



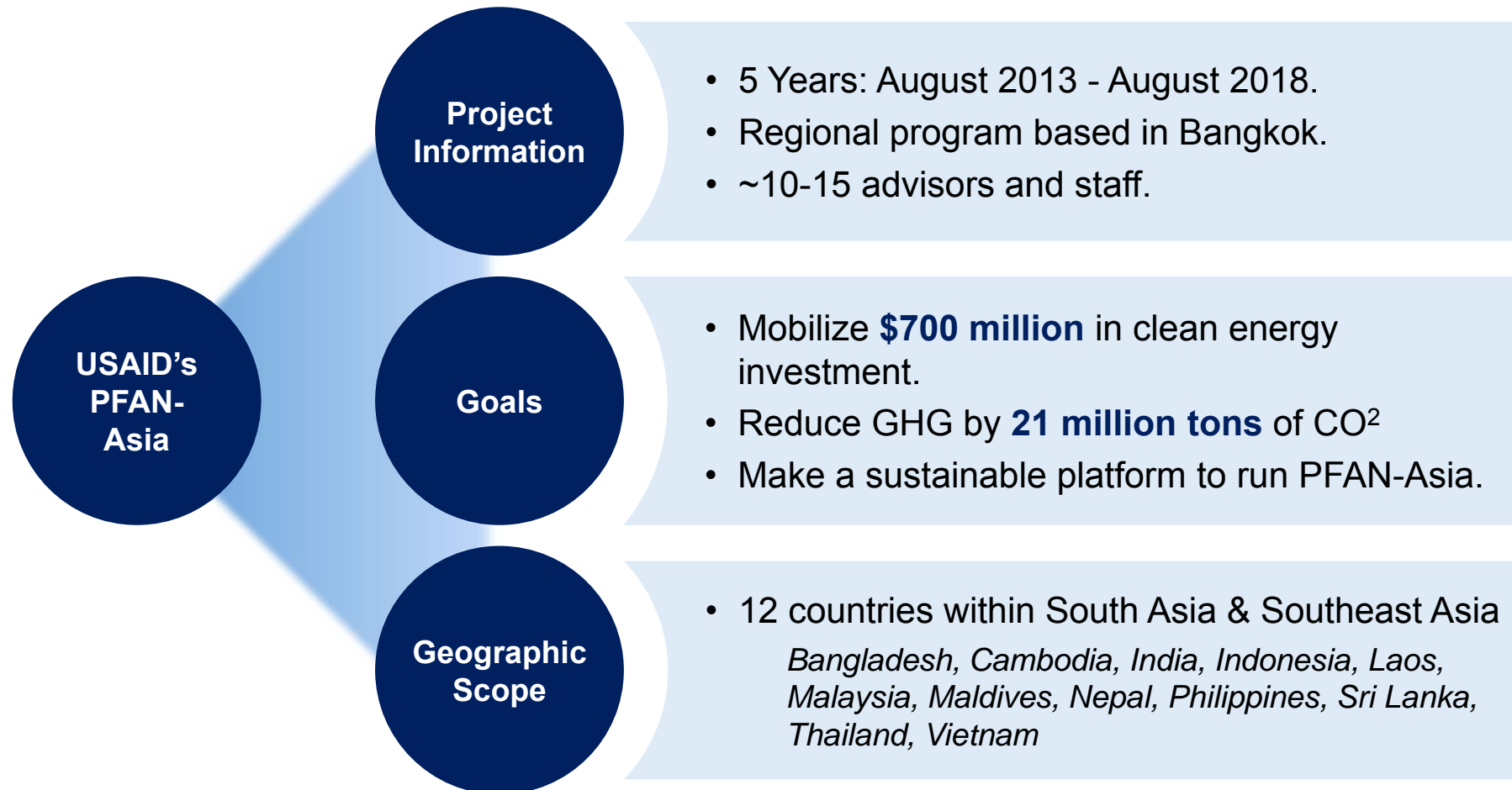
USAID
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APPROACHES TO REDUCING RISKS IN RE PROJECTS – AN EXAMPLE OF BIOENERGY PROJECTS

