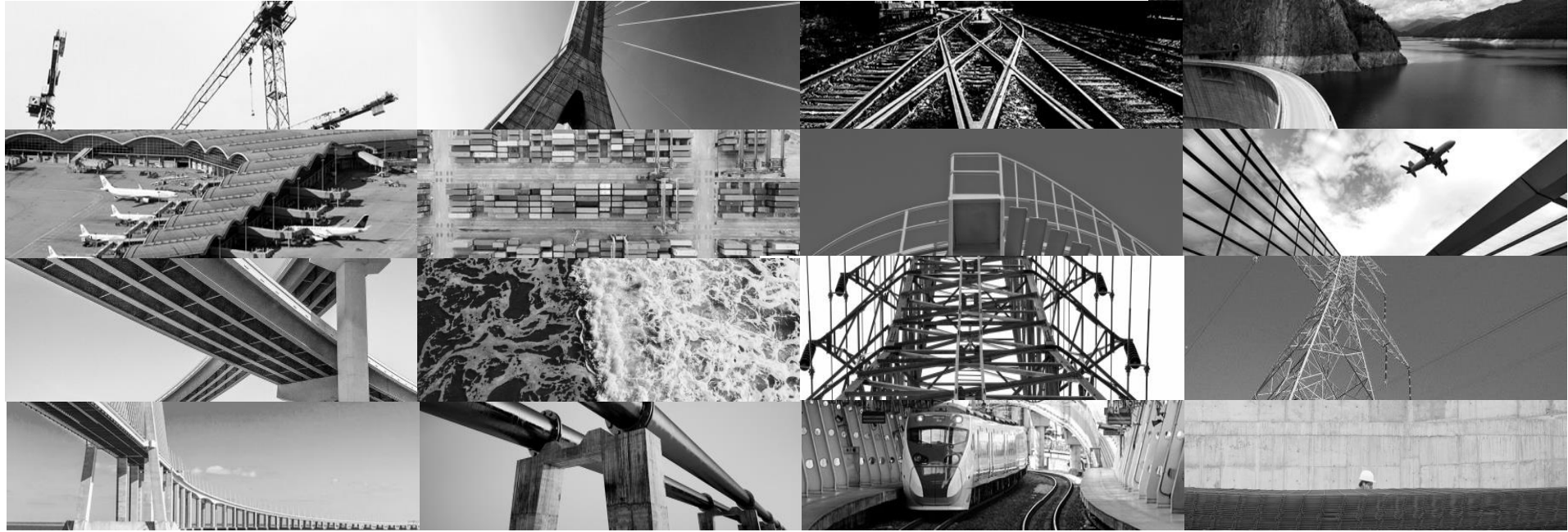


Infrastructure Finance



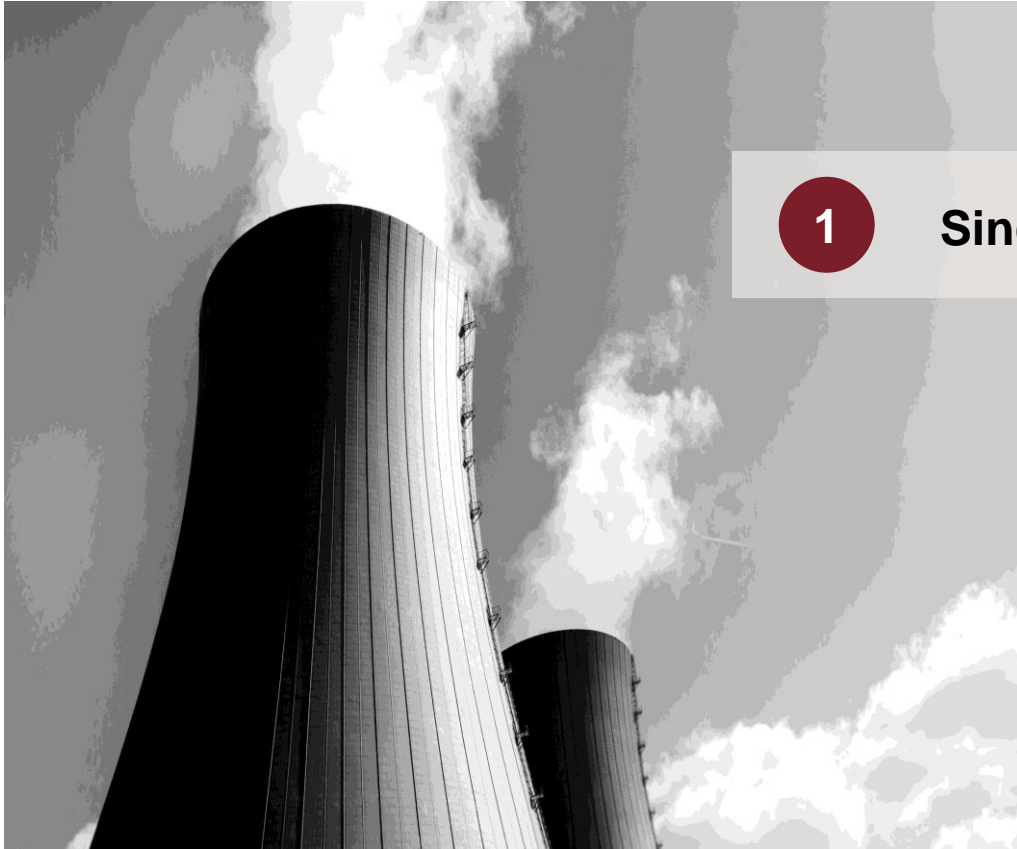
S&P TRIS Infrastructure Seminar

20 November 2018, Bangkok

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Agenda

- 1 **Single Asset**
- 2 **Bundling**
- 3 **Restricted Group**
- 4 **Infra Funding Trends**
- 5 **Conclusion**



1

Single Asset

Indian Airports: Single Asset Corporate Finance



Asset

- Sole airport under Concession agreement
- Corporate decisions to expand/fund



Cash Flows

- ALL Regulated Revenues & Cash Flows



Group

- Weaker Group doesn't have access to cash flows without govt. approval



Govt.

