



Skills Opportunities and Challenges in a Low Carbon Economy

**EDF Energy Corporate Strategy
20th October 2009
Recession & 2020 Visioning Workshop**



❖ The UK aims to be in the top eight countries for skills by 2020 . . .

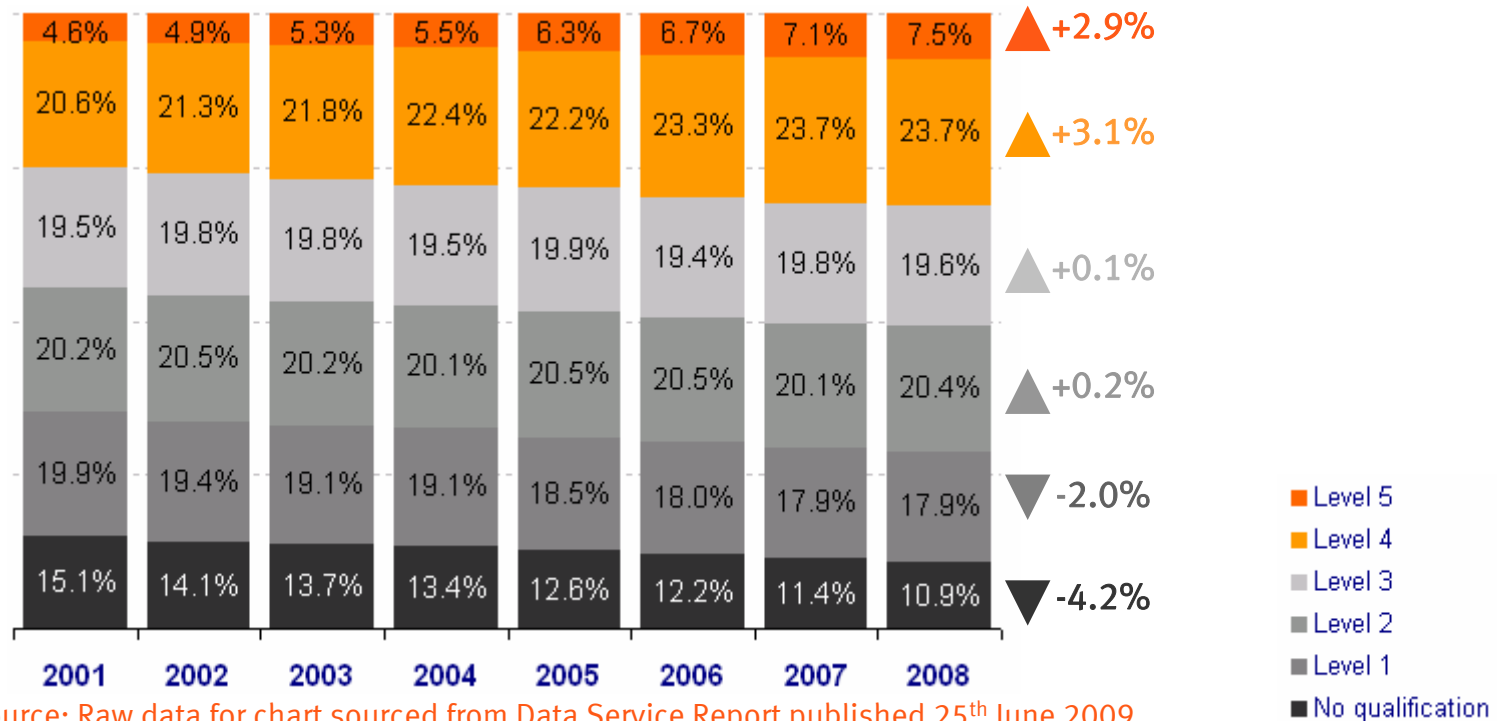
Summary Level	OECD Classification	UK Classification	Typical qualification	International Rank	
				Current	Ambition
Low	Below upper secondary	No qualification	–	17th	Top 8
		Level 1	GCSE's at grades D-G NVQ level 1, GNVQ		
Medium	Upper secondary	Level 2	5+ GCSE's at grades A-C NVQ Level 2, Craft City& Guilds	18th	Top 8
		Level 3	2+ A-levels, NVQ Level 3, 3+ Scottish Highers		
High	Tertiary	Level 4	First or other degree, NVQ Level 4, nursing, teaching	12th	Top 8
		Level 5	Higher degree; Ph.D NVQ Level 5		

