

‘Building our industrial strategy’

A consultation response by Universities Wales, 13 April 2017

About Universities Wales

- Universities Wales represents the interests of universities in Wales and is a National Council of Universities UK. Universities Wales’ Governing Council consists of the Vice-Chancellors of all the universities in Wales and the Director of the Open University in Wales.
- This response outlines areas in the green paper of specific relevance and importance to universities in Wales.

Executive Summary

- Universities in Wales make a fundamental contribution to Wales both socially and economically. There is a role for universities in most, if not all, of the ten pillars outlined in the green paper
- There is a need for the industrial strategy to take a truly UK-wide approach, recognising the differing structures in place across the UK and having due regard for devolved policy. Large parts of the green paper relate to areas of devolved responsibility. Similarly, the green paper makes significant reference to structures such as Local Enterprise Partnerships which do not exist in Wales.
- Universities Wales welcomes the focus in the green paper on driving growth across its regions and nations, and believes that, as structural funds do, such a focus should have an emphasis on the poorest parts of the UK, including Wales. Universities play a crucial role in addressing unbalanced growth, in 2013 Welsh universities generated £4.6 billion of output and contributed £2.4 billion of Welsh GVA¹.
- Universities in Wales are a leading academic destination for world class research and have the highest percentage of ‘world leading’ research in terms of its impact of any part of the UK, with almost half of it considered to be having a transformational effect on walks of life beyond academia².
- Universities Wales welcomes the commitment to invest an additional £4.7 billion in research and innovation. There is no Welsh equivalent to the Higher Education Innovation Fund (HEIF), which is referenced as a potential mechanism for innovation funding in the green paper. Where additional investment is directed through HEIF, we would expect Wales to receive consequential funding to support a Welsh innovation fund.
- European Structural Funds play an important role in addressing the shortfall in both innovation funding in Wales and private investment in research and development (BERD). The green paper notes that the UK Government will consider the future of EU funding. It is important that economic growth in Wales is not threatened by the loss of European funding and that these funds are replaced with a devolved package of structural funds following the UK’s withdrawal from the EU.
- This response highlights a number of sectors which are important to the Welsh economy and where universities in Wales are sector-leading, including:

¹ Universities Wales, [‘The economic impact of Higher Education in Wales’](#)

² REF, 2014

- Biomedical and life sciences
 - Smart, flexible and clean energy
 - Compound semiconductors
 - Catalysis
 - Food and agri-tech
- viii. Creative industries make up 5.7% of the Welsh economy. Universities Wales would recommend that the additional investment in both R&D and PhD places includes investment outside of STEM subjects.
- ix. Universities Wales would welcome clarity on how funds committed on a UK-wide basis will be distributed. For example, it is not currently clear whether there will be a consequential from the additional £100 million funding committed to innovation through HEFCE. Where additional funding does not trigger an 'automatic' Barnett consequential, Universities Wales would welcome equivalent allocations being made to Wales, as was the case with allocations of funding to HEFCE from the Newton Fund and the Global Challenges Research Fund.
- x. It is important that UK-wide institutions such as UKRI work for the entirety of the UK. To this end, Universities Wales would welcome UKRI developing memorandums of understanding with the devolved administrations and their sector institutions.

Consultation questions

- 1. Does this document identify the right areas of focus: extending our strengths; closing the gaps; and making the UK one of the most competitive places to start or grow a business?**
- 2. Are the ten pillars suggested the right ones to tackle low productivity and unbalanced growth? If not, which areas are missing**
 - 2.1. Universities Wales broadly welcomes the ten pillars identified in the green paper. While the pillar with the most explicit relevance to universities is the first pillar, 'Investing in science, research and innovation', universities in Wales are embedded in their communities and play a significant role across most, if not all, pillars of the industrial strategy including skills development, infrastructure, affordable energy and clean growth, cultivating world-leading sectors, and driving growth.
 - 2.2. Several pillars cover areas that are either a devolved responsibility, or partly a devolved responsibility. Throughout the pillars, we believe the industrial strategy would benefit from more clearly identifying which proposals, institutions, and structures are UK-wide and which are relevant only to England. Where proposals, such as those around the second pillar, 'Developing skills', relate to a devolved area, it would be worthwhile for the strategy to assess potential challenges that may arise from UK-wide policy disparity, and outline what consultation will take place with devolved administrations to manage the effect of this.
- 3. Are the right central government and local institutions in place to deliver an effective industrial strategy? If not, how should they be reformed? Are the types of measures to strengthen local institutions set out here and below the right ones?**
 - 3.1. It is important that UKRI works for the entirety of the UK and takes into account the different contexts within which the devolved administrations operate. The UK Government has committed to 'putting this intention regularly to consult on strategy with devolved administration colleagues into guidance from the department to UKRI'³. Given the way that UKRI will operate across the whole of the United Kingdom, but in some parts of its business be focused on