- Part Govt. ownership over national asset – Not strategic or financial

Jasa Marga: Toll Rights Securitization



Assets

- Rights to collect toll revenue
- Mature Operational Toll Road



Cash Flows

- Future Cash Flows
- Stable Earnings



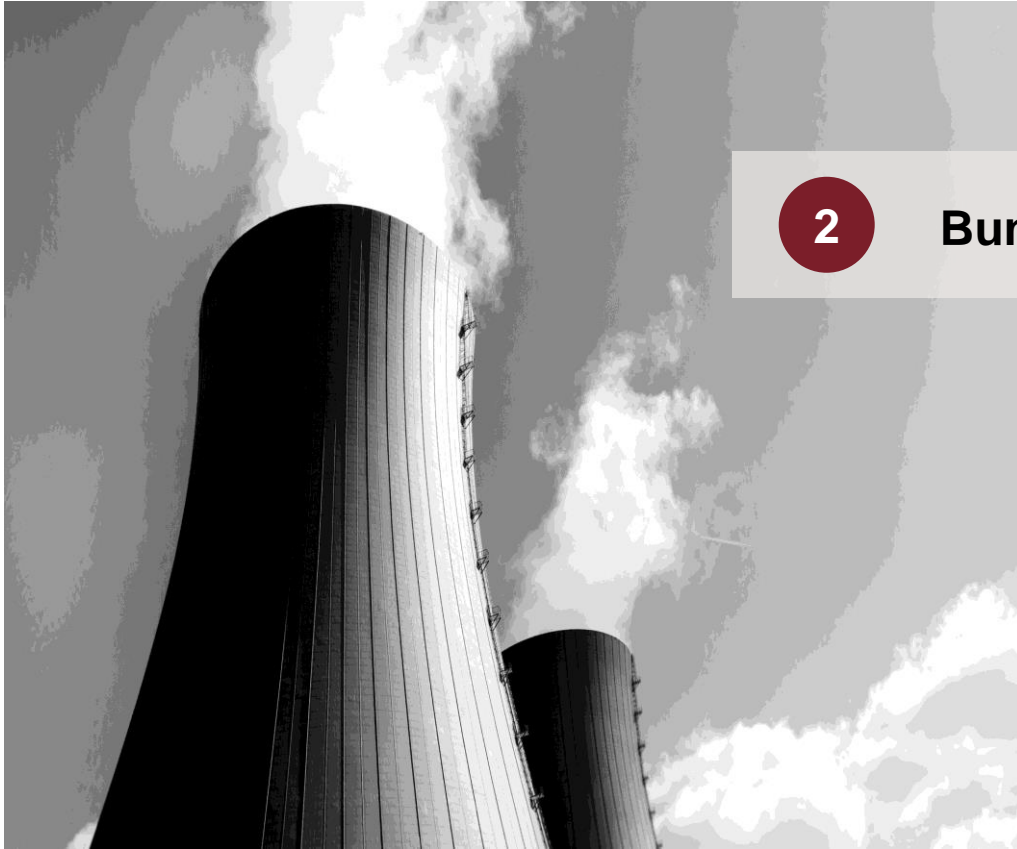
Amortization

- 5 years, 20% p.a



Risk

- Retain Equity Risk



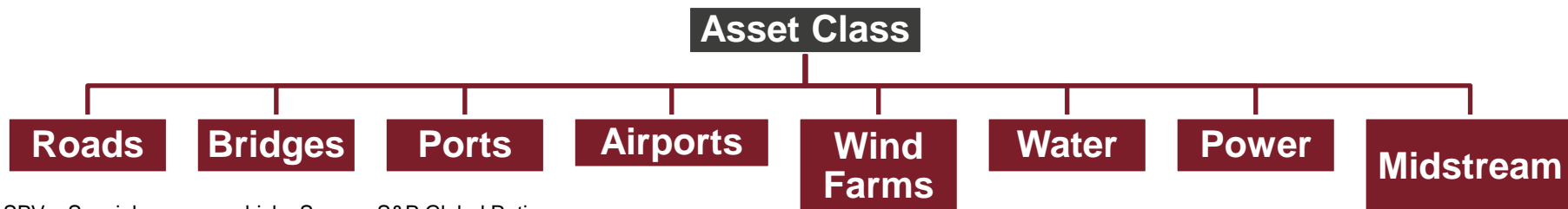
2

Bundling

Asset bundling structures

Examples Of “Bundled” Infrastructure Approaches

| 1. Bundled Projects | 2. Project HoldCo | 3. Project Developer | 4. Corporate HoldCo | 5. Asset Securitization | 6. Loan Securitization |
|---|---|--|---|---|--|
| <ul style="list-style-type: none"> - Bridges - Broadband - Schools - Roads - Renewable Power - Port | <ul style="list-style-type: none"> - Renewable Power | <ul style="list-style-type: none"> - Renewable Power Transmission | <ul style="list-style-type: none"> - Multiple assets | <ul style="list-style-type: none"> - Solar/ Renewables | <ul style="list-style-type: none"> - Government loans - Renewables - Power - Roads |
| Debt at asset level | Debt at asset and HoldCo | Debt at asset and HoldCo | Debt at corporate level | Debt at SPV | Debt at SPV |



SPV – Special purpose vehicle. Source: S&P Global Ratings

Renewables – Inherent Characteristics

Small projects, limited diversification, site risk

| | Renewables Characteristics | Mitigant/ Solutions |
|----------------------|--|---|
| Size | Small projects (compared to Fossil/O&G projects) | Bundling of multiple projects |
| Resource Risk | Exposed | Diversification- Resource, Projects, Counterparties |
| Performance | Past Performance Not a Reflection | P90, P99 estimates |
| Risks | Cash Flow volatility | Greater Cash Flow Stability |
| Funding | Bank Funded | Capital Market Access |

