Investing in Nuclear: UK Policy Perspectives
UK Nuclear Landscape

- Powering homes and businesses for over 60 years
- 20% of the UK’s electricity needs
- 40% of UK low-carbon electricity
- Low-carbon, secure and reliable base-load power
- Reduction in UK’s CO2 emissions
- Diversifying local economies.
New Nuclear: Sustainability

• Nuclear has an important role to play in the UK’s energy future as we transition to the low carbon economy
• Emphasis on value for money for consumers and taxpayers
• Feasibility of a Regulated Asset Base (RAB) funding model currently being explored
• Sustainable funding mechanisms are key.
The UK Nuclear Sector Deal – June 2018

• UK Industrial Strategy published on 27 November 2017
• Right support from the government can help meet the **Clean Growth Grand Challenge**
• Nuclear Sector Deal signals fresh pace and ambition for SMRs
• Shared commitment from Government and Industry
• Working to create a fertile environment for Advanced Nuclear Technologies
The SMR & AMR Framework

Regulatory Readiness
- Up to £12m to build capability and capacity
- GDA Optimisation for small and advanced reactors
- Vendor engagement

Finance

Siting & Land Access
- Role of HMG in enabling sites
- Process to be announced soon

International Engagement
- UK re-joining GIF Participation in Nuclear Innovation: Clean Energy (NICE) Future
- Bilateral cooperation e.g. UK-Poland IGC

Supply Chain Development
- £20m for Advanced Manufacturing & Construction Programme

Research & the AMR Competition
- Underpinning “need-case” for small nuclear
- Up to £44m for Advanced Modular Reactor (AMR) Programme

Department for Business, Energy & Industrial Strategy

Industrial Strategy
Financing Small Nuclear
Expert Finance Working Group

- Expert group brought together from financial sector, industry, academia and Government
- Organisations came forward throughout the process to present commercial/financing models
- Process identified opportunities to integrate financial and nuclear sectors
The Group has identified several market conditions which if in place could attract private finance to support small nuclear technologies coming forward as commercially viable propositions.

The Group issued a series of recommendations that it believes could enable the UK to become a vibrant market place for small and advanced reactor technologies.
What makes Small Nuclear Different?

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<tr>
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<th>SMR</th>
<th>Large Project</th>
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<tbody>
<tr>
<td>Capital Cost (£)</td>
<td>FOAK ~£2bn NOAK ~£1-1.5bn</td>
<td>FOAK ~£20bn NOAK ~£15bn</td>
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<tr>
<td>Construction Time (years)</td>
<td>FOAK ~6 NOAK ~4</td>
<td>FOAK ~8-10 NOAK ~6-8</td>
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<tr>
<td>FID</td>
<td>After 4 years (or earlier dep on GDA phase)</td>
<td>After 5 years (after completing GDA)</td>
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<td>Fleet benefits (i.e parallel builds)</td>
<td>Achievable</td>
<td>Not achievable in UK</td>
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Site-specific safety case development
- May be a requirement for in-factory inspections and tests by the Regulators
- Licensing steps include an application to ONR for a site license and to EA for environmental permits
Regulated Asset Base – a new model for nuclear new build?
What is RAB?

RAB = Regulated Asset Base

- The **infrastructure provider** receives a **licence** from an **economic regulator** [such as Ofgem], which gives them a right to charge a **regulated price** to **customers** in return for providing the infrastructure service.
- RAB models are commonly used for funding and financing UK infrastructure **network assets** such as water, rail and power transmission, for certain **single asset models**, such as Heathrow and Thames Tideway Tunnel.
- Investments are recognised through **regulatory asset value** on which an **allowed return** is paid over the **full economic life**.
- Arrangements based in **statute, licence and regulatory guidance**.
- **Rate of return** set in competition or through the economic regulator.
Why are we considering RAB?

The appeal of a RAB model
- Aims to attract private capital with **an appropriate balance of risks**.
- Could **reduce the cost of capital**.
- **Consumers could pay less** overall.
- **Well understood by investors** & has attracted large quantities of investment from domestic and international investors in other sectors.

RAB feasibility study
- Reviewing the feasibility of a RAB model for nuclear
- **Can it provide value for money for consumers and taxpayers?**
- National Audit Office and Public Affairs Committee both suggested RAB
- Intend to publish our assessment of RAB by the summer.
- Implementation would be subject to VfM, market conditions & Ministerial decisions
Next Steps – Energy White Paper

Later this year an Energy White Paper is expected to set out:

- A new approach to financing large scale new nuclear.
- The role SMRs have to play in the energy mix of the future.
- Outcomes of AMR R&D and next steps.
- Further developments of the SMR & AMR framework.
Thank you for listening