Source: UK Commission for Employment & Skills (UKCES)

According to UKCES to enable the UK to achieve these ambitions would equate to over 20 million additional skills attainments more than one for every second adult of working age in the UK

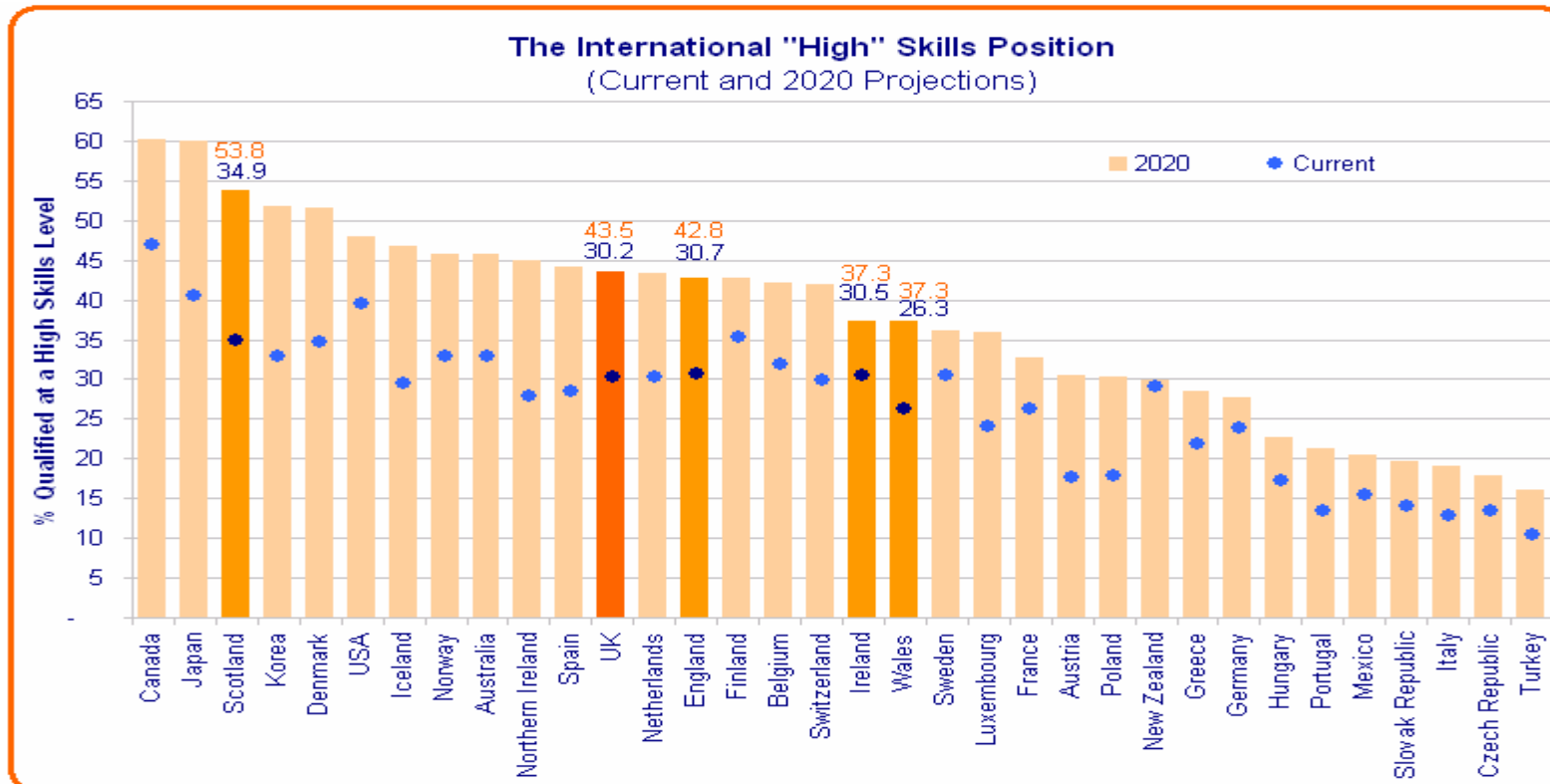
.. the UK skills profile has increased over time yet ...

