



Department for  
Business, Energy  
& Industrial Strategy

# NUCLEAR INNOVATION

BEIS update



Nuclear Academics Meeting: 4-5 September 2017



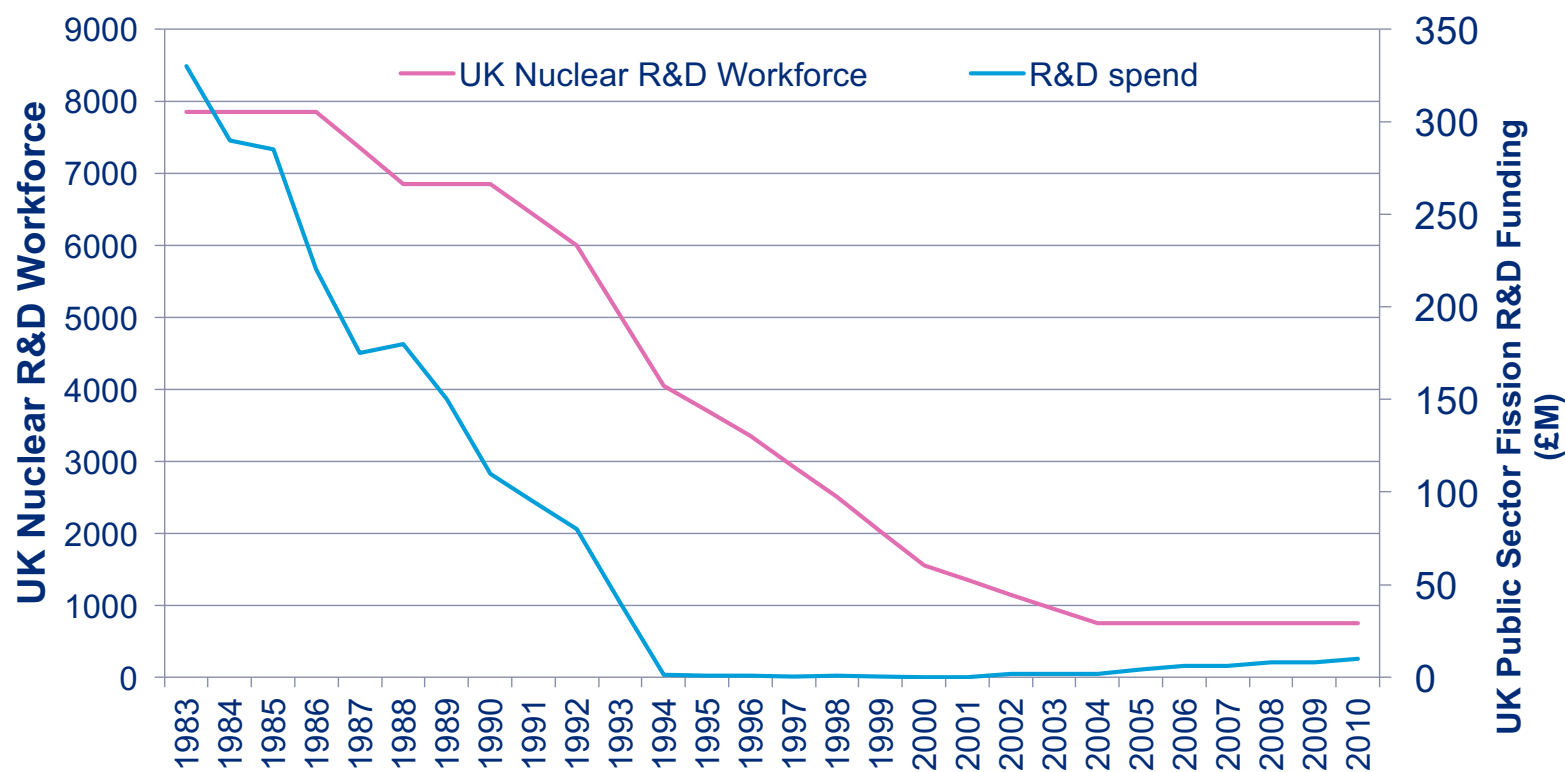
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# PREVIOUSLY .....



