

Nuclear Skills Strategic Plan

Executive Summary



Introduction

I'm delighted to introduce this Executive Summary of the Nuclear Skills Strategic Plan at a time when the nuclear industry has never been more in the spotlight.

For the first time in decades, we have the prospect of building a new fleet of power stations. This means that we will need increased numbers of highly skilled people to build and operate the new fleet, at the same time as generating power at existing stations, decommissioning the older ones, maintaining the nuclear defence programme, safely processing waste, and retaining our place as a world-leader in research, development and engineering.

The task is challenging, but achievable through engaging public and private sector partners alike. Over the past few years, we have seen many successes from a number of skills organisations in our sector, but now it is time for a step change on skills. The leadership of the industry through the NSSG is well placed to make this happen with active collaboration from partners in the landscape.

This is an exciting time to be launching our Strategic Plan. We are working with government to help address priorities for nuclear; in particular our Strategic Plan will be modified to take into account any new elements of government thinking on Industrial Strategy.

As Chair of the Nuclear Skills Strategy Group, I call upon everyone in industry, government, national laboratories, education and training to play their part in delivering this Strategic Plan, and enable a vibrant future for our sector.



Fiona Rayment,
Director, Fuel Cycle
Solutions NNL and
Chair of the NSSG

About the Nuclear Skills Strategy Group

The Nuclear Skills Strategy Group is a partnership of employers, government and trade unions. It comprises:

- major employers who have the plans and the expenditure to drive the major developments in the nuclear sector
- government departments responsible for nuclear development and skills leadership
- a representative of the trade unions in the nuclear industries

It is the UK's lead strategic skills forum for the nuclear industry, representing both the civil and defence nuclear sectors.

Sector Context

Over the past 60 years, the UK nuclear sector has built an enviable position for safe, high quality and reliable civil and defence nuclear generation. This strong strategic leadership and economic track record is ensuring the sector is well placed to face considerable challenge, including the nuclear new build programme of five civil nuclear plants by 2030, a large programme of decommissioning work and the building of the Dreadnought submarine class. This is all in addition to safe running of the UK's existing nuclear operations, both civil and defence.

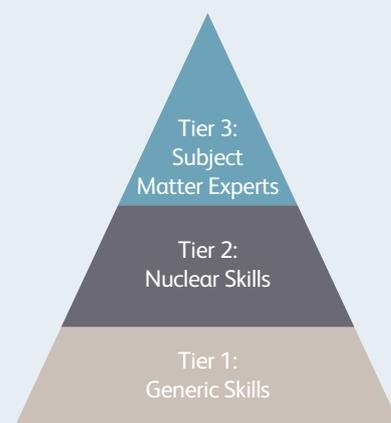
The Government is also committed to the safe clean-up of the UK's earliest nuclear sites over a 100-year-plus programme, and of course regulation is critical.

The Chancellor of the Exchequer also announced last year that at least £250m will be spent by 2020 on an ambitious programme to position the UK as a global leader in innovative nuclear technologies. Indeed, up-to-date research and technology is an ongoing sector requirement.

In March 2015 the government published the nuclear sector skills strategy 'Sustaining our Nuclear Skills', which outlined the following common goals for the industry:

- Aspire to meet 90% of the sector's skill demands from the UK workforce by developing the right pipeline of skills.
- Ensure the nuclear workforce's expertise is unsurpassed globally by developing training programmes of the highest quality.
- Cultivate a more diverse nuclear workforce, including by increasing the proportion of the sector's workforce who are women to 40%.

