

DRAGON CAPITAL

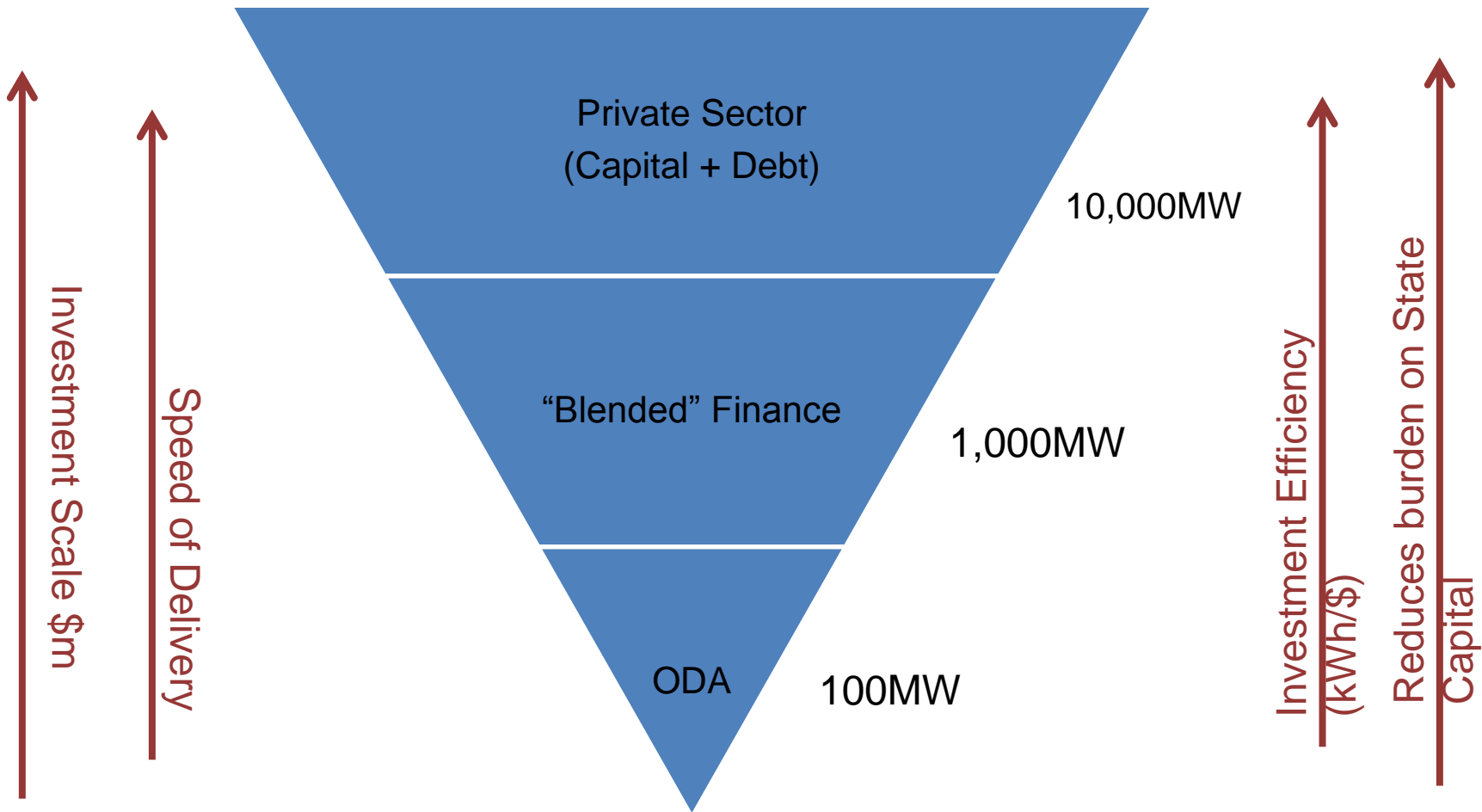


# BRIDGES, RISKS AND PPAs

August 2017



*Thail Solar invested by Dragon Capital*



# THAILAND AND VIETNAM

## Thailand

- Alternative Energy Consumption Target Plan (AEDP – 2015) – 6,000 MW installed capacity by 2036
  - August 2017 – 3000mw installed at 750mw / year
  - 2 phases Agro-Solar:
    - 300MWp target FIT 5.66 baht/kWh (16c/kWh)
    - 518MWp target Q2/2017 FIT: 4.12 baht/kWh (12c/kWh)
  - Investment incentives:
    - 8-year corporate income tax exemption
    - Exemption of import duty on machinery.
    - Other non-tax incentives.
  - Acceptable PPA terms and conditions by local and international financial institutions
- A mature solar market with many debt finance options.  
Risks are know and quantifiable

## Vietnam

- Revised PDP7 2016 – 850 MW 2020, **12,000 MW 2030**.
  - August 2017 – Nil
  - Decision 11/2017/QD-TTg FIT2,086VND/kWh (9.35c/kWh, indexed to USD)
  - Investment incentives:
    - Corporate income tax exemption and reduction
    - Import duty exemption
    - Land rental exemption and reductions
  - High development risks and complicated licensing process
  - Draft PPA issued in May 2017 considered as “unbankable” by international donors, developers and financiers.
  - Debt at 9% - 12%, variable, limited capacity by local banks. No international banks willing to provide debt on non-recourse PF basis
- 250+ “registered” projects of 17,000 MW nominal capacity  
→ **Probability of execution ???% / ???MW**

***Dragon Capital invested in 29MW solar project commissioned in 9 months with 100% equity + debt finance after COD.***

# AN EQUITY BRIDGE TO UNLOCK SOLAR?

Barrier Category	Barrier	Policy Solution
<b>Economic</b>	1. Subsidies to conventional thermal generation technologies create price distortions	1. Remove subsidies for conventional thermal generation
	2. Externalities are not considered in energy policy	2. Include the external costs of energy production in decision making
<b>Regulatory &amp; Administrative</b>	3. Standard PPAs are 'un-bankable'	3. Improve 3 key clauses to a better standard
	4. EVN not seen as a creditworthy off-taker	4. Provide (i) Direct PPAs and/or (ii) PPA guarantees
	5. Complex and lengthy planning and licensing processes	5. Create simpler, streamlined and transparent licensing process
	6. Uncertainty surrounding future retail prices	6. Publish near-to-medium term roadmap for retail prices
<b>Financial</b>	7. Difficulty accessing capital at acceptable rates	7. Provide (i) concessional loans and (ii) loan guarantees
<b>Technical</b>	8. Underdeveloped supply chains	8. Develop an RE industrial strategy
	9. Insufficient grid infrastructure	9. Plan and develop needed grid infrastructure