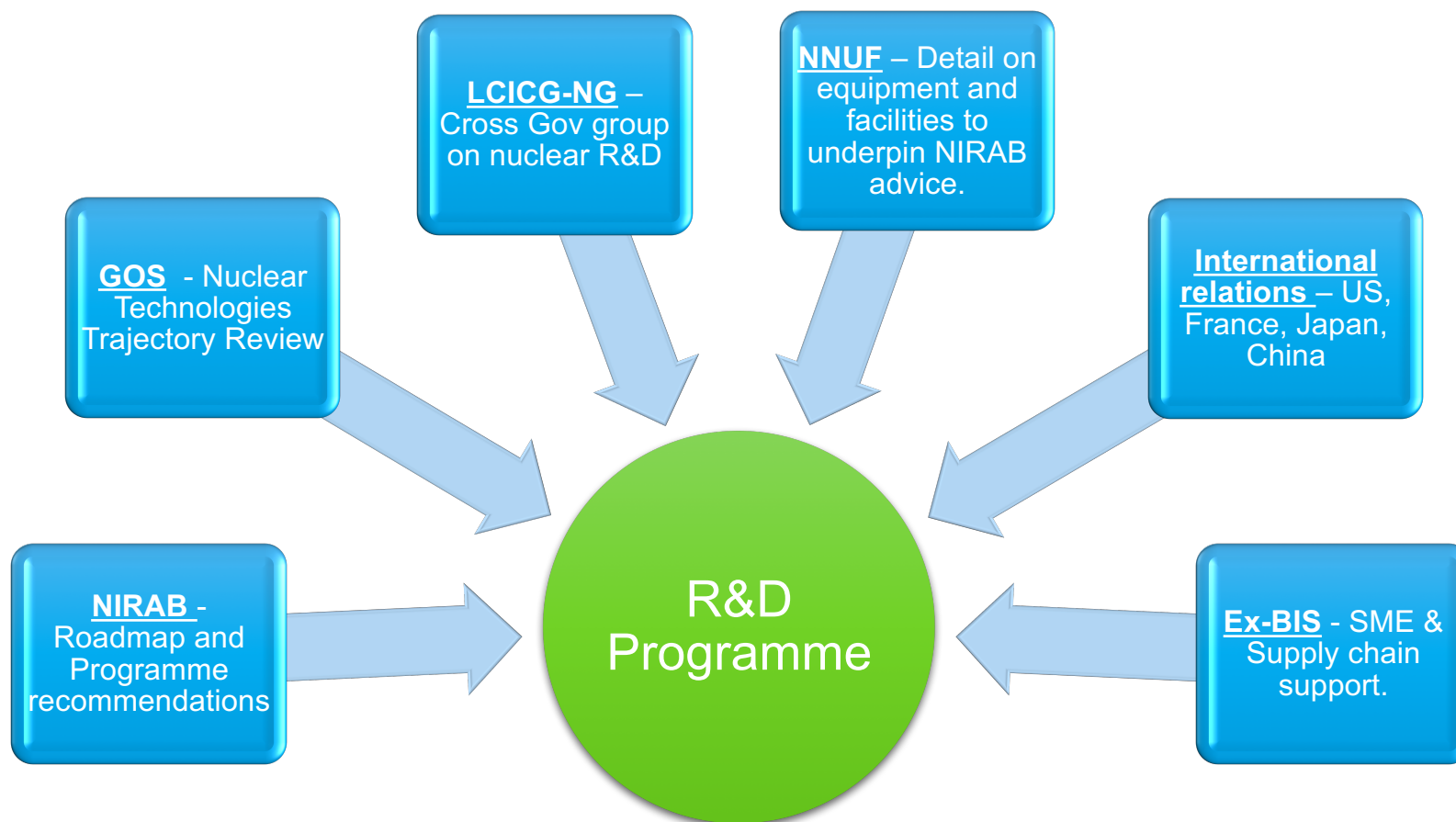


## Historic decline in nuclear R&D capability and funding





## Key inputs to programme definition





## Phase 1 - November 2016

- £20m initial programme of innovation and research launched over 5 key themes.
- Successful primary bidders:
  - **National Nuclear Laboratories** (on advanced nuclear fuels and recycling)
  - **Frazer Nash Consultancy** (on reactor design, including thermal hydraulics and safety engineering, and materials and manufacturing)
  - **Amec Foster Wheeler** (on virtual engineering, materials and manufacturing)
  - **Brunel University London** (on materials and manufacturing)
  - **Cammell Laird Energy** (on materials and manufacturing)
  - **Nuclear AMRC** (on materials and manufacturing)
  - **University of Sheffield** (on materials and manufacturing)



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# NOW.....





## Theme Aims

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|                   |   |
|-------------------|---|
| <b>Capability</b> | Secure, maintain and renew the indigenous skills and experience needed to ensure that nuclear can continue to play a part in delivering secure, low-carbon energy to the UK market. |
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|                     |   |
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| <b>Supply Chain</b> | Develop the capability, capacity and credibility of the UK supply chain to support both civil and defence programmes and leverage greater commercial exploitation of domestic and global nuclear markets. |
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| <b>Costs</b> | Seek to reduce the costs of the future nuclear life cycle. |
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# Projects & Programmes

## Future Fuels

- Developing more robust and efficient fuels for current and future reactors.

## 21<sup>st</sup> Century Manufacturing

- Developing capability in advanced manufacturing and modular technology that will reduce the time and cost of future build projects.

