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OECD Nuclear Energy Agency Workshop  
**The Role of Electricity Price Stability and Long-  
Term Financing for Nuclear New Build**  
Paris, Thursday 19th September 2013

## **Under Which Conditions Are Pension Funds and other Infrastructure Investors Interested in Nuclear New Build?**

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# Introduction

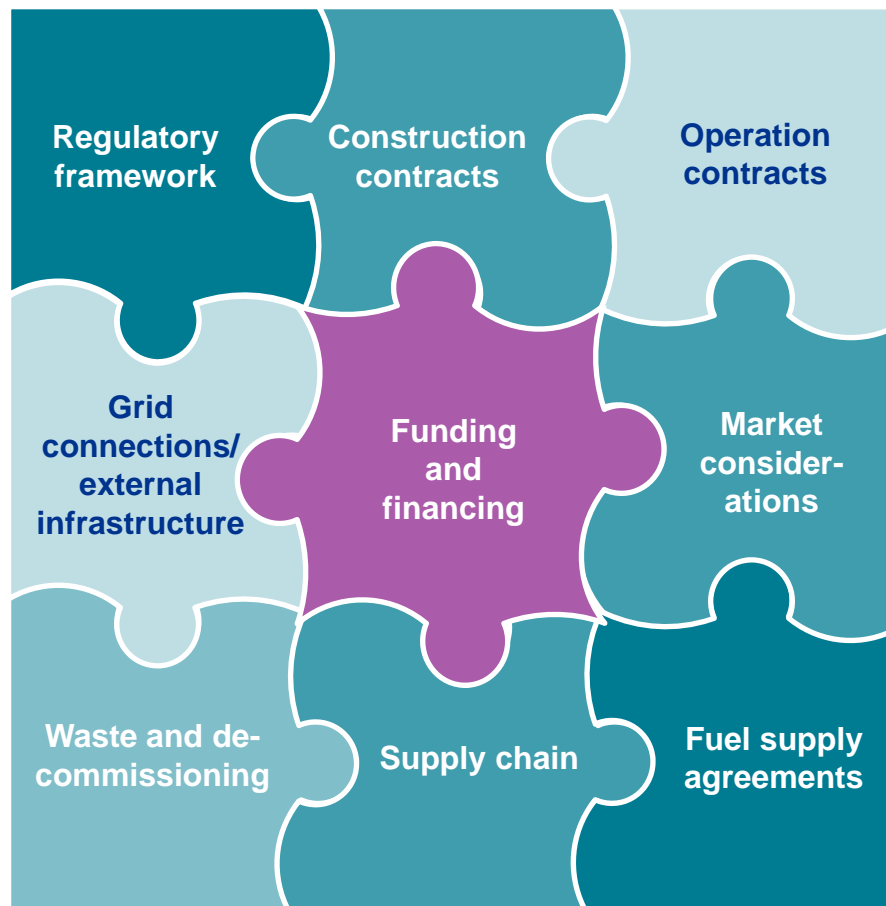
**Challenges financing nuclear**

**The Investor perspective**

**Risk vs Return**

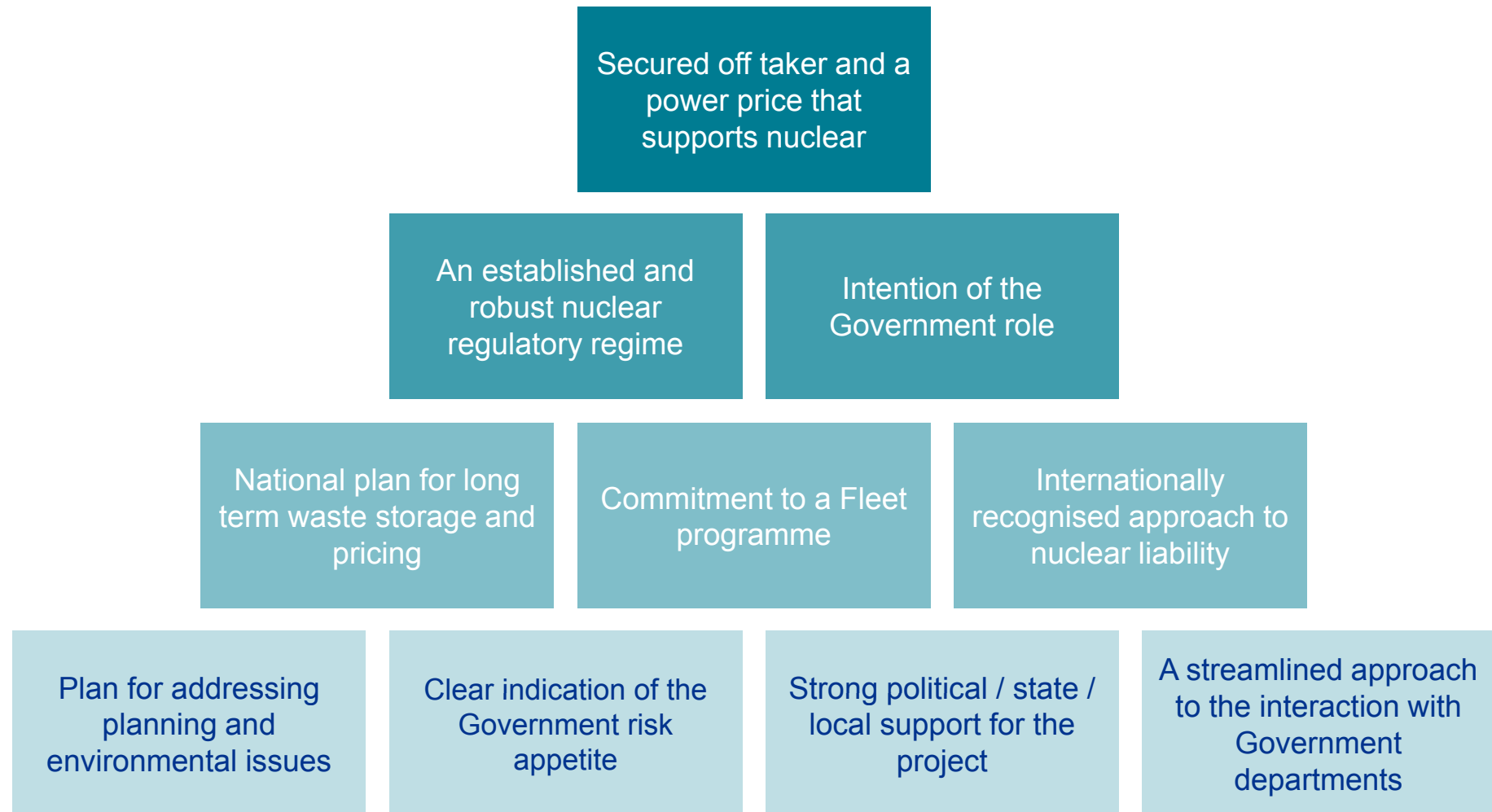
**Conclusions**

# The investment case for nuclear is tough!

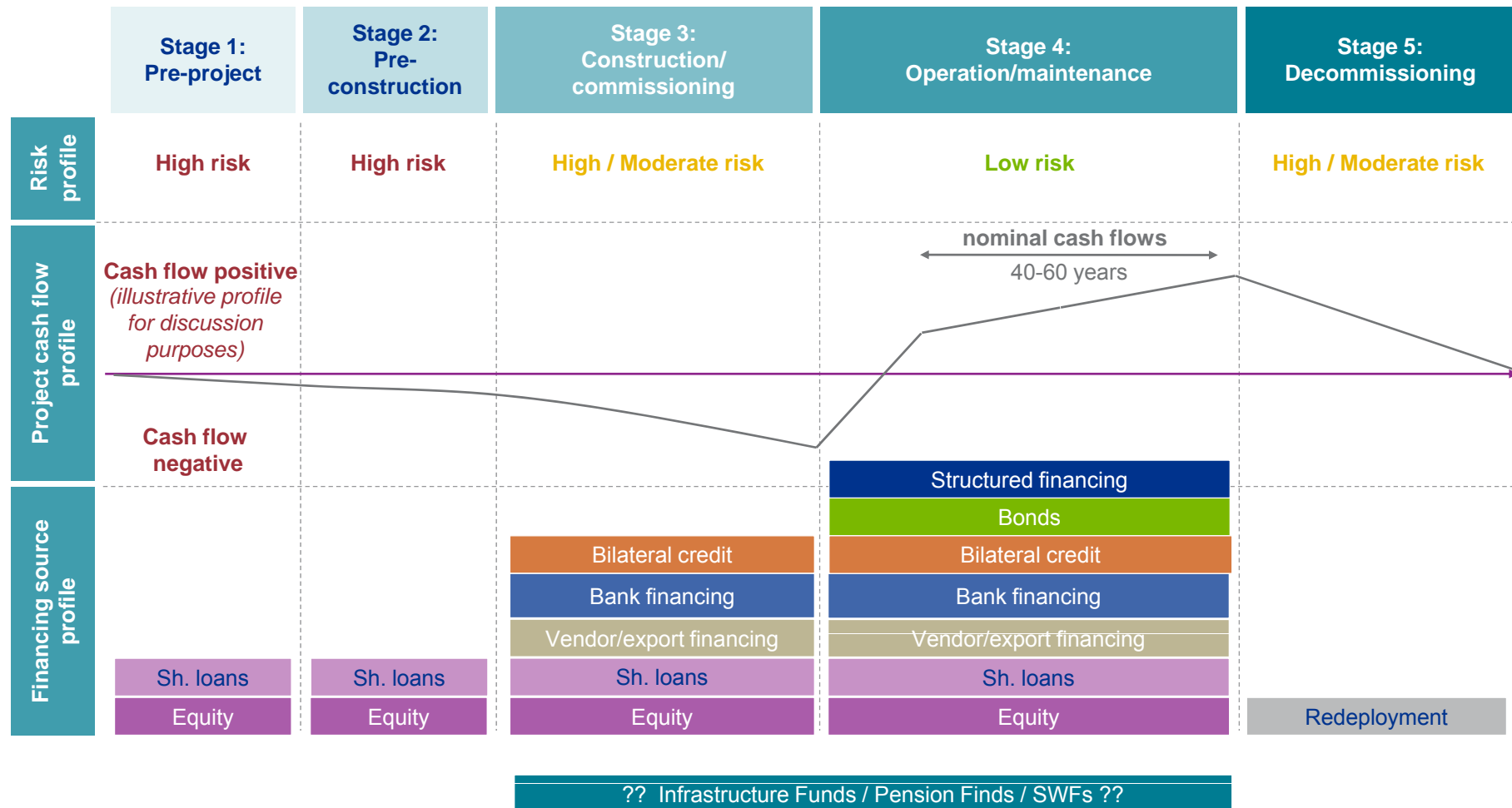


- Size and complexity of project(s):
  - Cost uncertainty
  - Programme uncertainty
  - Revenue uncertainty
  - Regulatory uncertainty:
    - Licensing
    - Planning
    - Decommissioning
- Political risk

# What makes a nuclear programme attractive to potential investors?



# Sources of financing will evolve over the various project stages



# The Investor Perspective

Looking to invest in mature operational assets with a stable regulatory platform

