

Europe's high-value industry – assembling the right ingredients to ensure a prosperous and cohesive future

Intro

Good evening. Great to be invited tonight...Before I talk about the challenges facing the energy industry and the influx of new talent that will require and my involvement in the Technician Council, let me tell you something about National Grid

1. National Grid

International electric and gas utility , 50/50 UK US

UK -own and operate Great Britain's gas and electricity transmission networks as well as running half of the gas distribution networks serving more than 11 million customers.

US - operate in Massachusetts, New York, Rhode Island and New Hampshire serving almost 7 million customers – 2nd largest in the US. We also operate the Long Island electricity network, serving an additional million customers.

2. Changing Energy Scene

Climate change is driving an energy revolution....

Clean energy & stringent climate change targets are driving a huge shift towards a low carbon economy and renewable energy

UK facing unprecedented challenge:

- Climate change act – 34% cut in emissions by 2020, 80% by 2050
 - New & increased diversity in generation & in remote locations
 - Changes in consumer behaviour
 - Gas to electric heating 82% in 2009 to 71 % in 2020, 49% by 2030
 - Average household demand must reduce by an estimated 15% by 2030 and 25% by 2050 to hit targets
 - Increase in Electric Vehicles (~1m vehicles in 2020, ~5.5m in 2030)

Against a backdrop of:

- Population increase – increase by 27% to 77 million by 2050, number of households will have risen to 35 million, that's a 40% increase
- Aging Electricity generation and network
 - Much of Transmission Network at 40yr life
 - 1/3 of UK's existing generation needs replacing over the next 10-15yrs (12GW coal and oil closures – LCPD, 28GW wind by 2020)
 - North Sea reserves in decline, additional investment is needed to reduce dependency on un reliable gas imports

Fantastic opportunity to replace assets with energy efficient systems and equipment across the industry. The projects will be challenging and exciting

- Smart grid
- Distributed generation – CHP, Wind power
- Development of new green technology
- Sophisticated demand management.....

At National Grid we will be building more infrastructure than we ever have before. Critical we get the right level and flow through of talent to achieve this

CBI findings:

3 out of 4 businesses rely on people with STEM (Science, Technology, Engineering and Maths Skills) – 72%

UKCES:

Between 2007-2017, 29% of jobs will require STEM. Of the new jobs/ demand in this period 58% will require STEM

3. Study commissioned by NG in 2009 found negative attitudes widespread towards engineering:

- 6 out of 10 young people not able to name a recent engineering achievement
- Young people, parents, teachers have blue collar image (men in overalls)
- Girls 10 x less likely to pursue a career in engineering
- Young people cannot visualise themselves as engineers: there aren't very visible role models and there's not much on TV (exception recent Secret Life of the Grid). Engineering needs to be explained to them, or else it is overlooked.

The number of STEM grads *per 1000 of the population aged 20-29* is about 17 in the UK. In France it's 20 and in Germany just 12. The UK's numbers have been falling in recent years as well (20 in 2002).

Engineering needs more recognition to bring the influx of numbers and talent we need

4. What are we doing about it:

BiTC – Talent, Leadership and Skills

Lifetime skills, Work Inspiration, Metrics

Unemployed/YO

National Technician Council, sponsored by BIS .
support the UK government's plans to create a new
technician class across four sectors:
Engineering, science, health and ICT

- Helping facilitate the initial drafting of registration standards
- Ensuring that appropriate support, professional development and information is made available alongside registration for individual technicians
- Driving forward the agenda of promoting the professional status of and recognition for technicians, including marketing and policy influence roles.

At National Grid.....

1. Just do It, 2. work with other organisations (alliances),3. What's happening in education (monitor and listen)

- National Grid Work Inspiration weeks
 - 40 x 15 year-olds, held at Eakring in June
 - More planned – 2 weeks, 50 students each week, March & July
- National Grid Open House. Programme of visits by schools and careers advisers to National Grid sites
 - 3 out of 21 done this year
- Supporting and involved in JCB academy, new specialist engineering school for 14-19 yr olds
- National Grid Ambassadors, our engineers who go into schools
 - School Power: 48 employees, 19 Schools
 - Imagineering: 55 employees, 26 schools
- Other engagements: Engineering Education Scheme; STEMNET ambassador work & year in industry.
- Also working to develop courses designed for teachers – to help them illustrate and enhance the curriculum and to keep them up to date with modern engineering so that they may explain it better to their students.

5. SUMMARY/CONCLUSION.

- The sheer scale of the changes, investment and challenges needed in energy means there are significant and numbers of diverse and exciting jobs available
- They are mostly high-skill, STEM-based jobs though. We need to equip our young people for these jobs
- Employers need to engage more. Help teachers explain STEM and help young people see the opportunities

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