## Advanced reactors

- Developing areas where UK strengths can contribute to reactors of the future. Including: Modernising regulatory safety methodologies; Developing robust modelling to support assessment of novel technologies;

## Recycle and Reprocess

- Ensuring that UK maintains its global lead in technologies that could provide for a more secure and sustainable fuel supply.

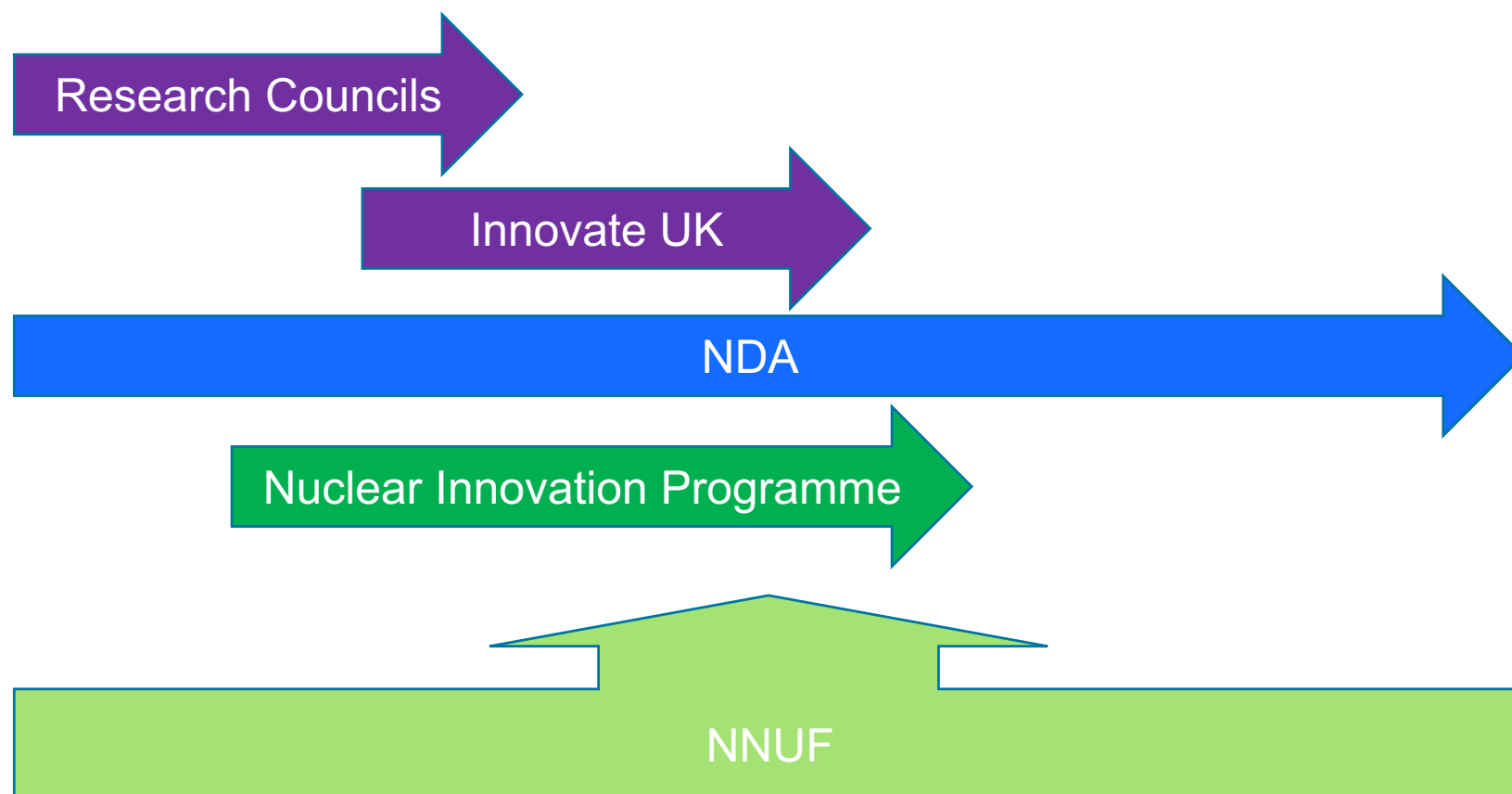
## Strategic Toolkit & Facilities

- Ensuring that we have the tools and capability to underpin future planning on nuclear R&D. Coordination and optimisation of our portfolio of existing and future facilities.





## Where does it all fit?





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# COMING SOON....





## NIP Phase 2

- Fuels
- Safety
- Thermal Hydraulics Design
- Robotics
- Thorium??

## NIRAB & NIRO

- Successor framework to be announced soon.

## House of Lords

- Government Response due in September.

## SMRs

- Further discussions with entrants.
- TEA
- Next steps in due course.

## Brexatom

- Negotiations continue.
- Further information requests coming soon.