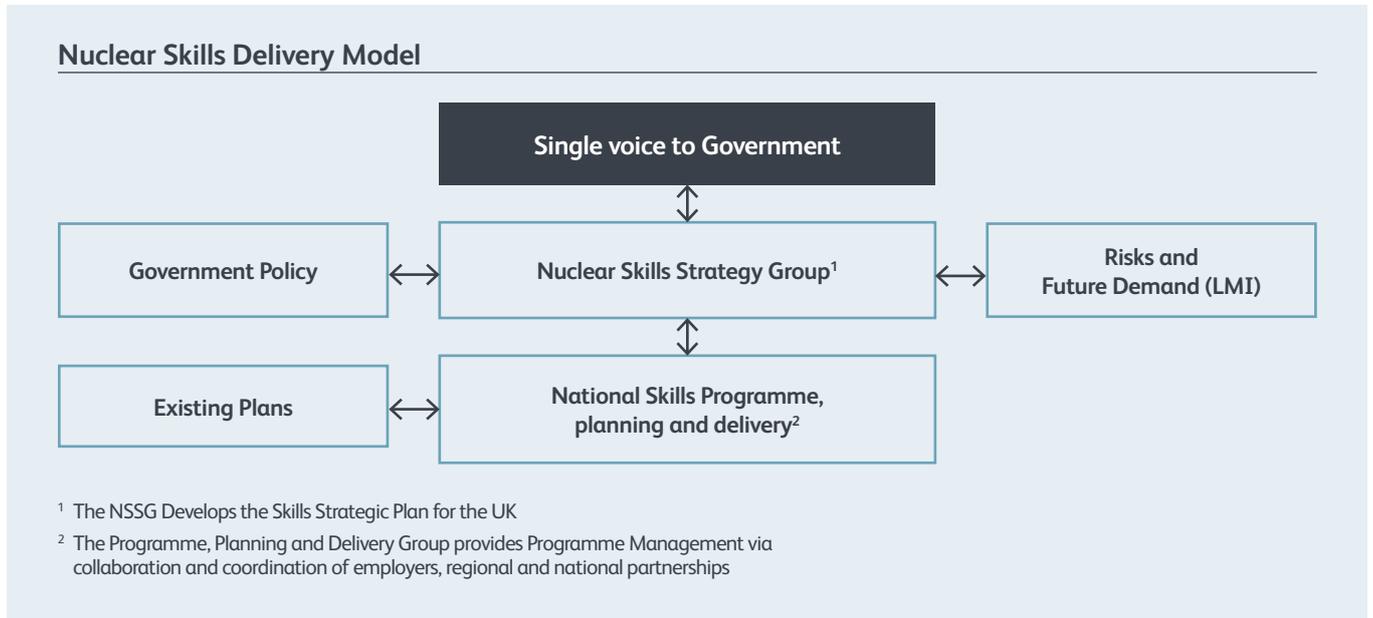
Categories of skills required in the nuclear sector



Skills Delivery Model

To address the challenges outlined above and to deliver this Strategic Plan, we have developed a new Nuclear Skills Delivery Model.

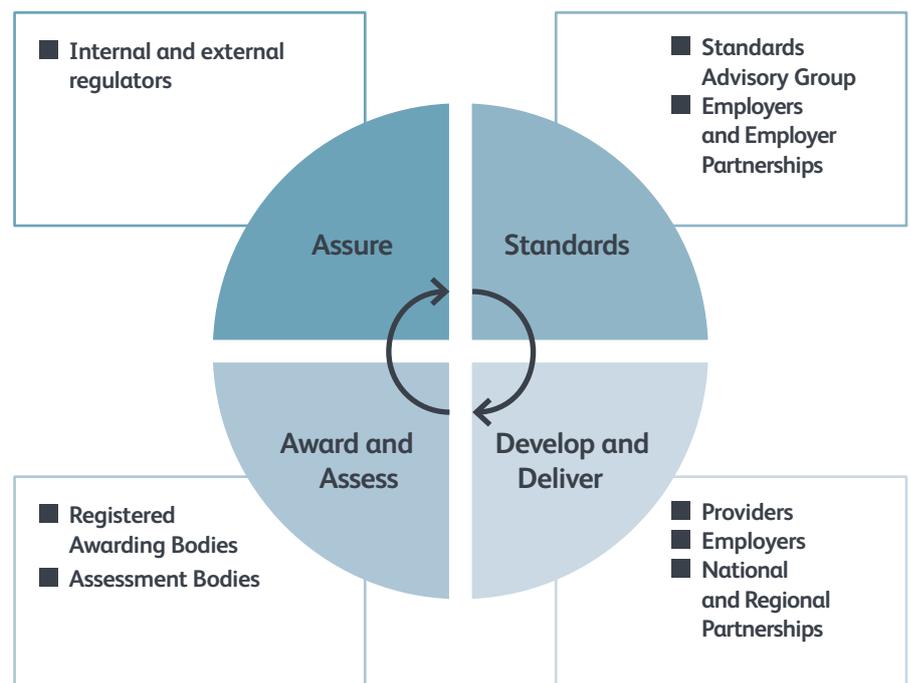
As noted, the excellent previous and existing work will naturally form the basis for action, and therefore is a key to the forward work programme. However, all future work, interventions and products necessary will be considered on a case by case basis. Delivery will be a healthy mixture of regional and national partnerships. Similarly, the delivery model reflects work already being done by employers in the regions surrounding the New Build programme and major decommissioning sites.