Level of qualifications held by the those of working age in England (Quarter 4 2008)



31.2% of all people aged 19-59/64 have a qualification at Level 4 or higher, equating to 9.3m people from a population of 29.8m, an increase of 6% since 2001.

... the UK is not projected to be in the top eight at any skills level



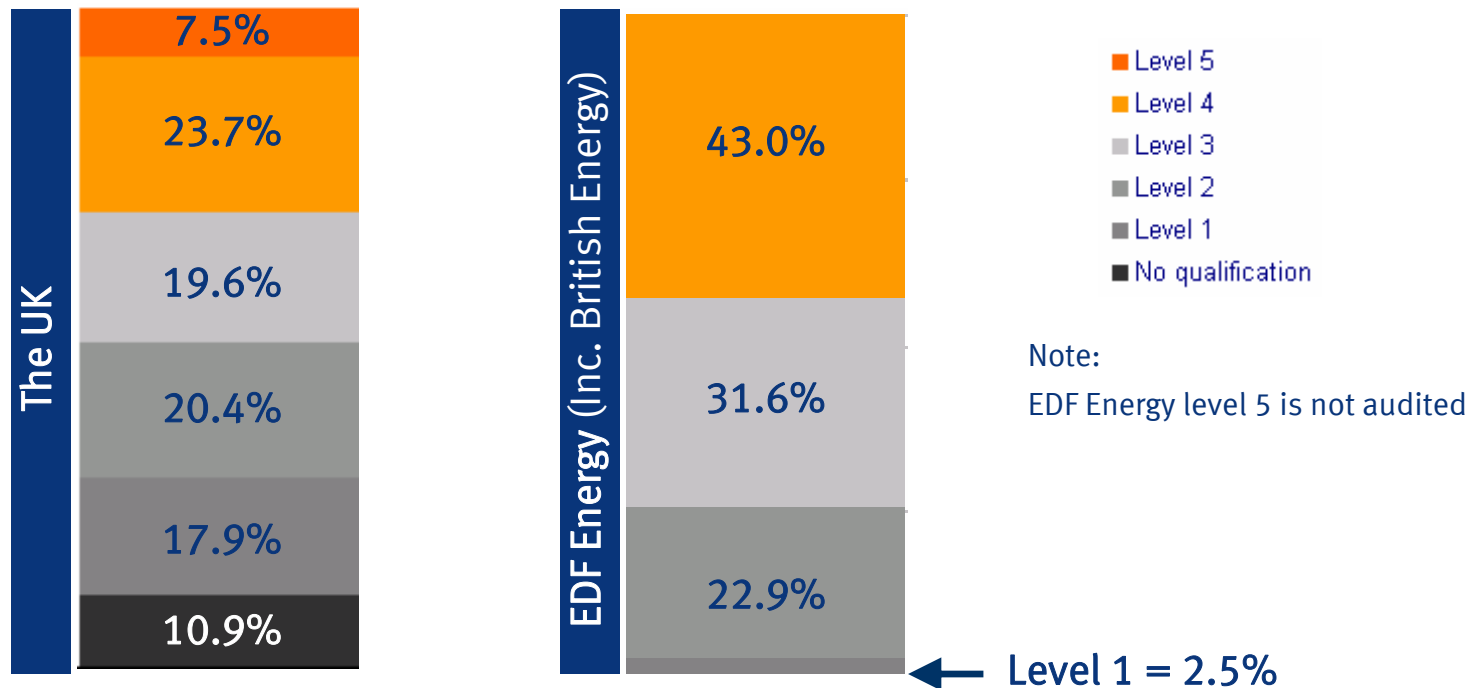
Source: Raw data from UK Commission for Employment & Skills – 2009 Report on Ambitions 2020.

