects
  - EE projects
  - Clean transport
- 2) Geographical Scope:  
Must originate within a PFAN-Asia country
- 3) Target investment requirements:  
\$1 - 50 M USD

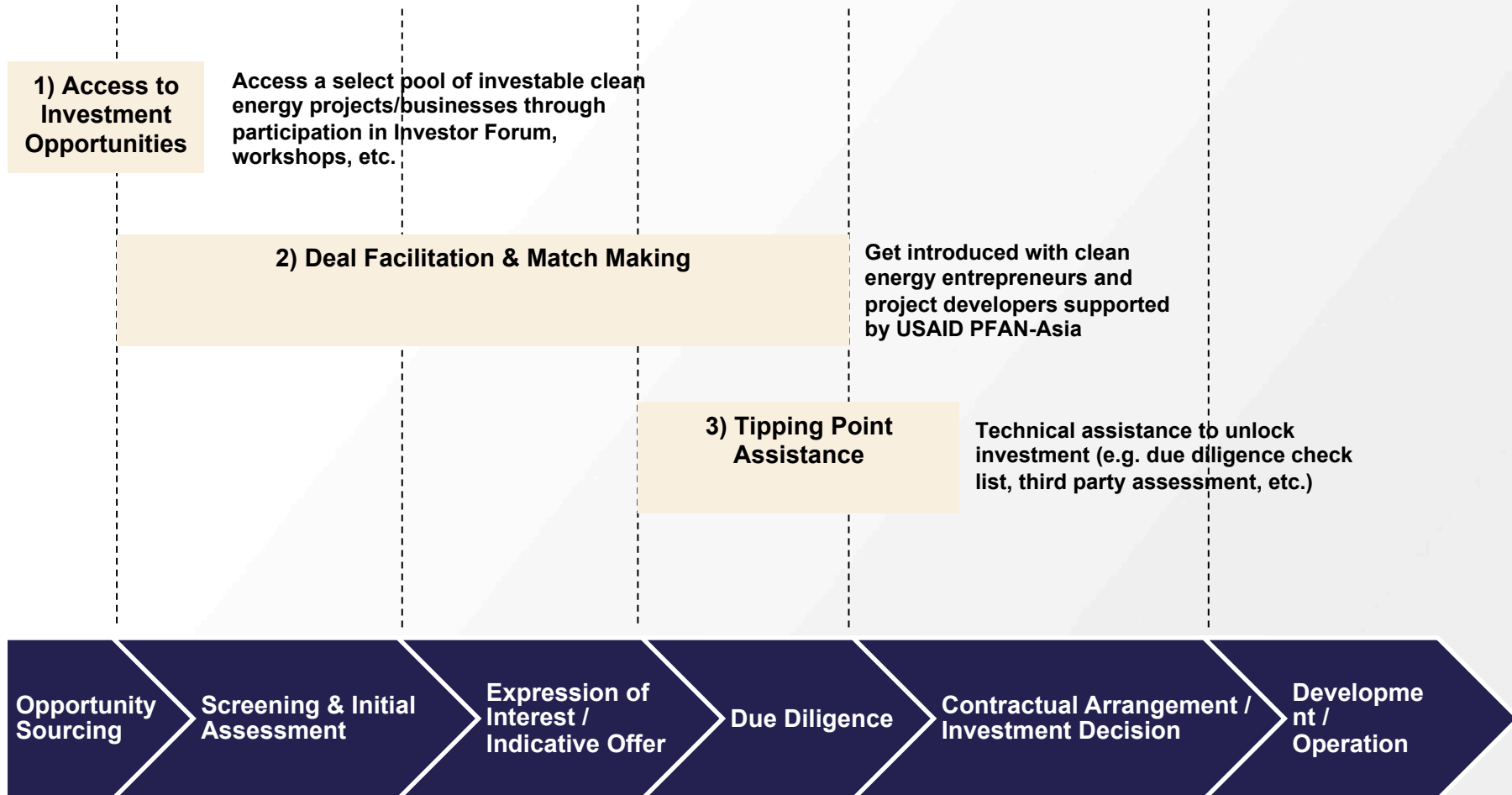