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USAID PFAN-ASIA PROGRAM



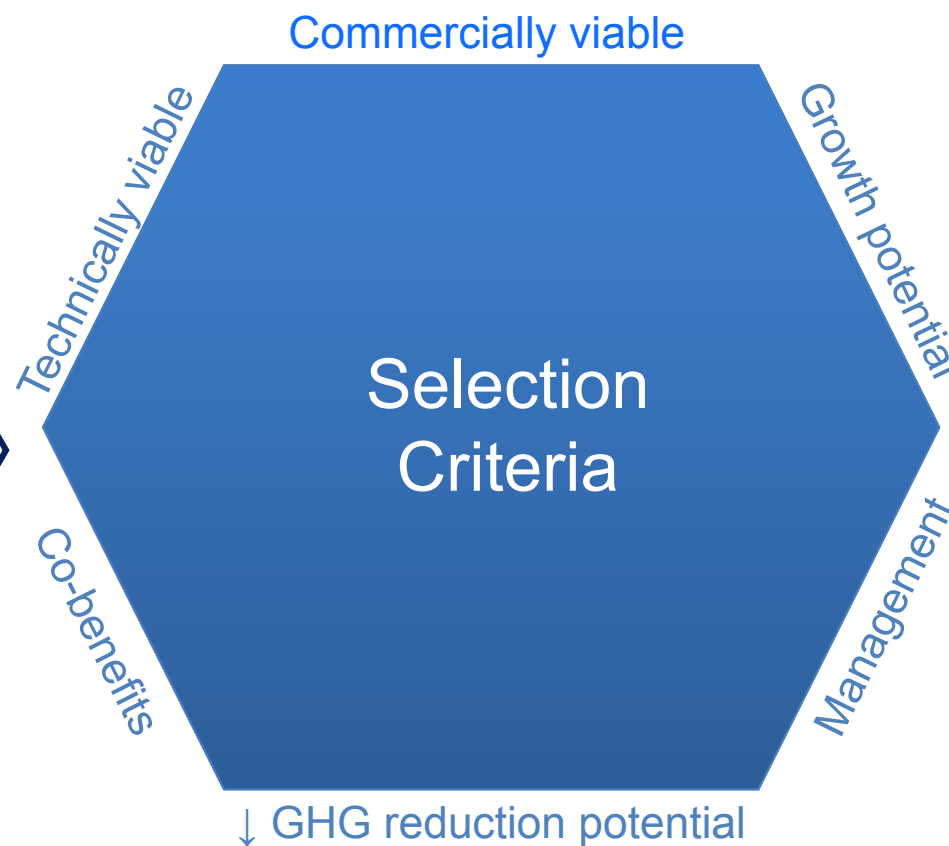
USAID PFAN-Asia Program: Evaluates projects for support along six dimensions

