

Briefing: Science and engineering in the 2016 Northern Irish election

Science and engineering are crucial to Northern Ireland's future. It makes sense to build on the nation's capability in science and engineering to deliver a competitive edge in the global economy. Ahead of the election CaSE wrote to all party leaders asking them to set out their policies that relate to science and engineering. Their responses are published on our website. Here we look at them along with the parties' manifestos drawing out their commitments and statements that relate to science and engineering.

Our policy analysis is divided into three categories:

1. Investment in science and engineering research
2. Education and skills for science and engineering
3. Use of science and engineering in government

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The Alliance Party of Northern Ireland

On investment in science and engineering

- Will set a target to increase investment in science and research through the UK Research Councils, recognising the link between state investment in science and economic prosperity (p40)
- Will assist Northern Ireland's universities in drawing down greater levels of science and research funding from both the Research Councils and the European Union (p40)
- Will audit scientific infrastructure in Northern Ireland and ensure any gaps are covered as part of scientific investment programmes (p40)
- Will continue to support the Horizon 2020 NI Contact Point Network (p40)
- Will invest in R&D for improving renewable technologies so that the amount of energy generated by technologies such as solar panels and wind turbines can be increased (p40)
- Will invest at least £85m per year across skills, research and infrastructure including addressing HE funding deficits and investment for future HE demands, supporting a business focused FE sector, implementing the apprenticeship strategy (p42)
- Will review the cross-departmental STEM strategy (p42)
- Will create a Comprehensive Cancer Strategy, addressing prevention, early detection, treatment and support for research (p58)
- Will identify health related R&D priorities in collaboration with clinical, and academic health and social care professionals in the statutory and voluntary sectors, and appropriate resources provided to ensure Northern Ireland has access to future cost-effective interventions (p59)

On science and engineering education and skills

- Will ensure that there is a strong manufacturing focus in a refreshed economic strategy, with a focus on advanced manufacturing, competing on quality and skills, and building upon the strong innovation base in local universities and colleges.
- Will support a review of vocational qualifications to ensure the qualifications are informed by and relevant to industry
- Will invest in STEM within schools and advancement of pupils' awareness of these subjects, aiming especially to increase uptake amongst female pupils
- Will provide a wide range of computer programming training available in schools at all levels

On the use of science and engineering in government

- will implement a programme of reform and plan for the future of the health service based on clinical evidence (p3)
- will develop a Climate Change Act for Northern Ireland with a clear 'road map' for implementation
- support the UK remaining in the EU

- do not support fracking (p41)
- will Follow up on the Marine Act with a cohesive Marine Plan with designation of Marine Conservation Zones based on scientific evidence, linking with other regions of the UK (p69)
- Working to reduce and better regulate necessary animal testing and invest in developing alternative scientific methods and practices (p72)

The full manifesto is published on the Alliance Party's [website](#).

The wider view from CaSE

David Ford's letter to CaSE states that their support for science and technology stems from their belief they have a central role in economic development in Northern Ireland, as well as in specific policy areas such as health, climate change and education. This broad view of the role of science and engineering is reflected in their significant focus on science policies.

The foreword of the Alliance Party's manifesto names new investments to build the science base and the knowledge economy as one of the key achievements Alliance ministers have achieved in the last parliament and they are one of the few parties to have a section on research and innovation. They state that as the Minister responsible for Employment and Learning Minister in the last parliament they have invested in skills through new strategies on apprenticeships and youth training, plus more HE STEM places and PhDs.

On education more broadly, the Alliance manifesto proposes £85m investment per year in skills, adding in their letter that science and engineering should be a significant part of this investment. An interesting proposal, which builds on their strong support for evidence informed policy making, is an audit of scientific infrastructure in Northern Ireland to support them in assessing future needs. David Ford's letter champions his party's record on accessing and listening to scientific advice and also articulates his desire to see Ministers specifically lay out the evidence behind policies in their consultations and proposals.

Many parties across each of the devolved nations place an emphasis on cutting carbon emissions and increasing reliance on renewable energy sources. However, the Alliance party make the link to the need for investing in R&D in this area to improve renewable technologies and to create an accompanying skills programme to ensure Northern Ireland has the necessary skilled people for new jobs.

The DUP

On investment in science and engineering

- Will support the establishment of a Northern Irish base of Innovate UK which would implement the published NI innovation strategy (p9)
- Will increase spending on Health by at least £1 billion by the end of the next Assembly term to specifically help in tackling waiting lists and investment in innovation and reform

On science and engineering education and skills

- Will maintain university fees at a level that will keep university places affordable

On the use of science and engineering in government

- Will establish an Office of Data Analytics that will examine existing government data to find better ways of doing things and tackling difficult issues following models developed in New York and other US cities (p28)
- Will establish a What Works Centre and participate in the existing network to support making decisions based upon strong evidence of what works and to provide cost-efficient, useful services (p28)

The full DUP manifesto can be found on their [website](#).

The wider view from CaSE

The investment priorities set out by the DUP in their letter focus around supporting collaboration between universities and industry to drive innovation and competitive advantage. There is however no mention of how they might tackle the current funding challenges facing universities in Northern Ireland. In the current Northern Irish Executive, the DUP holds the Ministerial brief for the Economy and in their letter state that they consider R&D a key area for growth.