Supporting the NSSG is the Programme, Planning and Delivery Group (PPDG) which consists of a Nuclear Skills Lead, programme manager, policy and communications support personnel. Its primary functions are to:

- develop the detailed delivery plan by coordinating and recording the actions and interventions of employers, training providers and other supporting groups
- develop a set of key performance indicators to summarise progress against the plan
- monitor progress being made on all the planned activities
- produce summary reports for the NSSG on progress
- maintain the NSSG risk register, updated quarterly with actions being taken and their effectiveness in mitigating the risks
- support the development of business cases to secure funds as necessary
- facilitate workshops and creative sessions to develop appropriate solutions to risks, issues or problems in the skills arena

With respect to education and training (at all levels), the delivery model is supplemented by the following diagram which shows the relevant high-level delivery responsibilities.



■ All within Government policies and the nuclear environment.

The Strategic Plan

This Strategic Plan presents the key actions designed to close skills gaps and ensure the sector is gearing up to secure a world class talent base and establish training provision that allows for continual replenishment of such skills and expertise. Its aim is to make a real difference and deliver the nuclear sector's continued success through its people.

By analysis of the risks and evidence developed, three strategic themes and two enabling themes emerged:

Enabling themes:

- A clearly defined and NSSG endorsed skills delivery model
- An agreed nuclear timeline and clarity of demand requirements

Key strategic themes

- Meeting the demand
- Training infrastructure and provision
- Training Standards and Qualifications

Nineteen strategic actions have been developed, which will subsequently be turned into a detailed action plan to allow full programme management to be applied.

| Activities, Actions and Successful Outcomes | | |
|--|---|---|
| Constraint | Theme | Actions |
| A disjointed and sub-optimal UK Nuclear Skills Strategy | A clearly defined and NSSG endorsed skills operating model | 1. Implement a skills delivery model that supports this Strategic Plan by undertaking a comprehensive organisational design process |
| Robustness and use of Labour market Intelligence | An agreed nuclear timeline and clarity of demand requirements | 2. Publish a Government and industry agreed nuclear calendar/timeline 3. Develop a nationally agreed nuclear workforce assessment at local and national level |
| Speed of Recruitment Insufficient work available Slow to adapt to changing technologies Lack of workforce transferability Critical skills gaps Insufficient Regulator capacity Poor knowledge Transfer | Meeting the Demand | 4. Remove the blockers to entry such as time to competence/security clearance 5. Develop group managed schemes for apprentices and placements. Improve the attractiveness to diverse groups 6. Coordinate employers to work with government to improve industry attractiveness, encourage the use of apprentices, increase flexibility in the spending of apprenticeship levy 7. Channel available funds into bursaries 8. Proactively facilitate moves across the industry 9. Develop an industry led mentoring programme |
| Reduction in professional development Insufficient training places | Training Infrastructure and provision | 10. Agree the national nuclear curriculum 11. Employers to support training providers for specialist subjects 12. Encourage and facilitate regional collaboration between training providers and develop a network map of provision and funding 13. Work at a local level to help prioritise Local Enterprise Partnership (LEP) spending on nuclear related activities 14. Develop/enhance nationally recognised and NSSG supported nuclear awareness courses |
| Differing standards Supply chain not ready or lack of resilience | Training Standards and Qualifications | 15. Develop and publicise generic career pathways and occupational competences 16. Identify and map industry requirements for training and apprenticeships and ensure they are available and funded across the UK 17. New Build developers and SLCs to publicise their technical standards to enable a review of existing standards and creation of new ones where required 18. Evaluate apprenticeship quality, from underpinning standards to delivery requirements 19. Influence the technical vocational pathways in terms of adequacy for the nuclear industry |

Whilst the primary focus will be on the next five years, the strategic actions will also address the future rundown of resources in line with the LMI resourcing model.

Today, the industry is in the spotlight with unprecedented growth planned over the next decade.

What success will look like

A simple, universally accepted model which represents all aspects of the sector

CEO ownership from across the industry recognising, endorsing and using skills operating model for their needs

An NSSG agreed, and regularly updated, nuclear programme and workforce assessment model which the industry proactively uses to make strategic resource planning decisions

Clarity on the options available and visibility of the available resource pool to ensure competence can be achieved at the right time

UK nuclear programme delivered using UK resources in the right place at the right time doing the right things

A truly diverse working population and recruitment profile from across UK's social and economic spectrum, with the Nuclear Industry being seen as "the place to work"

Clear, concise and agreed entry standards, qualifications and criteria to the nuclear industry with all "barriers to entry" drastically reduced

Clear, visible career paths for everybody with built-in flexibility between civil and defence