Brookfield Infrastructure: Project Developer



Asset

- Diverse portfolio - utilities, transportation, communications infrastructure, and energy



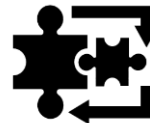
Cash Flows

- Significant asset-level cash flow
- Highly stable and predictable dividends



Exposure

- Mostly nonrecourse debt at the asset level



Covenant

- Asset Level, lock-up covenants

Vela Solar: Project Holdco



Assets

- 42 solar photovoltaic (PV) parks in Spain
- Closed Pool



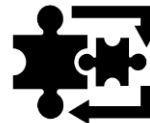
Cash Flows

- Operational, regulated
- Pooling of Cash flows



Diversification

- More Stable Portfolio Performance compared to Single Asset



Covenant

- Asset Level, lock-up covenants

Clifford Capital : Project Finance CLO



Assets

- 30 Projects
- APAC, Middle East



Cash Flows

- 26 Operational, 4 near completion



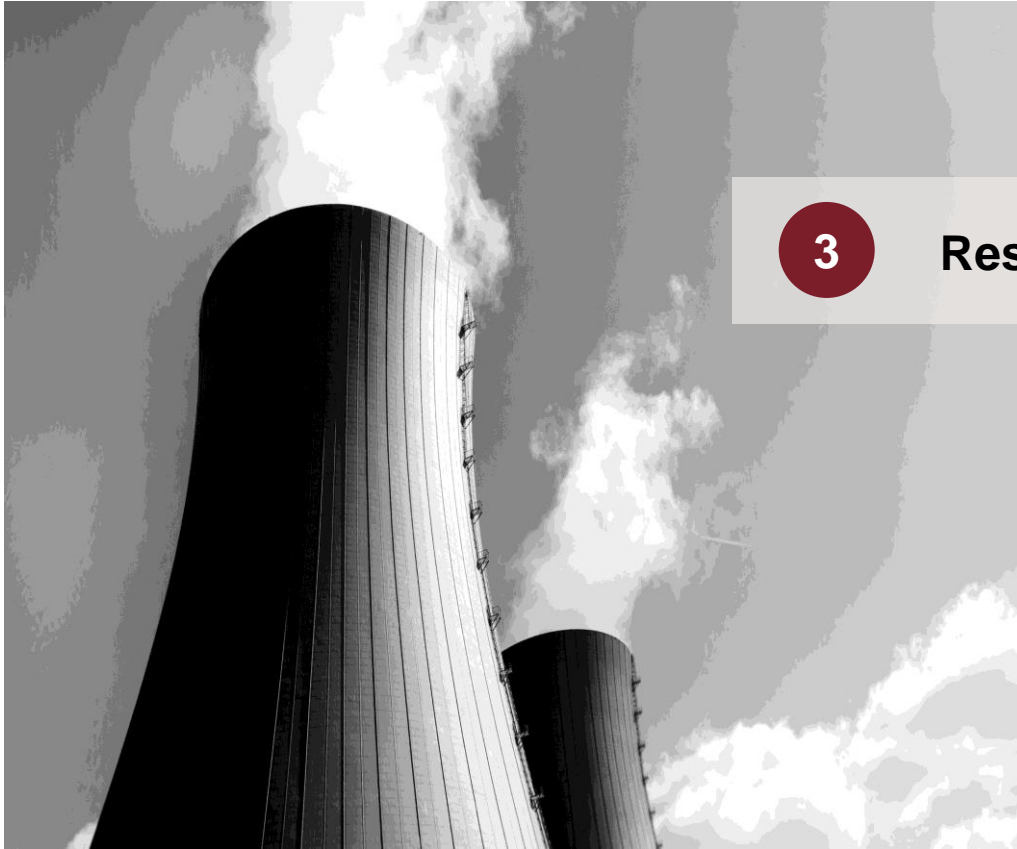
Tranche

- 3 senior tranches



Recovery

- ECA/gtee support for some projects
- Some assets in developed markets



3

Restricted Group

Restricted Group

Ring Fence – Stronger than Corporate weaker than Projects



Asset

- Identified and Separate



Leverage

- Defined with Limitation on Additional Debt



Covenant

- Tested for Restricted Group



Funding

- Differentiate Risk and Funding Costs

Greenko: Restricted Group?



