



National Audit Office

Future of infrastructure financing

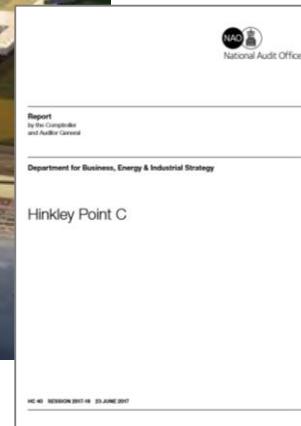
Simon Bittlestone

Audit Manager, BEIS value for money

Public vs. private

- WGA: average cost of government borrowing is around 2.5%, compared with 7% to 8% for private finance projects
- Government can reduce investor cost of capital by sharing project risk
- NAO is neutral: Although private finance is more expensive, benefits (e.g. risk transfer; commercial disciplines; short-term cash flow) can outweigh the higher cost

Hinkley Point C



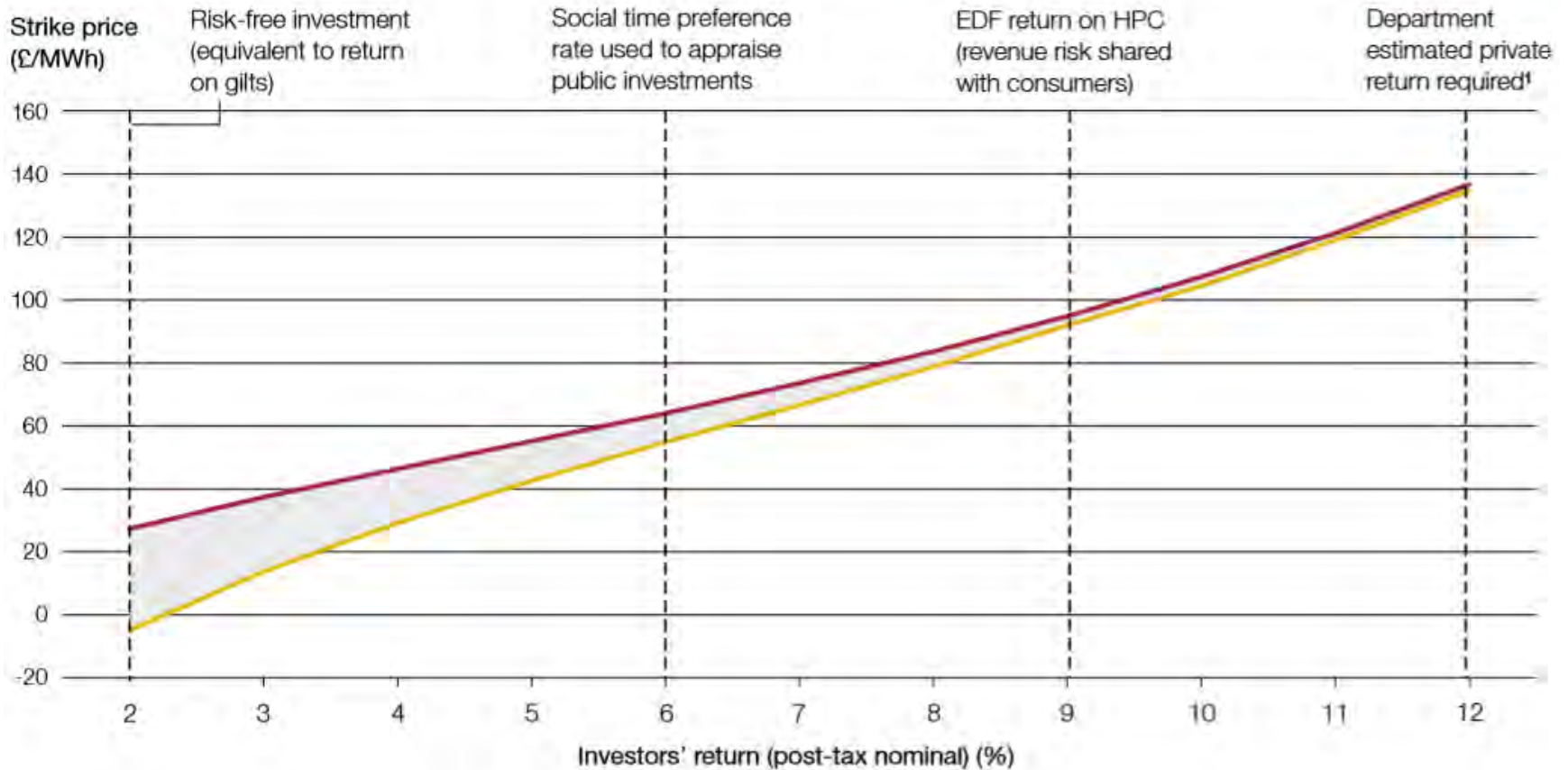
- Our 2017 report found government had not considered alternative financing options
- We provided illustrative analysis of strike price impact of different financing models