# USAID PFAN-Asia engages with projects from development through financial closure

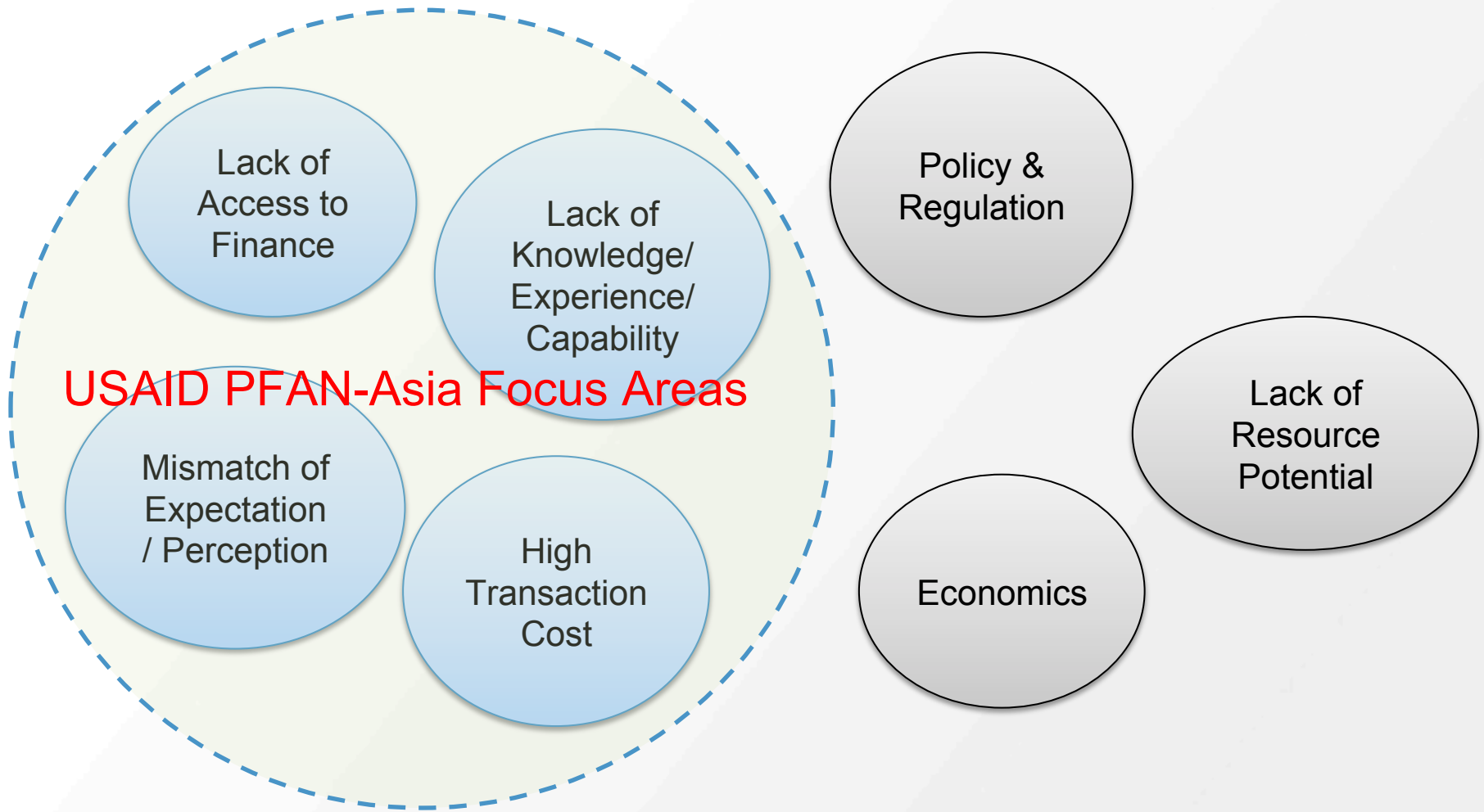


USAID PFAN-Asia is interested in engaging with suppliers for origination.