³ Lord Prior of Brompton, [Higher Education and Research Bill debate, 15 March 2017](#)

England only, we believe memorandums of understanding with the devolved administrations and their sector institutions would be a useful vehicle to ensure that UKRI is sensitive to the interests of the UK as a whole.

3.2. Wales has a reasonable distribution of universities across its geography. In addition, there are many effective centres hosted by universities in Wales, including:

- SPECIFIC, an academic and industrial consortium led by Swansea University with Cardiff University, BASF, Tata Steel, and NSG Pilkington as strategic partners. SPECIFIC develops functional coated steel and glass products that transforms the roofs and walls of buildings into surfaces that will generate, store and release energy.
- ASTUTE 2020, which is designed to stimulate growth in West Wales & the Valleys by applying advanced engineering technologies to manufacturing challenges, driving cutting-edge research, development, and innovation. At the core of ASTUTE 2020 are four Welsh HEIs, Swansea University, Cardiff University, Aberystwyth University, and the University of Wales Trinity Saint David.

3.3. There is scope for the UK Government to invest in ways which would connect these forms of Welsh infrastructure more effectively with institutions across the UK and internationally.

4. **Are there important lessons we can learn from the industrial policies of other countries which are not reflected in these ten pillars?**

4.1. Universities Wales believes it may be worthwhile for the UK Government to explore models and structures through which successful industrial strategies have been developed in federalised countries, such as Germany and Canada.

5. **What should be the priorities areas for science, research and innovation investment?**

5.1. Universities Wales welcomes the commitment to invest an additional £4.7 billion in research and development (R&D). We propose that the funding be allocated in a way that recognises the need to continue the UK's dual support system.

5.2. We would welcome clarity on how the additional investment will operate in terms of the devolved nations. Where funding commitments to HEFCE via BEIS do not trigger automatic 'Barnett consequentials', we would welcome equivalent allocations being devolved to HEFCW, as was the case with the Newton Fund and the Global Challenge Research Fund.

5.3. The green paper refers to the Higher Education Innovation Fund (HEIF) and notes that the UK Government will consider expanding it. There is currently no equivalent funding for innovation activity in Wales. Where additional investment is directed through HEIF, we would expect Wales to receive consequential funding to support a Welsh innovation fund

5.4. European Structural Funds and Horizon 2020 have provided vital investment and funding for projects and infrastructure in Wales. These programmes have provided Welsh universities with a secure budget to plan their participation over a number of years and have helped drive innovation. Clear plans to sustain or replace this investment, and devolved to Wales in the case of structural funds, should be included in the industrial strategy.

5.5. We believe the following investment areas should be included in priorities:

5.5.1. **Compound Semiconductors**

- The world's first Compound Semiconductor Technology Cluster will be formed in South Wales as a result of work between Welsh Government, Cardiff University and IQE Plc. The institute has benefitted from several large-scale investments including £13 million from European Structural Funds as well as £17.3 million from the UK Research Partnership Investment Fund RPIF and £12 million from the Welsh Government.
- Compound semiconductor material technology underpins the operation of the internet and has enabled emerging megatrends such as smart phone and tablet usage, satellite communications/GPS, Direct Broadcast TV, consumer electronics,

high capacity communications networks and data storage. The demands of next generation electronic technologies create a large and significant market opportunity.

5.5.2. **Biomedical and life sciences**

- Biomedical and life sciences are significant areas of research and innovation activity in Wales and a number of projects and activities span Welsh higher education, including:
- Cardiff University breaking ground on the £300 million Innovation Campus which complements Cardiff's MediCentre, a business incubator for biotech and meditech startups which includes the Precision Medicine Catapult Centre of Excellence.
- A Regional Collaboration for Health (ARCH) at Swansea University is pioneering new approaches to patient care and involves one million patients, 30,000 health care workers, and a £2 billion annual spend on healthcare.
- Life Sciences Research Network Wales which supports world-class science within Wales and the development of new therapeutic treatment. The Network provides a range of funding opportunities aimed at supporting academics across Wales to identify new collaborators, develop research ideas and build long term research capacity. The funding is distributed across universities in Wales and has so far funded 125 research projects.