This is an illustrative analysis rather than feasibility assessment

- Not assessed feasibility of different models
- Not assessed whether they would comply with HM Treasury guidance or State Aid clearance
- Some models have not been used for nuclear
- All other variables kept constant (e.g. 35-year contract). In reality different financing options would result in wider changes to contractual arrangements.
- Choice of government discount rate matters (i.e. 2% vs. 6%) – we've used both in these scenarios

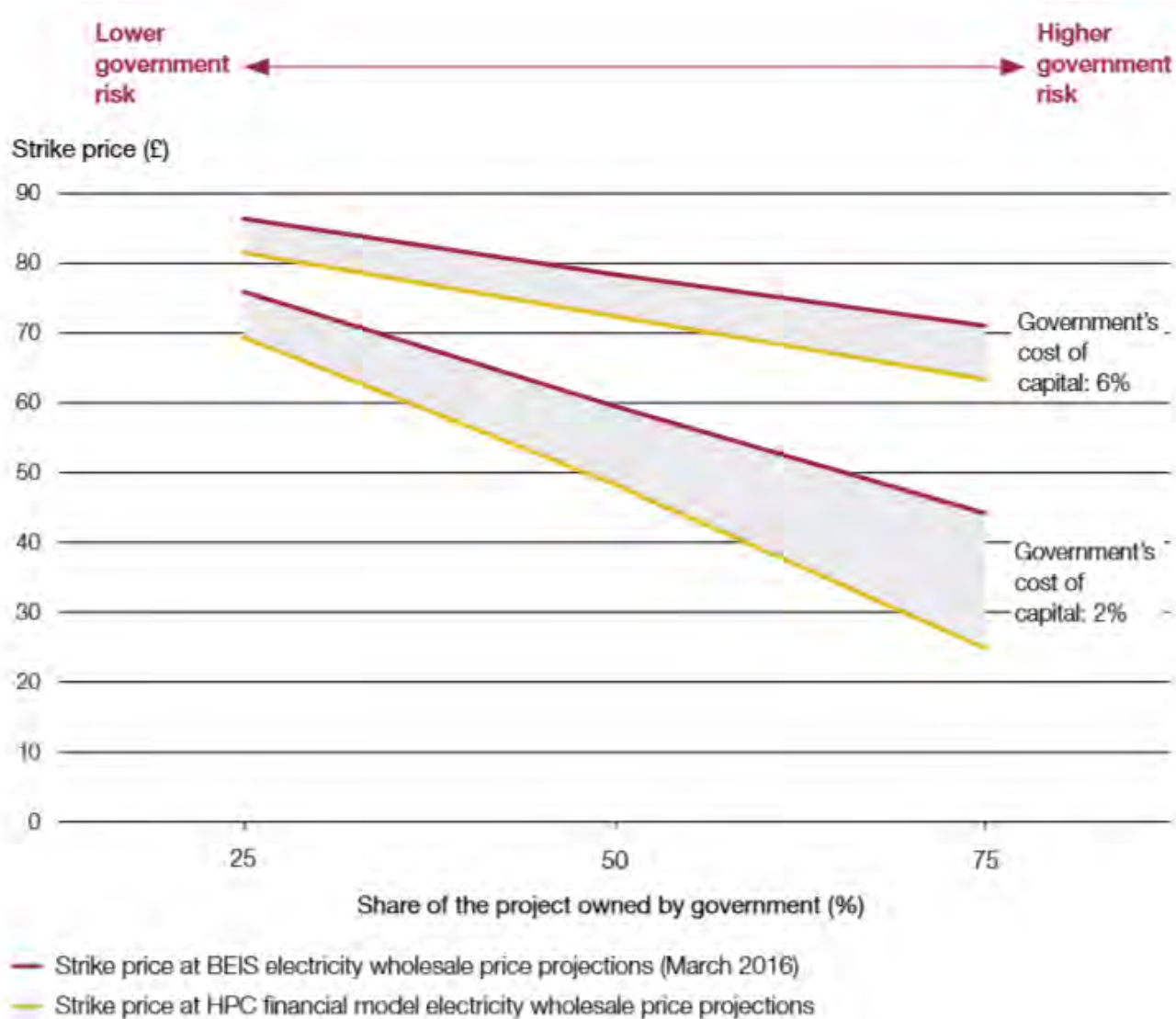
HPC-style deal (CfD)

