An update on nuclear new build and what’s next for the sector

Gareth Davies
Vice Chair Decommissioning Group
Nuclear Industry Association
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About the NIA
NIA Membership Diversity
UK Nuclear Industry

- Pioneer in nuclear generation
- Full fuel cycle capability
- Highly skilled workforce
- Mature and flexible supply chain
- Exemplary safety record
- World leader in decommissioning nuclear reactors and associated facilities
- At forefront of global nuclear renaissance
The UK Electricity Mix

Nuclear 19%

Renewables 7.9%
  Hydro 1.6%
  Other 0.5%

Coal 30%

Gas 40%

Oil 1%

Source: DECC, 2012 Digest of UK Energy Statistics
Closure Dates for AGR and PWR Fleet

- Hunterston B: 2016
- Heysham 2: 2023
- Heysham 1: 2019
- Hinkley Point B: 2016
- Torness: 2023
- Hartlepool: 2019
- Sizewell B: 2035
- Dungeness B: 2018

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Nominated Nuclear Sites

- **Moorside, Cumbria**
  - to be developed by NuGeneration Ltd

- **Heysham, Lancashire**
  - EDF Energy has no plans yet

- **Wylfa, Anglesey**
  - to be developed by Horizon Nuclear Power

- **Oldbury, Gloucestershire**
  - to be developed by Horizon Nuclear Power

- **Hinkley Point, Somerset**
  - being developed by EDF Energy

- **Hartlepool, County Durham**
  - EDF Energy has no plans yet

- **Sizewell, Suffolk**
  - being developed by EDF Energy

- **Bradwell, Essex**
  - EDF Energy has no plans yet
New Build Plans for the UK

EDF Energy UK
Technology Choice - AREVA EPR
2 x 1600 MW EPRs for Hinkley
2 x 1600 MW EPRs for Sizewell

Horizon Nuclear Power Ltd
(Hitachi)
Technology Choice – Hitachi ABWR
Plans for 3 GW at Wylfa on Anglesey &
3 GW at Oldbury in Gloucestershire

NuGeneration Ltd
(Iberdrola/GDF Suez Joint Venture)
Technology under Assessment
Plans for 3GW at Moorside in Cumbria
Hinkley Point C - Where are we now?

- **GDA:** Completed End 2012
- **Site Licence:** End 2012
- **Planning:** Agreed 19 March 2013
- **Electricity Market Reform:**
  Energy Bill – End 2013
- **Negotiations on CfDs:**
  Underway
Worldwide Developments

- Security of supply & climate change concerns leading to a new era for nuclear development worldwide
- Worldwide nuclear capacity could increase by over 10% from 369GW to 416GW by 2030
- Big expansion in nuclear markets across the fuel cycle
- UK supply chain able to play a full part

Source: World Nuclear Association, as of 1st January 2013
UK Nuclear Offer

• World class supply chain that can contribute across the nuclear life cycle
• New build
• Existing operations
• Waste management, decommissioning and disposal
• Financial, commercial and legal consultancy
• Education and training
Nuclear – The Opportunity

- The global nuclear renaissance provides a multi billion pound opportunity for the nuclear supply chain
- A 16GW UK New Build Programme is likely to be worth £60Bn
- Nuclear power capacity is still projected to grow from 393GW in 2009 to 630GW in 2035 (IEA, World Energy Outlook, 2011)
- UK companies will be placed to take advantage as:
  - New build nuclear in the UK is at the vanguard of global nuclear programmes
  - Other build projects likely to follow elsewhere in Europe, Asia and the Middle East
  - Nuclear projects give UK companies the opportunity to develop and demonstrate their capabilities in advance of supplying into global market
Jobs Created by 16 GWe New Build

Over 600,000 man years of high quality work from now into the next century:-

• 5000 jobs per year over a 20 year construction period
• 7000 permanent jobs operating and servicing the new stations for their 60 year lifetime
• 5000 jobs per year over the main decommissioning period of 20 years

Around 30,000 jobs at peak of construction period:-

• 7,000 manufacturing
• 11,000 civil engineering & construction
• 9,000 mechanical installation
• 3,000 electrical installation
NIA – UK Capability Report
# Action Plan on Supply Chain and Skills

## ACTION 20

**Construction Forum**

Nuclear new build developers who are at the point of proceeding will establish with the NIA, Constructing Excellence and the ICE, a construction forum led at the most senior levels from the client and contractor communities that will establish a shared vision of the key lessons from existing and previous large infrastructure construction projects and how these might be applied to UK nuclear construction by developers in the construction and engineering construction industry.

The NDA has useful experience of delivering challenging nuclear construction projects, so they will also participate in this group.

The forum will secure commitment from both clients and contractors to a programme of the activities to deliver the vision.

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<th>Initial Success Measures:</th>
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<td>Construction forum operating with clear terms of reference</td>
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NIA Working with Government

- **Programme Management Board**
  - Working to deliver new build nuclear

- **Nuclear Industry Council**
  - Setting long-term strategy for nuclear
Nuclear New Build – Opportunities and Benefits

- 30 - 40,000 high quality jobs generated
- 500 graduates required each year to 2025
- Major supply chain opportunities
- Regional regeneration
- Stability of electricity prices
- Boost for UK manufacturing
- Large scale CO₂ avoidance
- Training & career opportunities:
  - Engineering
  - Construction
  - Regulation
  - Operations
  - Maintenance
Published on 19th March 2013

- Project Certainty and Timeline
- Routes to Market
- Nuclear Safety Culture
- Regulatory Processes and Licensing
- Quality Arrangements
- Codes and Standards
- Health and Safety Processes
- Security Arrangements
Robust and Clear Messaging

UK New Nuclear Build = The Olympics x 5

- 30 - 40,000 high quality jobs
- Major supply chain opportunities
- Secure UK-based power supply
- Regional regeneration
- Stability of electricity prices
- Boost for UK manufacturing
- Large scale CO$_2$ avoidance