Strategically managed moves or brokered across the sector to fulfil specific skill gaps

A central knowledge management system being used across industry

A nationally available skills programme and visible, easily accessible regional collaborative partnership delivery models delivering universally approved courses

Training provision developed with collaborative education-employer models

A nationally recognised network of visiting experts properly trained in skills education to train and support lecturers and trainers

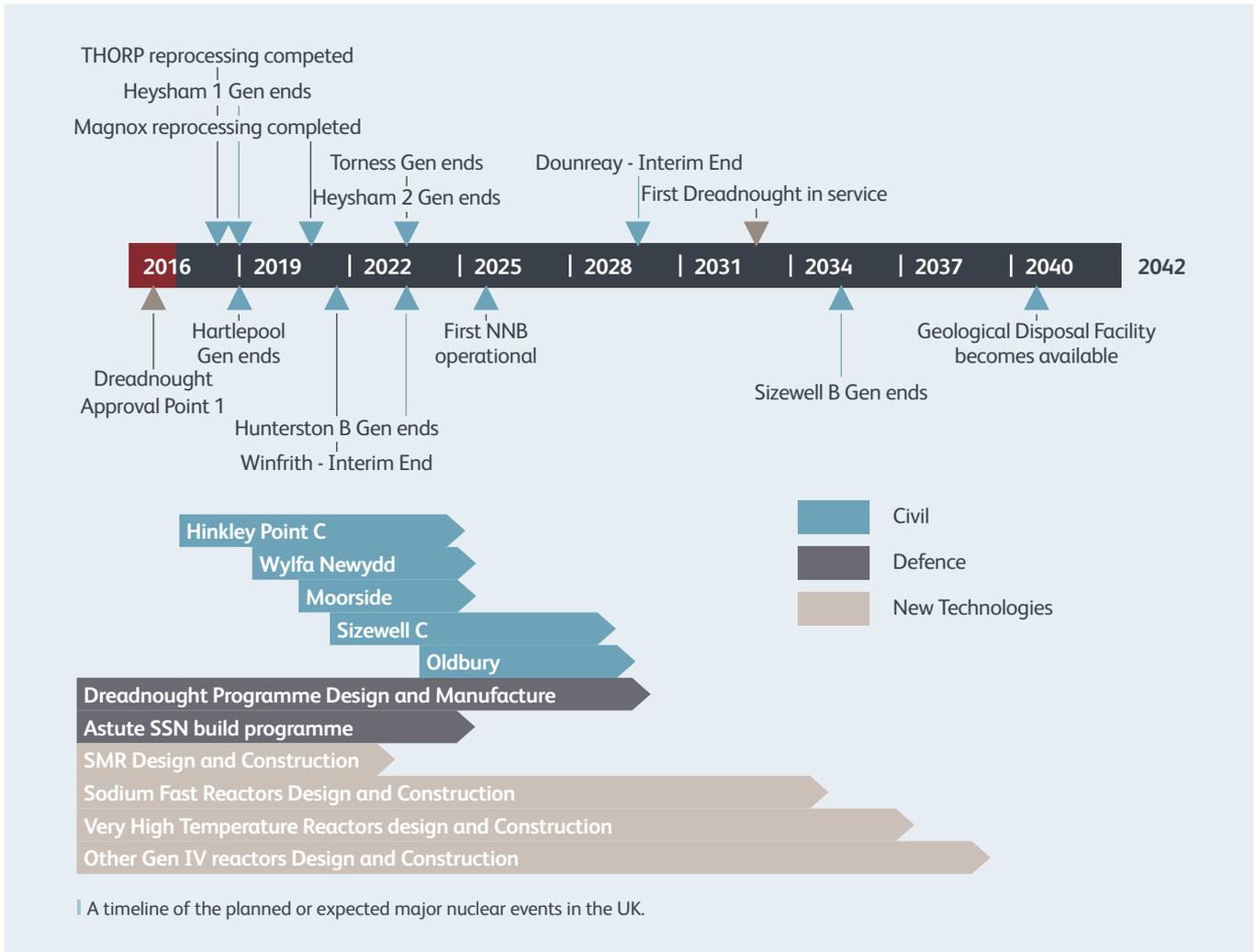
Flexibility of delivery models to address anytime, anywhere provision and allow "Step on/Step off" career frameworks

Training standards and qualifications recognised and funded across England, Scotland and Wales

National Nuclear Curriculum of Standards, Qualifications and programmes supported by nuclear employers and aligned to their pathways to competence