The DUP letter confirms and responds to concerns we've heard about the World Around Us curriculum resulting in reduced teaching of science. They propose increasing teacher confidence in the science element through CPD and clearer guidance that specifies a minimum level of science content which would be very welcome and support engaging science teaching. In other education related commitments, their letter sets out how they hope the new skills barometer along with professionalisation of careers advice will facilitate a shift towards greater awareness and interest in science and engineering careers.

Their proposal to establish an office of data analytics is an interesting one. Alongside their commitment to establish a What Works Centre this suggests an appetite from improving evidence based policy making.

The UUP

The Ulster Unionist Party (UUP) have published their main [manifesto](#) but there is also more detail on their policies affecting science and engineering in their separate [our vision for you – the voter](#), [knowledge economy](#) and [animal welfare](#) manifestos.

On investment in science and engineering

- State that with the right decisions made in a timely fashion we can create a Northern Ireland that is the leading place in the United Kingdom to do research (Our vision for you – the voter (p15))
- Will further support the local research base to improve cancer care (p10)
- Will involve the Unions and business organisations including Manufacturing NI in drawing up and implementing a bespoke, long term manufacturing strategy and set a target to match the EU target of having 20% of GDP related to manufacturing industry (19)
- Will fully develop the potential of new forms of renewable energy in order to further build on the thousands of green new jobs (p22) and be flexible in incentivising new and emerging green energy technologies such as smart and micro grids, battery energy storage and Energy from Waste (p20)
- will support research and development to help drive further innovation in the agri-food industry, build upon the excellent work of local researchers to strengthen collaborative networks and seek to continually improve the transfer of research and knowledge to farms and businesses
- Consider creative funding solutions beyond the Doctoral Training Partnerships programme, so that candidates for doctorates are not discouraged from applying (p12 knowledge economy manifesto)

On science and engineering education and skills

- Protect student maintenance grants (p17)
- Support a fair and sustainable model for funding for Third Level education (p17)
- Will consult on establishing Computing and Entrepreneurship as core curriculum subjects (p11 The Knowledge Economy manifesto)
- Will consult on establishing English and Maths as a continued educational requirement for those in full-time education (p11 The Knowledge Economy manifesto)
- Will consider ways of increasing the incentives to attract and retain STEM subject teachers

On the use of science and engineering in government

- Support remaining in the EU and supporting drives for further reform (p5)
- Will develop a new system of comprehensive data collection and access for clinical purposes, including a national genomic database (p13)
- On education policy will take decisions based on evidence, fairness, and not party political considerations (p14)
- Support the creation of an All Party Group on Students and Third level education at Stormont (p17)
- Invest in research and the development of new services in trauma care, and deliver training and a workforce development programme (p10 mental health manifesto)

The Social Democratic and Labour Party

The SDLP manifesto is available on their [website](#).

On investment in science and engineering

- Will agree and implement a Northern Ireland Manufacturing Strategy aiming to create an additional 7,000 jobs by 2021 (p13)

On science and engineering education and skills

- Will refocus support for third level education toward STEAM subjects and the areas where graduates can add maximum immediate value to employers and the economy (p11)
- Support expanding apprenticeships and STEM related apprenticeships in particular (p11)
- Will establish a Digital Technology and Coding Academy accompanied by a digital technology strategy aiming to ensure that coding and technology feature in all schools (p14)
- will reverse the recent cuts in university places and fund increased student places in Northern Ireland (p15)
- will reduce the portion of the tuition fee paid by students (p15)
- will ensure young people continue to study numeracy and mathematics until they are aged 18, within or in addition to the current qualifications regime (p30)
- will ensure that STEM subjects are on the curriculum from primary school, that arts subjects play a vital role in curriculum design and that STEAM subjects run through all parts of our education system

On the use of science and engineering in government

- Support remaining in the EU
- Will commit to the introduction of a new Northern Ireland Climate Change Bill (p38)
- Will oppose fracking (p38)

The Green Party

The Green Party's manifestos can be found on their [website](#).

On science and engineering education and skills

- Will end cuts to entire departments within universities and investigate the long-term effects of making certain subjects completely unavailable in NI (Young Greens manifesto)

On the use of science and engineering in government

- On justice, will support the introduction of evidence-based early intervention initiatives to tackle the causes of crime
- Against fracking (p14)

UKIP

The full UKIP manifesto can be found on their [website](#).

On investment in science and engineering

- Will create a manufacturing policy in cooperation with business and trade unions

On science and engineering education and skills

- Subject to academic performance, UKIP will remove tuition fees for students taking approved degrees in science, medicine, technology, engineering and maths on the condition that they work in their discipline and pay tax in the UK for five years after completion of their degrees (p9)
- University students from the EU will pay the same fee rates as international students
- Will introduce an option for students to take an apprenticeship locally instead of four non-core GCSE's (p9)
- Will conduct a skills review to better inform our education system and qualifications (p12)
- Will introduce a points based immigration system

On the use of science and engineering in government

- Will repeal the 2008 Climate Change Act (p17)
- Support shale gas extraction and abolish green taxes (p17)
- Support leaving the EU