Pool of Assets

- Operational projects
- Co. can add or remove projects



Transfer of Assets

- No approval required, s.t meeting covenants



Covenant

- Incurrence Covenant
- Not Maintenance



Support

- Parent support for ALL projects

Adani Transmission Ltd: Restricted Group



Pool of Assets

- Operational projects
- Closed pool - No changes without rating confirmation



Acquisition of Assets

- Only from Dividends after meeting Cash Flow waterfall



Covenant

- Rating Maintenance
- Other Lender's consent to Common Term Deed



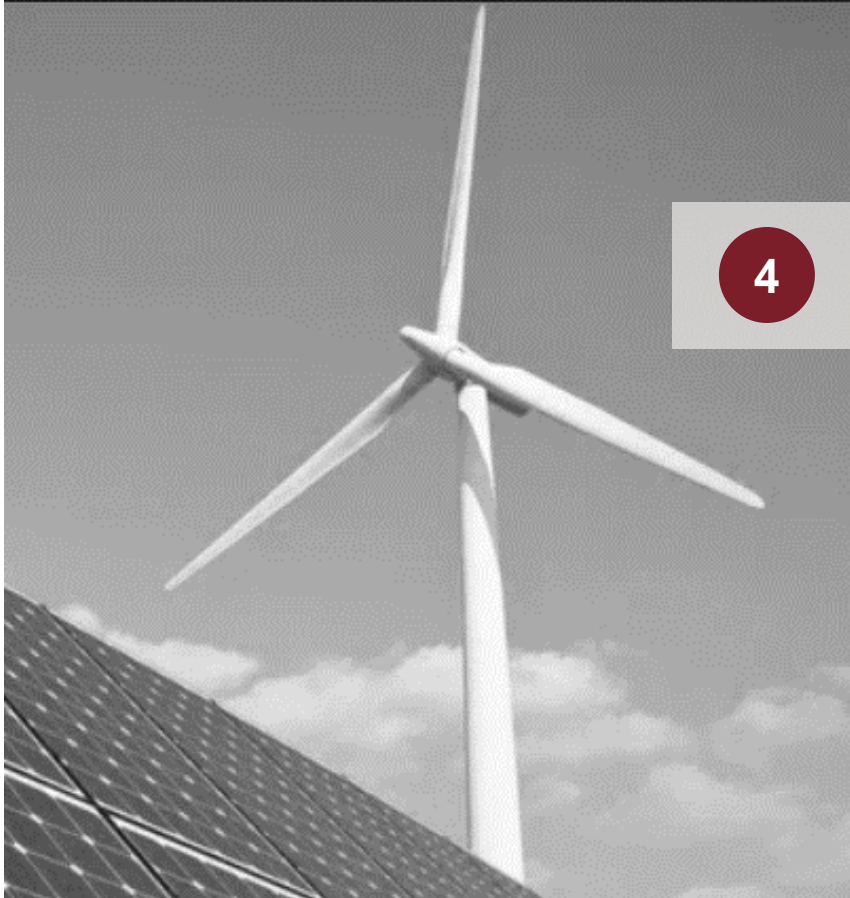
Support

- No external support/intervention

Global Funding Structures

Rating Approach Is Driven By Structure

| | Structure | Cash Flows | Key Factor |
|---------------------------|-------------------------------|---------------------|---------------------------------|
| Corporate | General Borrowing | ALL | Business Finance |
| Restricted Group | Specific Borrowing | Specific Assets | Opco, Covenants |
| Project Developer | Holdco Debt | Dividends from Opco | Dividend Quality/ Volatility |
| Structured Finance | Special Purpose Vehicle (SPV) | Pass Through - Opco | Opco, Counterparty |
| Project Finance | Limited Purpose Entity (LPE) | Project | Waterfall |



4

4 Infra Finance: Trends & Risks

APAC Infrastructure Finance

Trends

Emerging New Structures in the Region

- Restricted Group, Pooling of Assets, Project Developers
- Project Finance picking up in Indonesia, India, Vietnam.