By 2020, the UK is likely to be ranked:

- 23rd on low level skills (compared to 17th now)
- 21st on intermediate level skills (compared to 18th now)
- 10th on high level skills (compared to 12th now)

- The nature of our business requires a higher skilled workforce compared to the UK average . . .

Level of skills currently held by those of working age in the UK and EDF Energy

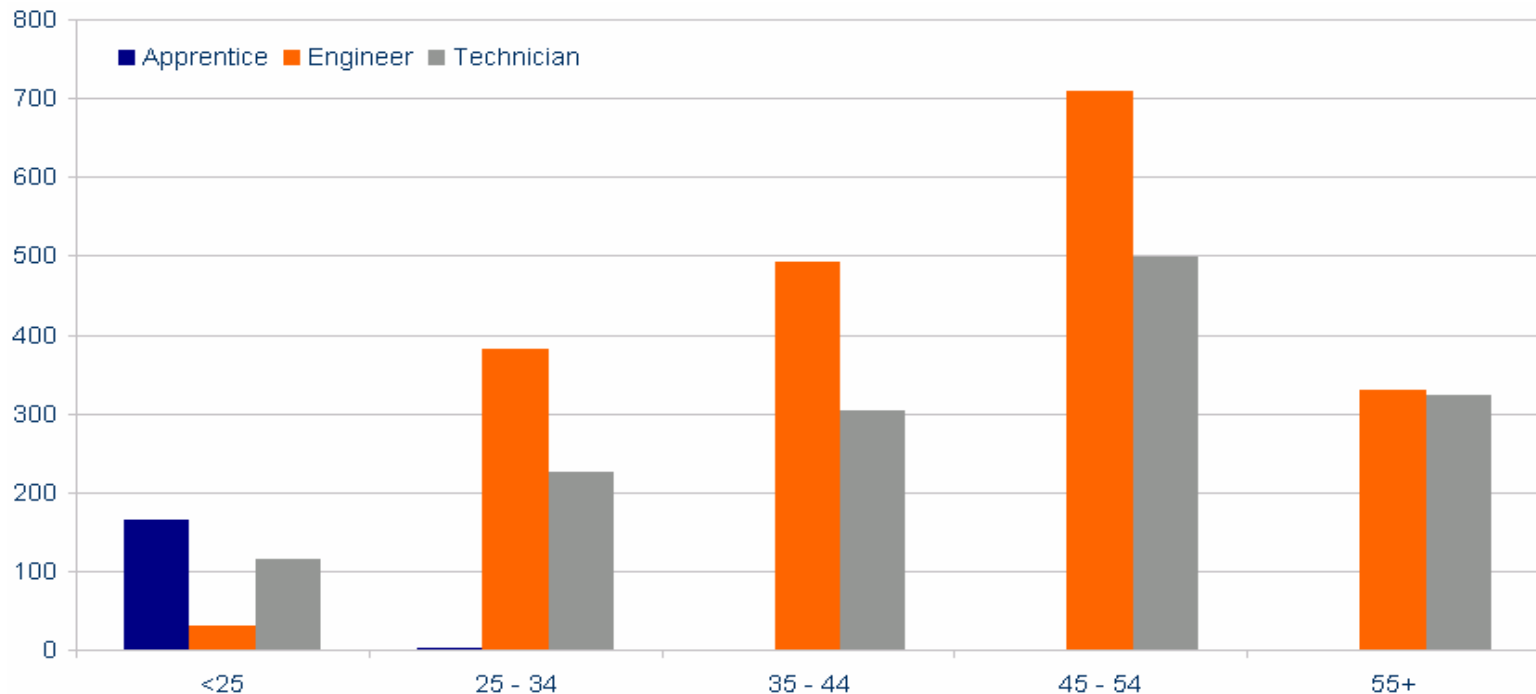


Source: National Skills Council for UK data, Internal source for EDF Energy

EDF Energy/Existing Nuclear requires a higher level of education than the UK average