Eligibility Criteria

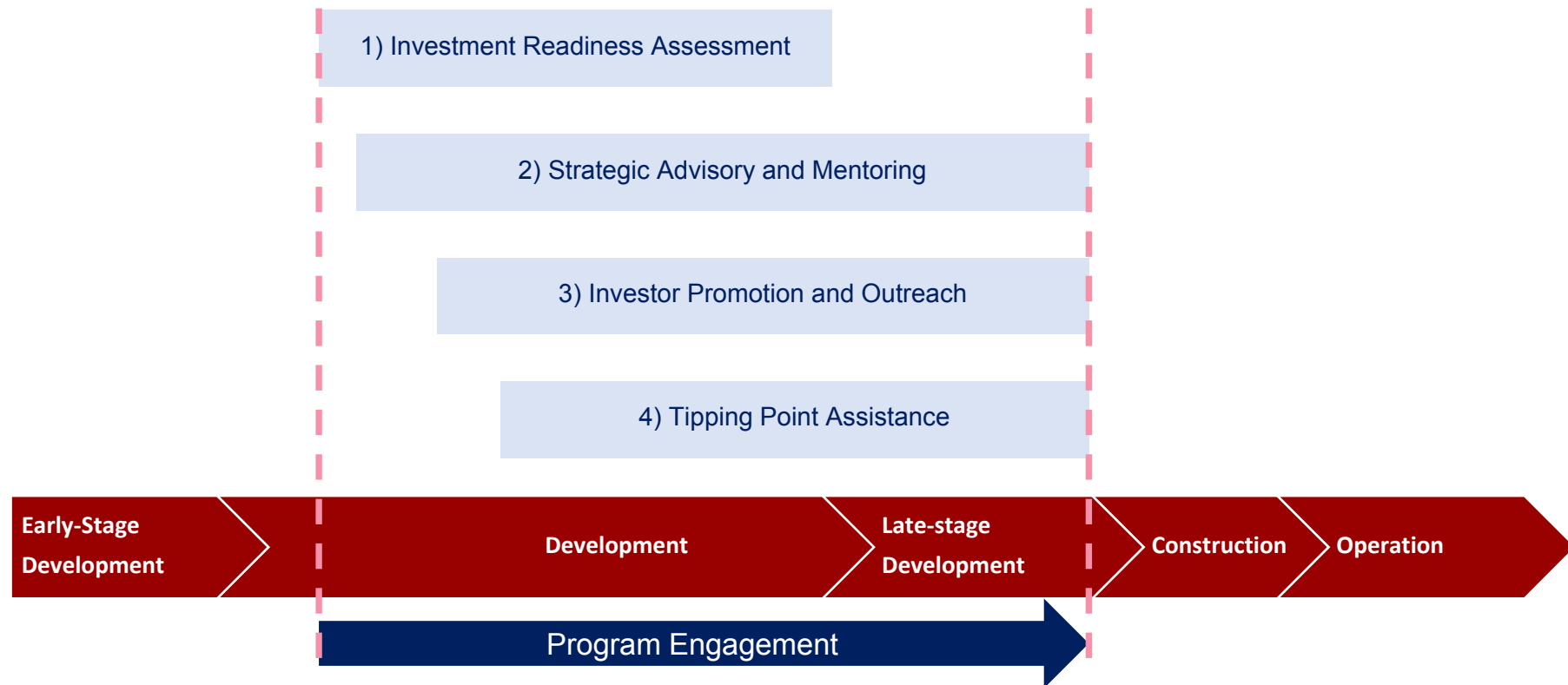
- 1) Clean Energy Sector:
 - RE projects
 - EE projects
 - Clean transport