Private investors bear no risk (taxpayers or consumers bear all risks) ← **Some risk shared** → Private investors bear all risk

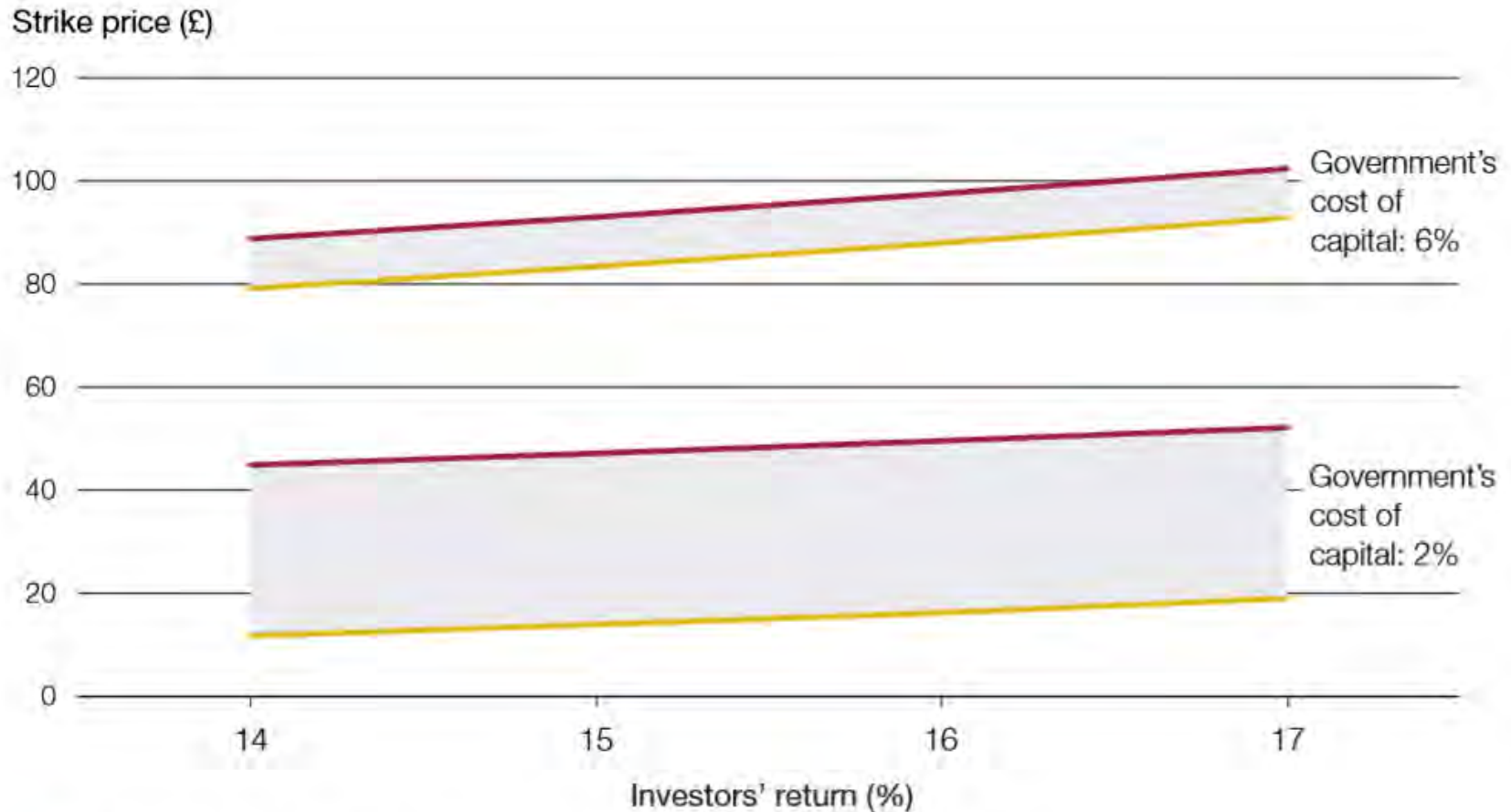


- Strike price at BEIS electricity wholesale price projections (March 2016)
- Strike price at HPC financial model electricity wholesale price projections