5.5.3. **Smart, flexible and clean energy**

- Welsh universities have in place a number of programmes and projects which well-serve the Welsh higher education sector for investment in smart, flexible and clean energy. These are outlined in our response to question 6.

5.6. We strongly believe investment in research and innovation should not be solely focused on STEM subjects. The creative industries are the fastest growing sector of the UK economy, make up 5.7% of the Welsh economy and 9.2% of the Welsh workforce are employed in creative or high-tech industries⁴. In particular, Cardiff and the Vale of Glamorgan has been identified as a 'creative hotspot' by NESTA⁵.

6. What challenge areas should the Industrial Challenge Strategy Fund focus on to drive maximum economic impact

6.1. Universities Wales welcomes the suggested challenge areas. Much sector-leading work on the proposed areas has taken place in Wales including:

6.1.1. **Quantum technologies**

- As outlined above, the world's first Compound Semiconductor is being formed as the result of a partnership between the Welsh Government, Cardiff University and IQE Plc

6.1.2. **Smart, flexible and clean energy**

- Bangor University leads SEACAMS, a collaboration between three universities in Wales, which aims to improve access for businesses in the marine and coastal sector to expertise and facilities in higher education, with a particular focus on marine renewable energy
- BEACON Biorefining Centre of Excellence, led by Aberystwyth University in collaboration with partners at Bangor University and Swansea University, supports Wales-based companies to develop renewable energy products and services, assisting in the transition to a low carbon economy and helping mitigate the impact of climate change.
- As outlined in response to question 3, SPECIFIC will fit new build, and retrofit

⁴ NESTA, [Geography of the UK's Creative and High-tech Economies](#)

⁵ NESTA, [Creative Clusters and Innovation](#)

existing homes and buildings, with integrated renewable energy technologies, including the development of functional coated steel and glass products that transforms the roofs and walls of buildings into surfaces that will generate, store and release energy

- Flexible Integration Energy Systems (FLEXIS) in South Wales, is an EU funded project representing a partnership between Welsh Government, Cardiff University, Swansea University, University of South Wales, Tata Steel, Swansea City Region, and Neath Port Talbot Country Borough Council. FLEXIS is focused on developing smart energy distribution systems and will have a significant economic impact, not only via the support and development of excellent research in this area, but also via the new technologies and associated job creation that will follow.
- Wales is also host to the Centre for Automotive and Power Systems Engineering at the University of South Wales.

6.1.3. **Leading-edge healthcare and medicine | Bioscience and biotechnology**

- There has been a significant Welsh Government investment in biomedical and life sciences in Wales including through the dedicated Life Sciences Investment Fund worth £100 million. Life sciences contribute £2 billion to the Welsh economy every year and the Life Science Hub's goal is to increase this contribution by more than £1 billion by 2022.
- As detailed earlier in this response, there are a number of notable developments in biomedical and life sciences in Welsh universities including ARCH at Swansea University and the Innovation Campus and Medicentre at Cardiff University.

6.2. To drive maximum economic impact, we would recommend that the UK Government also consider challenge areas in:

6.2.1. **Catalysis**

- The global market for Catalysis is \$12bn per annum and growing rapidly, and for every \$1 spent on a catalyst, between \$200 and \$1000 in revenue generated. A proposal has been prepared for the establishment of a £200m M4 Catalyst Centre led by a partnership of UK-based chemical industry companies working with Cardiff University.

6.2.2. **Agriculture, food research, and animal health**

- The Welsh food, drink, and farming sectors together contribute approximately £15.5 billion per annum to the Welsh economic, employ 17% of the Welsh work-force⁶, and can bring enormous economic benefits through advances in food security and climate change mitigation.
- Food Innovation Wales is a network which brings together three food centres of excellence and is dedicated to encouraging the development of the food sector and providing technical and operational support in all aspects of food manufacturing.
- Farming Futures, an agri-food-tech network of the top research universities and institutions in the UK is hosted by the Institute of Biological, Environmental and Rural Science at Aberystwyth University.
- We would welcome recognition in the industrial strategy of the future support needed to drive more innovation in the food sector along the entire production chain.