- 2) Geographical Scope: Must originate within a USAID PFAN-Asia country

- 3) Target investment requirements:
\$1 - 50 M USD

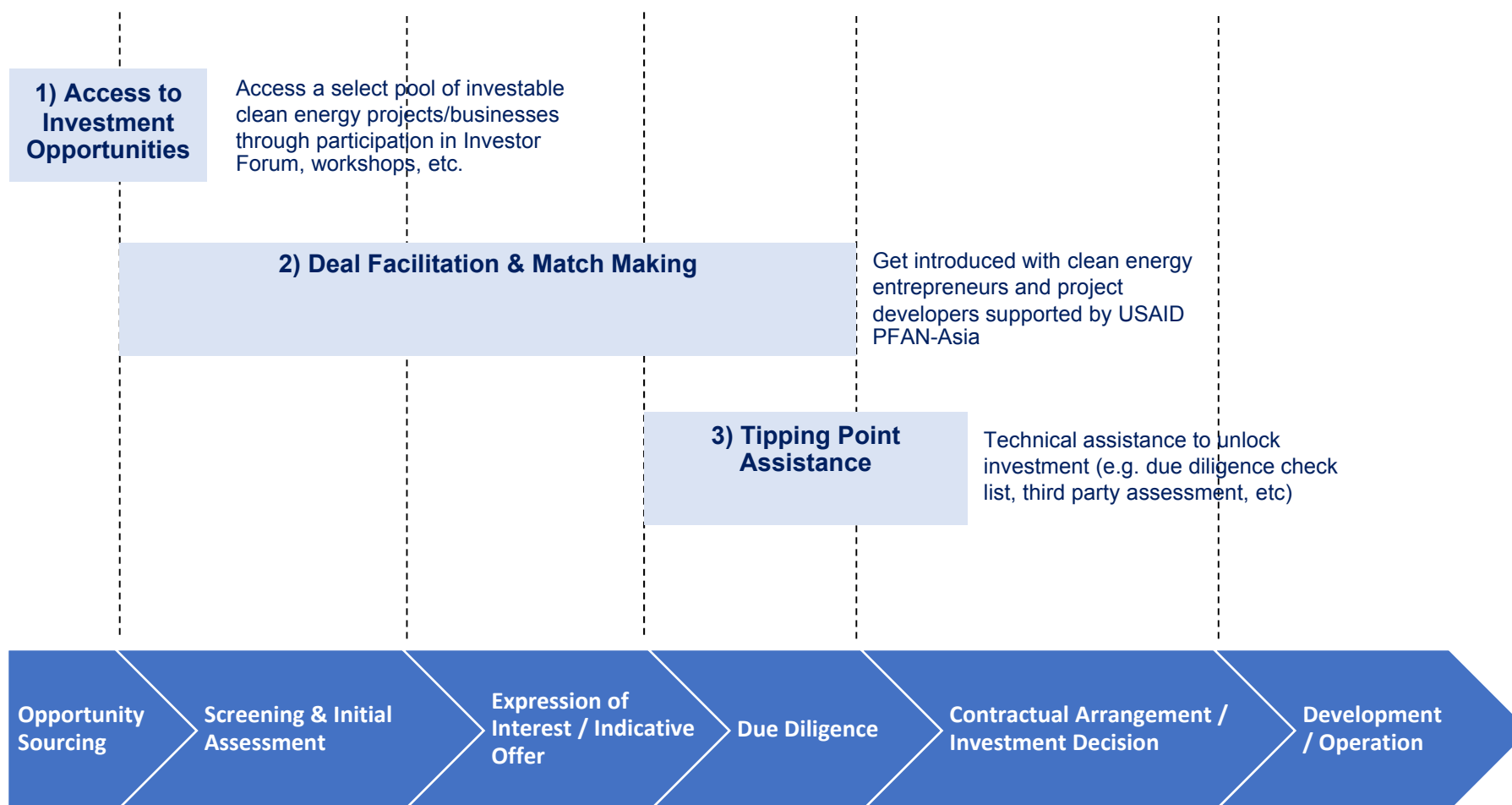


USAID PFAN-Asia Program: Engages with projects from the development through financial closure



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

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



Investment Mobilized by USAID PFAN-Asia

Mobilization Fiscal Year
All

\$252.5M financing mobilized

31 projects for which PFAN-Asia mobilized finance

MOBILIZED PROJECT DETAILS

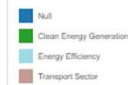
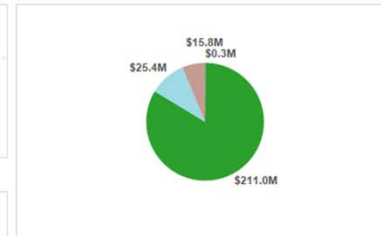
Project Country