# USAID PFAN-Asia also engages with investors to facilitate clean energy financing



# USAID PFAN-Asia addresses a subset of obstacles facing SME enterprises





# Case study: Biomass for power generation in Thailand

**Installed Capacity**

**9.5 MW (8.0 MW net)**

**Feedstock**

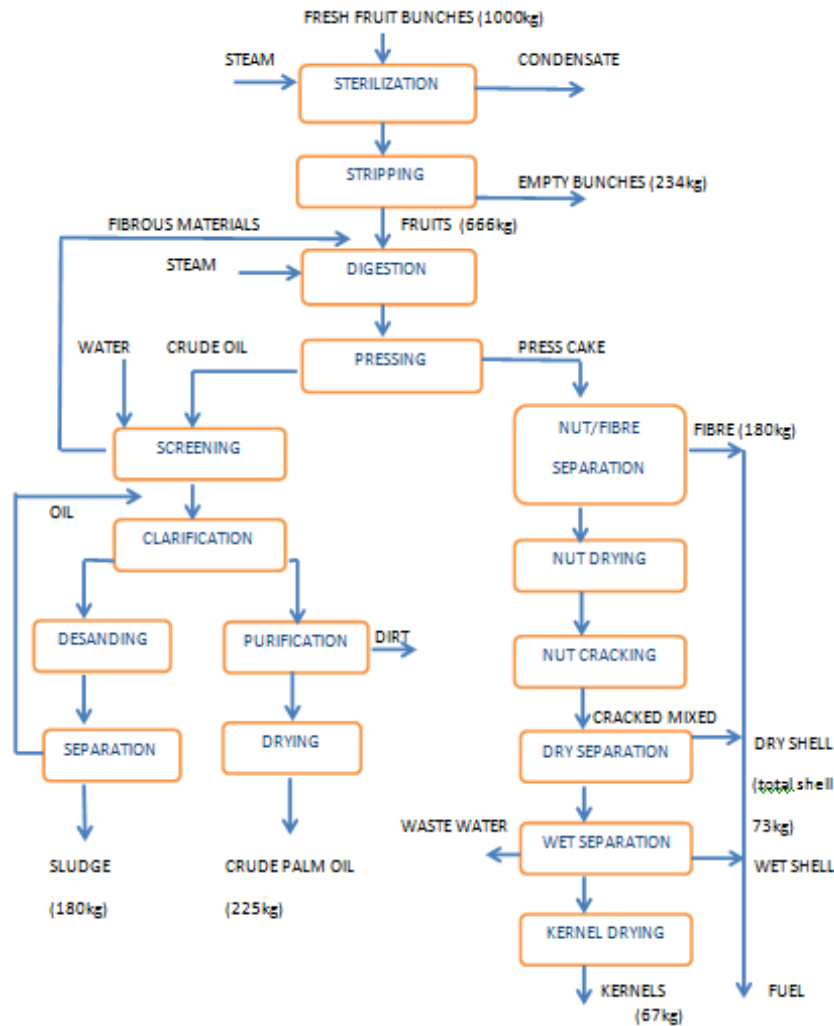
**Empty Fruit Bunch (EFB)**

**Location**

**Surat Thani province**



# By products from palm oil production process



Products	Utilization
Crude Palm Oil	Sell
Palm Kernel Seed	Sell
Fiber	To use as fuel in the process
Dry Shell	Sell
Wet Shell	Sell
Sludge	Sell
Palm Oil Mill Effluent (POME or wastewater)	To generate biogas and then to electricity
Empty Fruit Branches (EFB)	<b>Waste – left to decay!</b>





# Evaluation of Business Fundamentals

## Negatives

- Many EFB power plants encountered difficulties with fuel feeding and combustion systems.
- High moisture content of EFB ( $\approx 70\%$ ) does not allow direct combustion. Huge investment needed for fuel processing (\$30-35 million for 10 MW – 50% more than wood chip power plants)
- Developer lacks experience – investment cost expected at \$20 million for the project.
- Fuel availability has not been ascertained.

## Positives

- 20 acres of land secured
- Received relevant permits – BOI for tax incentives, passed public hearing, PPA
- Given preferential tariff (+ 1 \$ cent/kWh on top of wholesale tariff) for biomass project.
- Developer owns a large palm oil and could supply at least half of the EFB feedstock.
- Potential to scale – business model could be replicated to other mills belonging to the same owner.

# PFAN-Asia support to the project

## Strategic Advisory and Mentoring

- Biomass expert assigned as a mentor
- Refined financial model and improved business plan
- Helped finalize shareholders' agreement

## Technical Assistance

- Engaged third party to confirm feedstock availability (55% available from parent palm oil mill).
- The consultant became owner's engineer for EPC process.