Requirements for codes and standards published and available to all

The sector's requirement for skills



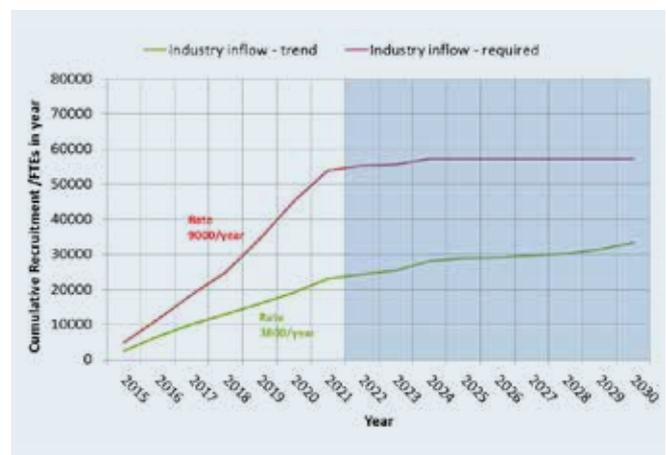
Meeting the UK's ambition for continued nuclear power and considerable associated activities is only possible with the right workforce.

The skills pool will need to grow substantially; this challenge will be compounded by attrition from the ageing existing workforce as well as the long lead time to develop nuclear specialists. While uncertainties exist in the timing of new major civil and defence activities, and current operations and decommissioning is also subject to constant review, there is clearly a programme of work to be carried out that covers many decades.

Based on data reported in the Nuclear Workforce Assessment 2015, current activities, including defence, are forecast to leave the overall workforce demand largely flat until 2021, followed by a decline at a rate of 2,000 FTEs each year for the following decade.

However, construction of 5 sites for 16 GWe new generation capacity, has a significant impact on total demand, causing it to rise from 78,000 FTEs in 2015 to 111,000 by 2021.

The magnitude of recruitment is, of course, only one aspect. Time to competence, ease of transitioning from other sectors, retraining and retention rates will all affect how easily the programmed demand can be met.



Required industry inflow - existing trend, and forecast to include civil new build.

Benefits of the Plan

A lot of work has been done to set up the infrastructure for nuclear skills, via the two principal plans by the National Skills Academy for Nuclear (NSAN) and the Nuclear Energy Skills Alliance (NESA). The real task ahead is for industry to grasp the recruitment and training challenge. It is difficult in a climate of limited contracts and work for industry to take the risk unaided. However, implementing this Skills Strategic Plan will drive a number of benefits for government and industry alike.

Through adopting this approach, we will:

1. Ensure that the UK is positioned to deliver the future increase in workload without over reliance on foreign labour
2. Build a nuclear legacy of competent people in areas of nuclear development suitable to meet the local needs into the foreseeable future
3. Enhance long-term careers opportunities for STEM apprentices and graduates
4. Provide the base-load of training requirements to allow confident investment in facilities and training provisions
5. Ensure a more flexible and mobile nuclear workforce
6. Provide opportunities for continued professional development of the existing workforce
7. Ensure the UK has a powerful nuclear skills capability and is able to respond to international opportunities
8. Invest in skills to drive productivity and economic success
9. Facilitate and encourage cross-sector movement between civil and defence and by non-nuclear personnel
10. Support highly skilled individuals in greater job satisfaction, which will improve sector retention
11. Help highly skilled individuals to pass on their knowledge, mentoring the next generation, thus future proofing the sector's skills and competence base
12. Reduce costs to industry and value to the tax payer associated with the need to train and re-train the workforce

Conclusion

The nuclear industry is about to embark on unprecedented growth over the next decade which will inevitably result in pressure points within the regional skills infrastructure, competition for skills, and unfilled demands across the sector.

This Strategic Plan has outlined the industry's plans to satisfy the goals in the government's published nuclear skills strategy 'Sustaining Our Nuclear Skills'. It has been developed by considering the risks, blockers and issues we need to address in order to recruit and employ skilled people. They have been grouped into five key themes, to ease their management.

The themes have been used to develop strategic actions aimed at mitigating the risks identified by the industry, and providing the necessary national infrastructure to meet the rise in demand. A detailed action plan will allow full programme management to be applied.

By working in collaboration with government, skills bodies, supporting organisations and employers, the industry is confident that these actions will address the underlying issues and allow employers to recruit at the required rate to meet the ambitious forward programme.

Working in collaboration with government, skills bodies and employers, the NSSG is confident the actions set out will address the underlying issues and allow the sector to gear up for the future.

Contact us

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for full document go to:

www.cogentskills.com/nssg/strategy