View infrastructure as a highly de-risked asset class which offers inflation-protected cash flows at a reasonable risk-adjusted return (i.e. unable to pass down risk and hence manage risk)

Limited (or no) experience (or appetite) of taking development / construction risk and in some cases will have an absolute prohibition on taking development / construction risk

Constitutional restrictions on the level of investment that can be made into a Greenfield project (e.g. as a % of the total fund)

May have a large overall fund size but a single asset investment limit

May only have a 3-5 year investment period and a 10-12 year life and a requirement for a yield from day one

Lack of Sector familiarity (investor / home country)

Some investors may consider nuclear as “un-investable” from a reputation / PR standpoint

# Relative Risk Considerations

	Regulated Utility	Standard Construction PFI (Availability Based)	International IWPP Power Plant	Offshore Wind	New Nuclear Power Station (UK & Non-UK)
Development (inc. design) Risk					
Construction Risk					
Financing Risk					
Operating Risk					
Revenue Risk					
Regulatory Risk					
<b>OVERALL PROJECT RISK</b>					

Key: High  
 Low



# Returns Considerations

Typical Project (nominal) WACC <sup>(1)</sup>				
	Regulated (non nuclear) Utility	UK PFI	Off Shore Wind	Nuclear
Construction	–	6% – 7%	10% – 12%	↑
Operation	6% – 8%	5% – 6%	7% - 9%	=
Typical Leverage	60% - 80%	80% - 95%	60% - 70%	↓

Investors will typically be looking for “low to mid teens” equity returns

will only happen post-construction unless there is guaranteed debt

Source: KPMG internal Research Analysis

# Conclusions

Financial investors are unlikely to consider nuclear new build in the near future due to construction risk, lack of early yield and lack of long term yield certainty

If developers want capital during construction they will need to insulate investor and provide yield, hence new build needs large developer balance sheets or Govt support

Nuclear developers should focus now on developing project structures so they can bring in investors at first refuel, hence focus on operational risks

Track record of delivery needs to be improved and “nuclear preconceptions” addressed

For most current new build projects, operation is 7 - 10 years away - about the time infra funds have been in the market – **the market will continue to evolve**



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# Thank You

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