Public-private partnership

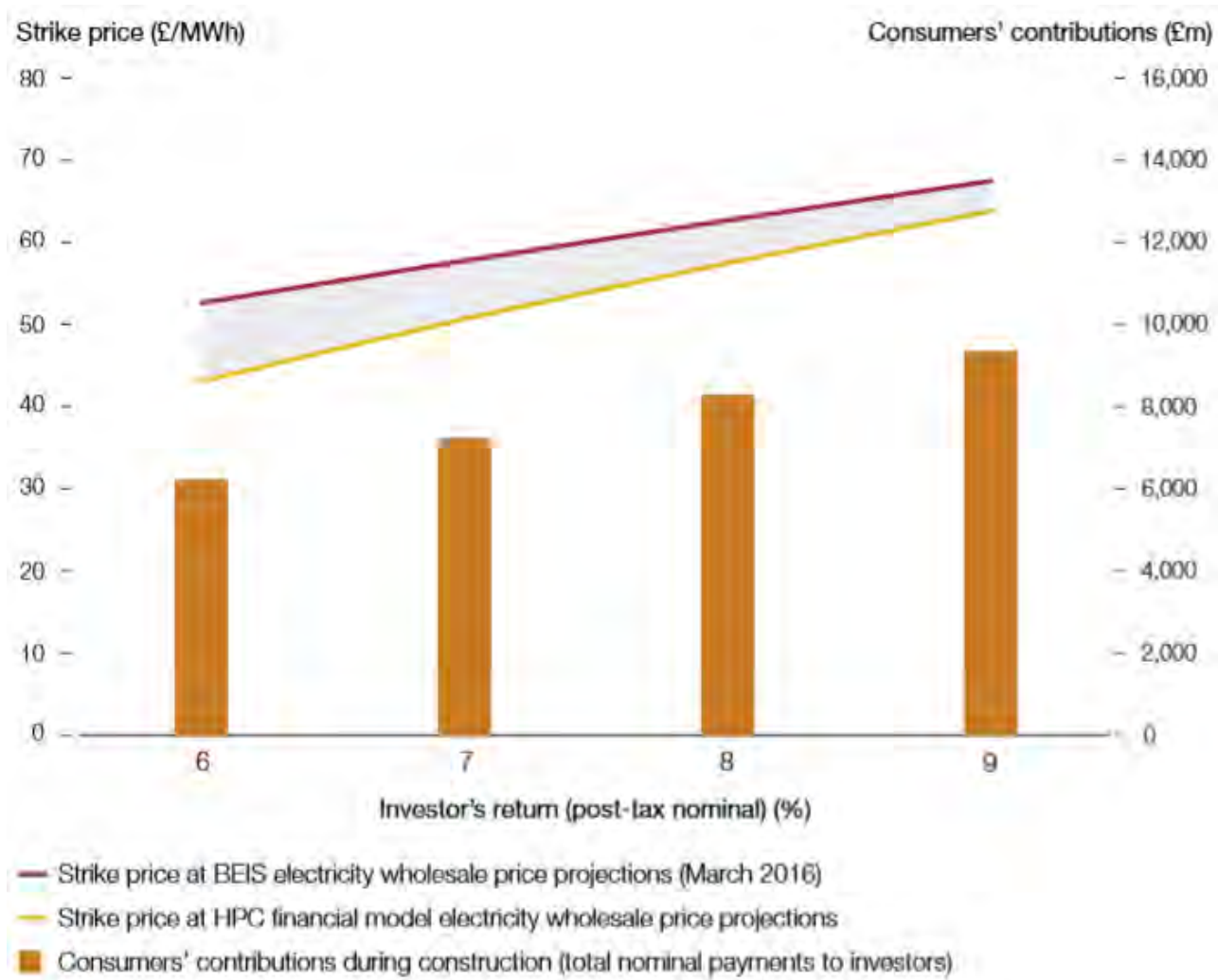


Engineer, procure and construct (Turnkey)



- Strike price at BEIS electricity