Capital Market Issuance

- Primarily to Refinance; largely to optimize capital costs
- Fund future growth supported by existing cash flows
- Matching cash flow & amortization profile

Market participants are evolving

- Issuers: Wider Rating Universe- Sector, Country, Rating Levels
Intermediaries: Bank originators becoming syndicators, Infrastructure Guarantee Funds
- Investors: Insurance co., Sovereign Wealth Funds, Pension Funds, G to G

Green bond and ESG

- Sustainability & Principal of Responsible Investors
- Green “only” investors

Infrastructure Finance

Potential risks

Regulatory Risk

- Scrutiny of Regulated Return
- Drive towards competitive bids

Political Risks

- Geopolitical relations
- 2019 Heavy Political Calendar for S.S.E.A

Energy Transition

- Pace and Direction of Energy Transition Remains Highly Variable!

Disruption

- Battery Storage, Electric Vehicles, Rooftop Solar, Automated Vehicles, Hyperloop

The Unknown Unknown

- Fast changes in Structural Factors: Technology, Geopolitical relations, Trade, Social Contract

Poll Question



6

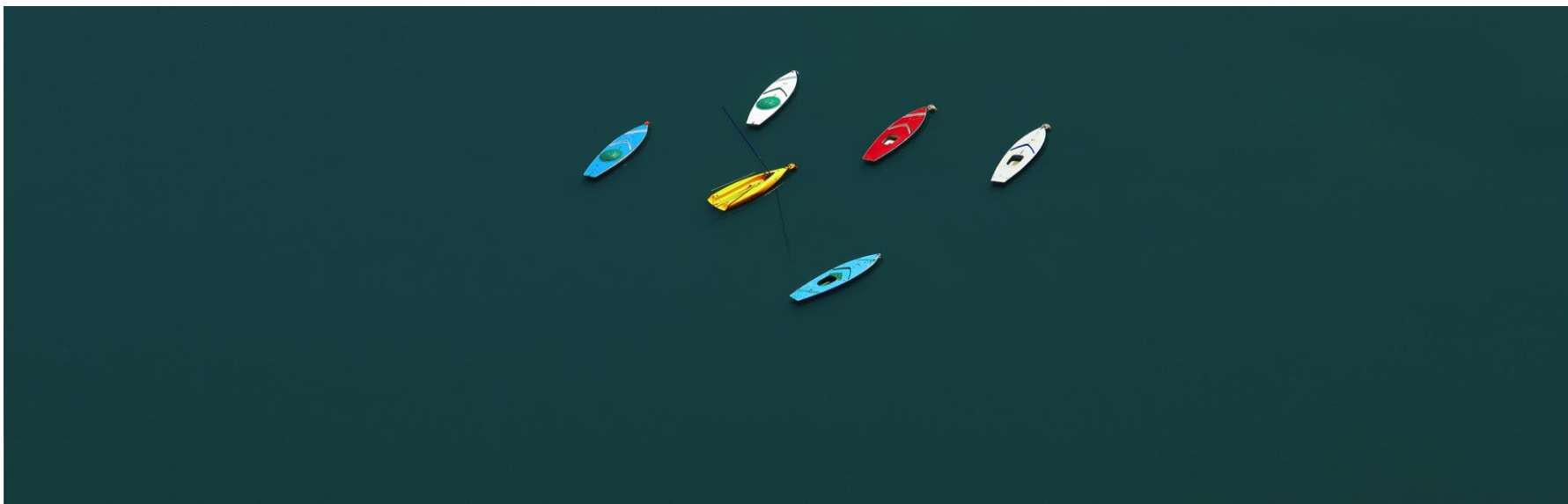
Potential Risk For Infra Companies?