Investor Country



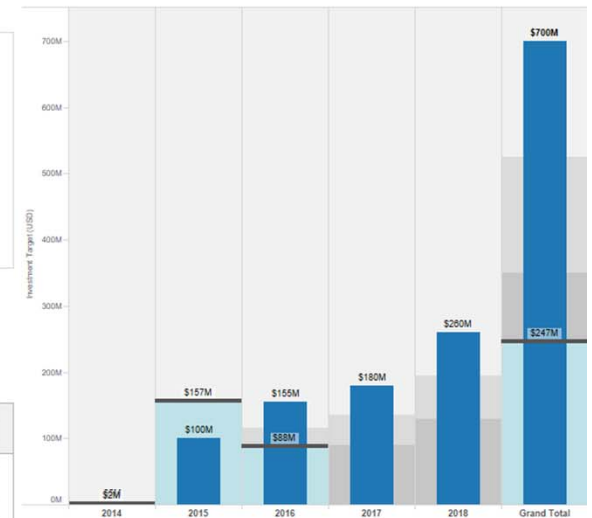
Clean Energy Type



Funding Type



TARGETS



Note: PFAN-Asia total financing mobilized includes one mobilization from FY13 which is not included in progress against targets.

Project Name	Mobilized	Source(s)	Date Mobilized	Closed
ThaiBiomass Wood Pellets Manufacturing	\$0.16M	Venture Capital	25-Jul-14	■
Smothong Biomass Power Plant at Suratthani	\$12.60M	Project Debt/Project Equity	09-Dec-14	■
	\$18.87M	Project Debt	09-Dec-15	■
Small-Scale Waste to Energy Bangladesh	\$0.65M	Grant	30-Jan-15	■
Skyshade Daylights Pvt Ltd	\$0.18M	Corporate Debt	03-Jul-14	■
SkyTran, The Physical Internet	\$2.50M	Project Equity	25-Nov-15	■
Shri Shakti Solar Park	\$6.00M	Project Equity	30-Aug-13	■
Shree Shakti Alternative Energy Pvt Ltd	\$0.30M	Grant	30-Apr-16	■
SEE Tech Solutions Pvt. Ltd.	\$0.24M	Project Debt	30-Apr-16	■
Delic Bio-Methanation with Energy Simulation Plant	\$0.75M	Project Debt	17-Oct-14	■

Investment Is All About Understanding & Mitigating Risks



KEY RISK AREAS

- 👉 Market & Policy
- 👉 Feedstock
- 👉 Location
- 👉 Engineering & Construction
- 👉 Operation
- 👉 Financial



MARKET & POLICY RISK

- ☞ Uncertainty is certain
- ☞ Diversify product/markets
- ☞ Develop concrete co-product strategies
- ☞ Diversify feedstock
- ☞ Diversify customers (if regulations permit)
- ☞ Build sufficient storage capacity of feedstock
- ☞ Working capital



FEEDSTOCK RISK

RISKS

- ☞ Difficulty in getting long term commitments
- ☞ Variation in feedstock on a daily basis
- ☞ Seasonal fluctuations on price
- ☞ Logistics
- ☞ Stocking – safety issues, degradation & storage loss, working capital management



MITIGATION MEASURES

- ☞ Stakeholder approach for feedstock
- ☞ Feedstock under own control (captive farming etc.)
- ☞ Working capital
- ☞ Control on logistics (especially in harvest season)
- ☞ Large and safe warehouses
- ☞ Feedstock flexibility/diversity

LOCATION RISK



- 👉 Markets
- 👉 Feedstock
- 👉 Grid availability
- 👉 Water/waste/ash disposal
- 👉 Manpower/Labor availability
- 👉 Logistics

ENGINEERING & CONSTRUCTION RISK

- ☞ Land and profile
- ☞ Permits and Licenses
- ☞ Experience of contractor
- ☞ Technology fit
- ☞ Overall plant design



OPERATION RISK

- ☞ Experienced personnel
- ☞ Balancing the various components of the plant (matching demand and supply, especially utilities)
- ☞ Lab – sampling & analysis closely integrated to operations
- ☞ CSR plan for inclusive growth
- ☞ Feedstock blending and related menus
- ☞ Production planning, tracking WIP
- ☞ Safety





FINANCIAL RISK

- ☞ Follow through investment
- ☞ Capital structure of the company
- ☞ Working capital
- ☞ Exit options
- ☞ Sinking fund
- ☞ CSR for inclusive growth

THANK YOU

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