wholesale price projections (March 2016)
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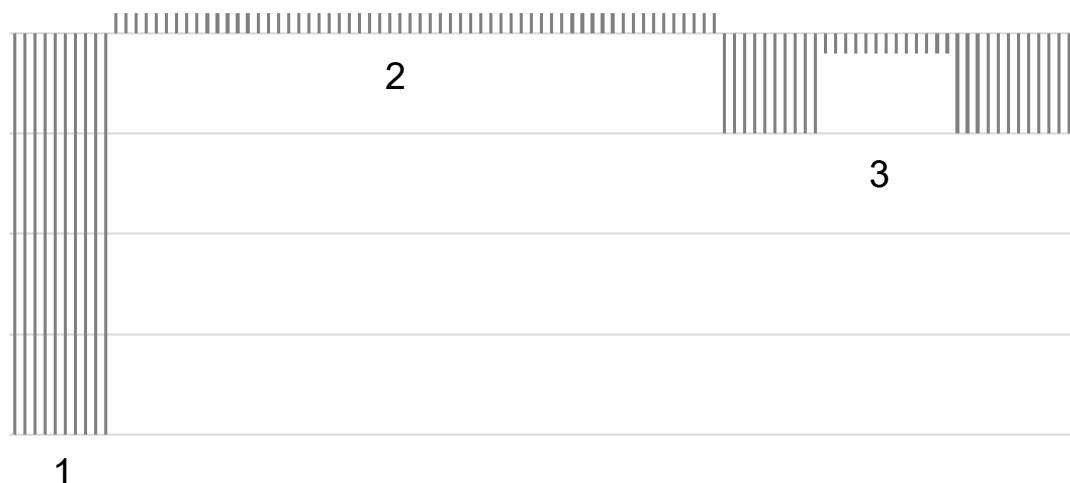
Regulated asset base