... and we have an age profile challenge within our existing nuclear business

Existing Nuclear Engineer, Technician & Apprentice Headcount by Age Range



Source: EDF Energy

More than 50% of existing nuclear engineers, technicians and apprentices are over 45, with 18% scheduled to retire by 2015

Examples of what skills will be required in a low carbon economy

EDF Energy new nuclear operational requirements

- + c.750 Qualified Engineers
- + c.600 Technical Craft Skilled Staff
- + c.200 Clerical/Ancillary
- Also, + 1,000/unit every 18 mths. for 5 weeks for any outage periods
- + replacement of retiring staff

Source: EDF Energy

Indications of UK Nuclear build skills required across the supply chain

- > 6,000 Graduates
- > 3,000 Technicians
- c.250 Project Management & Technical Support Jobs
- c.2,400 Construction & Site Installation Jobs
- > 1,000 Manufacturing Jobs
- > 2,000 Support Sector Jobs

Source: Nuclear Industrial Association

UK Experts required for Low Carbon Technologies

- 6,845 - 43,673 (BERR) Wind energy related Jobs (varies due to level of UK turbine manufacturing)
- c.25,000 (Govn't) Home Insulation related Jobs
- > 8,000 (EDF) Heat Pump Installers (plus designers and manufacturers)
- ? '000 Electric Vehicle related Jobs

Will the brightest and best previously attracted to financial services switch to the “real”/low carbon economy?

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National Grid
Research 7/09/09

- 98% of teachers, 59% of parent and only 40% of young people believe engineering makes a significant and positive contribution to society
- 34% of parents would recommend an engineering career which falls marginally below medicine and teaching
- 22% of all young people would like to pursue engineering as a career, of which 39% were boys and only 4% girls
- >50% of teachers and parents felt they had enough information to recommend engineering as a career, although discussions showed a reliance on underlying prejudices and stereotypes

etb

The Engineering & Technology Board
Research 15/09/09

- 62% of education professionals and 30% of 11-16s have seen or heard of in the past year something that presented engineering in a positive inspiring way
- 62% of parents and guardians view engineering as a desirable or very desirable career (56% in 2008)
- 45% of 16-24 year olds view engineering as a desirable or very desirable career (40% in 2008)
- 49% of 7-11 year olds think being an engineer would be boring
- Since the financial downturn 85% of the general public would now recommend an engineering career (66% in 2008)

With upcoming technology the perception of engineering being “a dirty, low paid job for men” (National Grid) is far from the truth. We all need to inform and inspire new talent... this issue isn't just within the energy industry

Internal Activities are taking shape to contribute to our skills gap

Examples of Internal Activities

Impact

A Learning Educational Assistance Programme, for funding support

Working with Schools and Communities to engage young people in engineering

Extension of employees contract who are at retirement age to work part time

Graduate training programmes across the business units covering a range of disciplines

>100/year

Networks Engineer Development Programme to formally develop the 'technician' or 'incorporated engineer' level over a 30 month period

+30

Existing Nuclear have a 2 year apprenticeship programme at HMS Sultan, followed by a 2 further years on-site at their power station location

55 / year

Existing Nuclear has a Chemistry 2 year programme including day release to acquire an HNC in Chemistry, currently has 8 intakes per year

8 / year

Existing Nuclear Demographic Plan, new recruits provide replacements for retirees with business critical and specialist skills, a scheme also adopted within Networks

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Nuclear Engineer Development Programme, uses existing training framework to provide feedstock of design engineers and safety engineering skills to new build

25 / year

Further question on preparing for a low carbon economy?

Can the UK still act as a “magnet economy” to attract the best of the worlds talent and skills?

There will be a competing global demand for the required resource

EDF Energy is part of the EDF Group which spans many countries where expertise and resource can be pooled

Mobility of labour required

How will knowledge work change and how will knowledge organisations respond?

Higher skilled workforce required

Organisations competing for the same/similar resource pool

Organisations promoting their sector as a career path, integrating with schools, colleges and universities

Will require a long term policy framework, working with organisations and Government to successfully obtain the right skills in the right place at the right time for a low carbon economy