## Investment promotion and outreach

- Connected the developer with a PLC in Thailand ("Company A") who was looking to diversify business to renewable energy.
- Company A took over the project. \$12 million equity into the SPC - 30% revenue share to developer.
- Introduced the project to local banks – secured term sheets from two banks for \$18 million loan.

## What happened next?

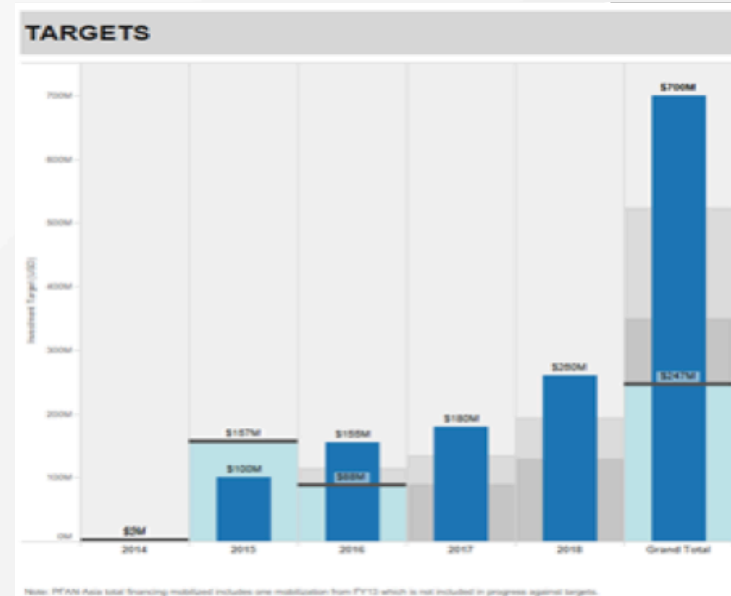
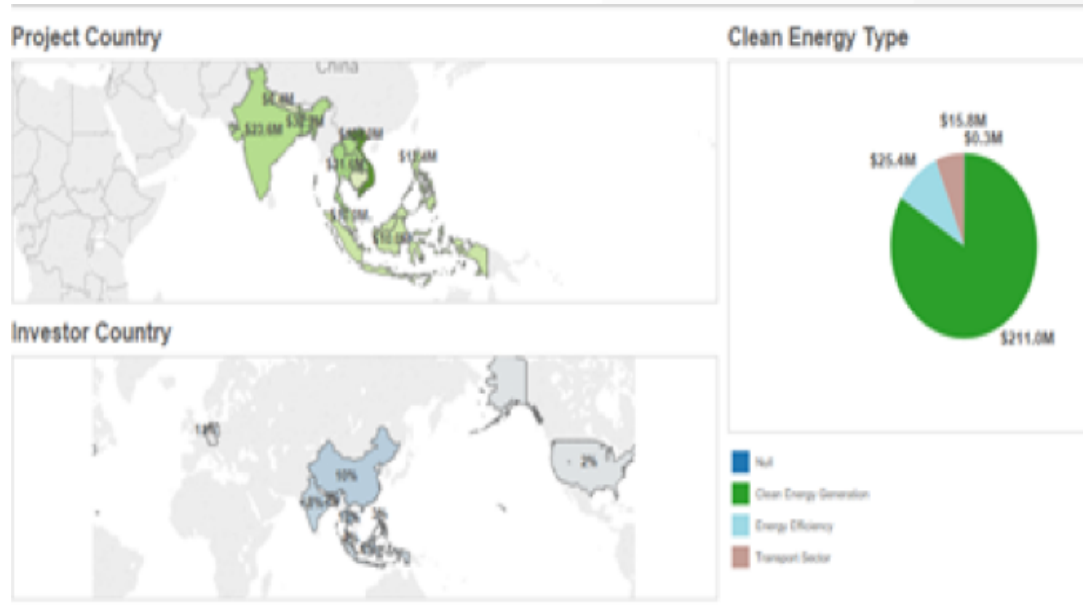


# Lessons learned

- Deals are difficult to close!
- Better project ownership structure?
- Better due diligence on your investor?
- More capacity building is needed for developers to better understand investment risks?

# Investment mobilized by USAID PFAN-Asia program

- Mobilization of \$252.5 million for 31 clean energy projects across the region (June 2016)
- Currently supporting more than 90 active projects in our pipeline.





# Thank you!

## **PFAN-Asia contact information**

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