Regulated asset base – impact on bills



Economics of nuclear projects



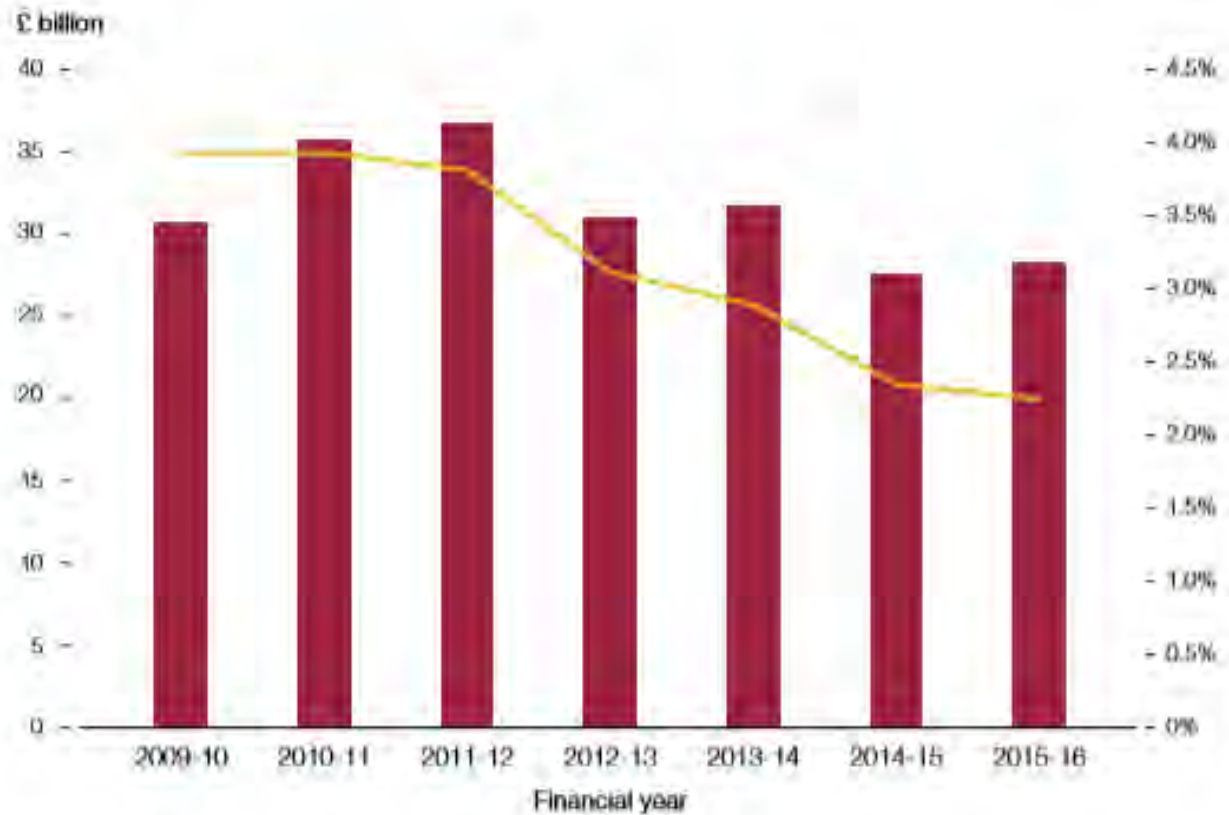
1. High upfront outlays;
2. Long time until revenues are generated;
3. Unique requirements for funding decommissioning