1. Technology (EV, AV etc.)
2. Regulations
3. Energy Transition
4. ESG
5. Others



pigeonhole.at/IF2018

Q&A





Richard Langberg

*Senior Director and Analytical Manager
Head APAC Infrastructure Ratings*

Richard Langberg is a Senior Director and Analytical Manager in S&P Global Ratings team, based in Hong Kong. He leads the team covering infrastructure ratings in the Asia Pacific region.

Before relocating to Hong Kong, Richard was a Director in S&P Global's Energy Infrastructure Ratings team based in New York. The practice covers a broad scope of the energy infrastructure industry including the midstream sector (including most master limited partnerships), oil refineries, pipeline companies, power projects and other project financings.

Before joining S&P Global in November 2016, Richard was an Executive Director in the North American Project Finance team at BBVA from 2010 to 2016, based in New York. Prior to BBVA, Richard was the head of the North America Infrastructure Finance team at the National Australia Bank, also in New York, from 2008-2009. Richard also previously spent 14 years with MBIA in the Global Infrastructure and Public Finance team as well as the Structured Finance practice during postings in New York, Sydney and Singapore.

Richard has an M.A. from the University of Michigan and a bachelor degree from the University of Wisconsin-Stout.



Abhishek Dangra

Director

Sector Lead, Infrastructure Ratings, S.S.E.A

Abhishek Dangra is a Director in S&P Global Ratings team; based out of Singapore. He is the Sector Lead for all Infrastructure and Utilities companies in South & South-East Asia region (mainly India + ASEAN) covering Regulated Utilities, Renewables, IPPs and Transportation Infra companies like Airports, Ports, Toll Roads etc.

Abhishek is also increasingly involved in sharing S&P views on Infrastructure sector trends, Green Finance/Green Evaluation and Project Finance transactions in the region.

Abhishek has around 14 years of credit experience; joining S&P in 2010 with over seven years of work experience in credit related profiles. Before joining S&P, he was heading the Industry Research Group - Credit at Kotak Mahindra Bank. Abhishek has also worked with Lehman Brothers in the Global Risk Management function.

Abhishek is a Management Graduate from the Indian Institute of Management (IIM) – Indore and a Chartered Accountant (CA) from The Institute of Chartered Accountants of India. He also has a Bachelor of Commerce (B.Com) degree from Gujarat University and is a Certified FRM by the Global Association of Risk Professionals (GARP).



Mary Anne Low

Associate Director

Infrastructure Ratings, S.S.E.A.

Mary Anne Low is an Associate Director in the Infrastructure team in Singapore. She has primary analytical responsibilities for infrastructure and utilities sectors in South & South-East Asia region.

Mary Anne joined S&P Global Ratings in Singapore in 2018 with more than ten years of work experience in credit related profiles. Before relocating to Singapore, she was most recently a Director of credit research covering the infrastructure and resources sectors at Australian-based company, FIIG Securities.

Prior to that, Mary Anne also spent ten years at Moody's Investors Service in Australia as an Analyst in the Project and Infrastructure team, covering regulated utilities (electricity, gas, water), coal terminals and rail haulers, PPPs and other esoteric project finance – primarily in Australia and New Zealand.

Mary Anne also worked in various roles based in Kuala Lumpur, Malaysia, including her role as an equities sell-side research associate with Citigroup.

Mary Anne holds a Bachelor of Business in Economics and Finance from RMIT University in Melbourne, Australia. She is fluent in English and Bahasa Malaysia.



Cheng Jia Ong

Associate

Infrastructure Ratings, S.S.E.A.

Cheng Jia Ong is an Associate within the Infrastructure Ratings practice. Based in Singapore, Cheng Jia covers companies in the Utilities sector for the South and South East Asia region.

Cheng Jia joined S&P Global Ratings in 2015. Over the last three years, she was an Analyst in the Corporate Ratings practice and covered companies in the metals and mining, oil and gas, and telecom sectors. Cheng Jia's previous work experience includes a stint in private equity research and data analytics.

Cheng Jia holds a Bachelor's degree in Business Studies (First Class Honors) from the University of Manchester.

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