Two Financing Models

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FINANCING MODELS:
HOST GOVERNMENT BACKED PPA

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Host Government Backed PPA

- Both previous presentation and this deal with a host government assuming (some kind of) project risk
  - Direct loan guarantees are about reassuring lenders about the prospect of the project becoming uneconomic before loans are repaid
    1. Construction cost overruns
    2. Post commissioning economics
- Host government guaranteed Power Purchase Agreement (PPA) is about host assuming *market* risk
  - Inadequate demand, low prices
  - Guaranteeing a *price* (per MWh), *quantity*, or *both*
    2. Post commissioning economics
- Can address market risk *via* a variety of measures on the revenue side (e.g. price floors)
  - Will have benefits in terms of lower cost of capital

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Host Government Backed PPA

- Policy objective: offer the developer *just* enough price support to make the NPP investment happen!
  - Key steps in setting fixed price *or* price floor:
    1. Benchmarking risk/return
       - e.g. Oxera (2011): 9%-13% (pre-tax, real)
    2. Obtaining accurate cost estimates
       - Source?
    3. Financial modelling
       - Solve for the (fixed) price that delivers a return in excess of – e.g. – 9% (pre-tax, real)
  - Price floor likely <u>below</u> fixed price
    - Developer gets the upside!
- Build acceptable performance into the financial model
  - Availability factors
  - O&M costs below 25th percentile

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Host Government Backed PPA

A well designed host government backed PPA:

- Offers assurance to developer(s) and their lenders
  - Mitigates price and/or quantity risk ("take or pay")
  - Avoids default risk
- Avoids "peverse" incentives
  - Simply guaranteeing a fixed price for all output could lead to indifference on outage timing
- Is politically credible
  - Comparison of "strike price" to existing wholesale prices
- Is flexible
  - Limited foresight may necessitate re-openers and/or indexation
- Avoids "windfalls"
  - "Gain sharing" mechanisms

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Host Government Guaranteed PPA

Generic features	Rationale
1. A guaranteed *price* – not a guaranteed *return*	1. Maintains pressure to minimize *costs*
2. Take-or-pay - *but subject to plant availability*	2. Maintains pressure to maximise availability
3. Model based “strike price”	3. Minimize cost of inducement to build
4. Contingent price adjustment mechanism	4. Impossible to hard-wire future tariff escalation
5. Host government backed counterparty	5. Guarantee only as good as the guarantor’s credit

FINANCING MODELS: VENDOR FINANCE

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What is “vendor finance”?

- Comes in a variety of ‘flavours’…
  - Vendor *arranged* credit
    - Does not appear on vendor Balance Sheet
    - Vendor *facilitates* financing from sources such as relationship banks, Export Credit Agencies
  - Vendor *provided* credit
    - Often short-term (e.g. construction loans)
      - As of November 29, 2010, the TANE Credit Facility provided $500 million in a credit facility for NINA to support project activities for procurement of long lead materials and payment of EPC services.
  - Vendor *equity*

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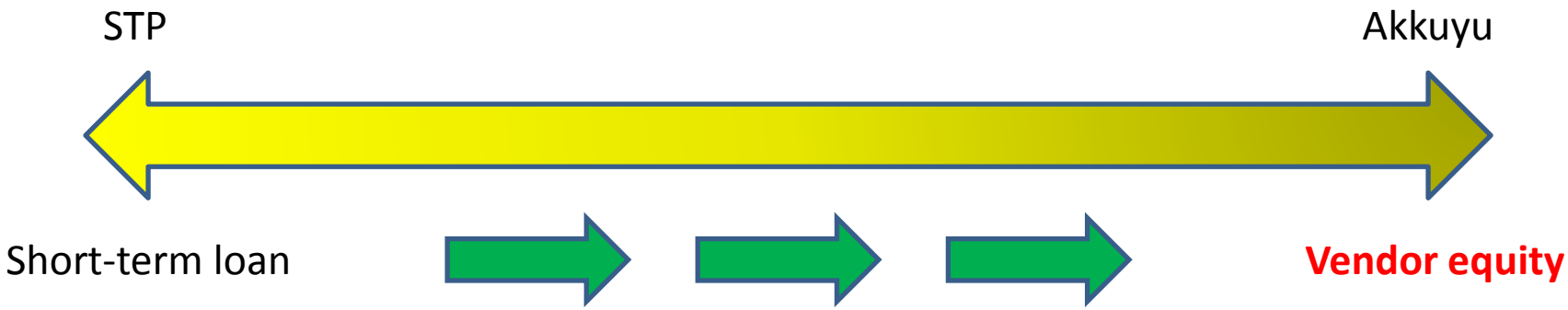
Flavours of vendor finance



- Vendor equity gives vendors – e.g. NSSS suppliers – a share in future net incomes generated by a project
  - From a risk perspective *shareholding* is a riskier proposition than *lending*, and much riskier than simply *selling*
- *Then SVP GEH noted in late-2011 that "[I]t's becoming more the norm that [customers] are asking for equity investments…"*

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Vendor equity

- Lithuania sought equity investors for Visiganis in early 2011
  - Westinghouse offered to take an equity stake
- UAE contract provides for equity shares for Enec & Kepco
  - On November 8, 2012, the board of directors of Korea Electric Power Corporation(”KEPCO”) resolved to invest US$1.04 billion in Barakah One Company in exchange for a 18.0% equity interest in the company
    - Actual capital contribution is scheduled to be made in April 2018
- Areva will have equity in Hinkley Point C (NNBG)
  - EDF 45%-50%; Areva 10%; China General Nuclear Corporation & China National Nuclear Corporation 30%-40%; Other ≈ 15%

Should you push for it?

- Look at vendors' cost of capital
  - Cost of equity
    - CAPM
  - Cost of borrowing
    - Vendors may be "onlenders"
- Compare with cost of capital from other sources
- Vendor finance likely to be relatively expensive
  - May still be an advantage from "skin in the game"

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NSSS vendor equity

Generic features	Rationale
1. Relatively small part of overall financing	1. Limited vendor balance sheet capacity
2. Not cheap!	2. Vendor WACC typically exceeds - e.g. - ECA CoC
3. Limited recourse	3. Vendors unwilling to “bet the farm”
4. Credit enhancement by host government	4. Vendor risk aversion
5. “Exit strategy”	5. Vendor unwilling to tie up capital long-term