For EPR projects there is additional technology risk



Project financing is more expensive

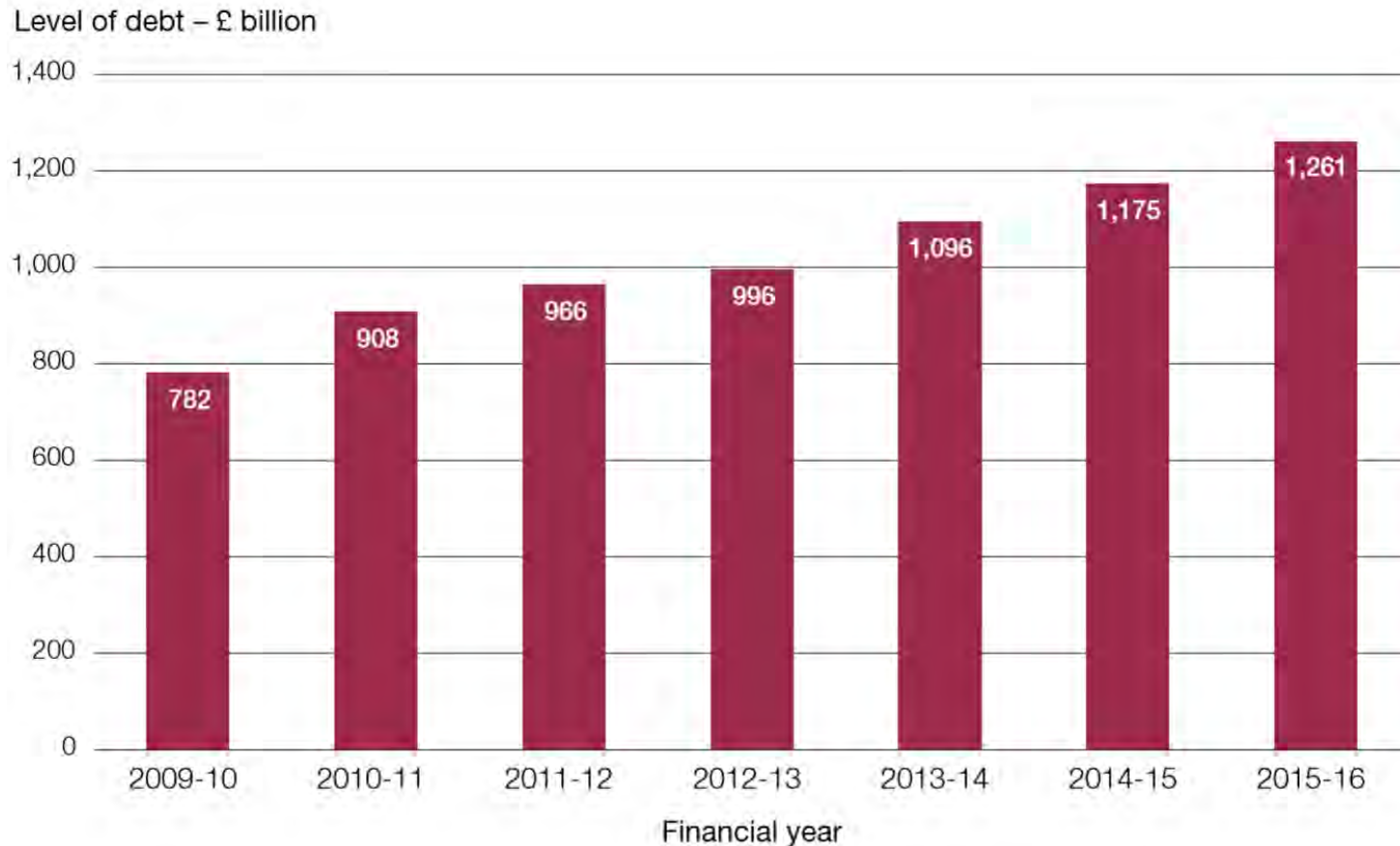
Government borrowing costs are low...



■ Interest costs in respect of government borrowing and financing

— Implied interest rate

...But overall debt levels are high



- 61% increase in debt since 2009-10
- Debt worth 72% of government's total assets in March 2016

Thames Tideway Tunnel is an example of a project using the RAB model

- Thames Water consumers are already contributing to the cost – investor required return is lower (2.497%)
- There is also a wider Government Support Package:
 - Equity if costs overrun more than 30% (or closure/compensation)
 - Government lending if capital markets disrupted
 - Indemnity for uninsurable risks (e.g. damage to property)
 - Compensation for discontinuation
 - Offer to purchase construction company if it falls into administration

It's not just about investor returns during construction.

Comparing TTT to new nuclear

- Difference in technology risk
- Who regulates a new nuclear RAB? How do they decide which costs are allowable?

Previous government projects show risk transferred to private sector often comes back...



Concluding thoughts

- Cost of capital makes a big difference to the cost of projects – particularly nuclear
- But it's not all about the cost
 - Risk transfer
 - Commercial disciplines
 - Cash flow/budgetary considerations
- We've said the government should do more to consider the alternative options than it did for Hinkley Point