⁶ The Value of Welsh Food & Drink Report, Welsh Government

7. What else can the UK do to create an environment that supports the commercialisation of ideas?

7.1. A key driver of innovation activity in England is the Higher Education Innovation Fund and, similarly, in Scotland the University Innovation Fund. There is no equivalent fund in Wales.

7.2. The House of Commons Science and Technology Committee report, *Managing intellectual property and technology transfer* (March 2017) stated, “such funding [HEIF] should be consistently available across the United Kingdom”

7.3. The Welsh Government’s ‘Independent review of higher education funding and student finance arrangements’ recommended that the ‘Welsh Government should develop a further funding framework aimed at supporting knowledge transfer that reflects volume and industry engagement’ and that the ‘dual support system’ of research funding is an essential component of a healthy Welsh higher education system; and a similar system should be put in place for innovation⁷.

7.4. To help create a UK-wide environment that supports the commercialisation of ideas, and tackles unbalanced growth, where additional investment is directed through HEIF we would expect Wales to receive consequential funding to support a Welsh innovation fund.

7.5. Much of the existing innovation activity in Wales is funded through European Structural Funds, which has to date awarded around £240 million to Welsh universities for the period 2014-2020⁸. Clear plans to sustain or replace this investment, devolved to Wales, should be included in the industrial strategy.

7.6. With a view to spreading best practice, the UK Government could explore the successful practices on commercialisation of intellectual property that have been in place in Wales. This includes [AgorIP](#), a Swansea University-led model for the commercialisation of research which is focused on pipeline and deal flow. The £13.5m scheme will work with the NHS and industrial partners to turn innovative research into new products, processes and services.

8. How can we best support the next generation of research leaders and entrepreneurs?

8.1. As outlined above:

- there is a need for the development of a Wales-equivalent of the HEIF.
- The UK’s withdrawal from the EU presents significant risks to research and innovation in Wales, and it will be necessary to put in place a devolved package of structural funds to sustain or replace this investment.

8.2. Universities Wales welcomes the increase in PhD places and recognises that the current system has been effective. We would recommend that the increase in places includes subjects outside of STEM.

8.3. In Wales, effective support for research leaders and entrepreneurs has included:

- **Ser Cymru II**, a strategy to increase research capacity in STEMM and areas of applied social science. Part funded by the European Commission, it supports more than 150 new posts to work with leading researchers in universities in Wales. The programme is designed to attract the highest calibre candidates at all levels from junior research fellows to professorial chairs.
- **Knowledge Economy Skills Scholarships (KESS) Programme**, led by Bangor University on behalf of universities in Wales, supports more than 900 PhD and Research Masters’ projects jointly sponsored by industry. The programme increases the research capacity of SMEs and supports the development of key technologies.

⁷ <http://gov.wales/docs/dcells/publications/160927-he-review-final-report-en.pdf>

⁸ <http://gov.wales/docs/wefo/publications/170405-approved-projects.pdf>

9. How can we best support research and innovation strengths in local areas?

- 9.1. Universities Wales supports the principle of Wales-level provision and that research and innovation strengths in local areas should be supported through the Welsh Government and devolved sector agencies.
- 9.2. City Deals and Growth Deals have an important role to play in this, although it is important to recognise that this approach would not provide coverage of the entirety of Wales.
- 9.3. Currently two city deals are in place in Wales – the Cardiff Capital Region City Deal and the Swansea Bay City Region Deal.
- 9.4. The Cardiff Capital Region City Deal includes:
- Support for innovation and improving the digital networks including the Compound Semiconductor Catapult Centre
 - Support for the region's infrastructure including the delivery of the South East Wales Metro and the Valley Lines Electrification programme
- 9.5. The Swansea Bay City Region Deal includes:
- Support for next generation broadband services and 5G test beds
 - A partnership with Tata Steel to establish an innovation and knowledge centre for steel, including a focus on zero carbon steel making and future sustainability
- 9.6. Similarly, a proposed "Growth Deal" for North Wales would provide another mechanism for supporting research and innovation strength in Wales.
- 9.7. The effective use of the different strands of research investment is another way to support research and innovation strengths in local areas. For example, and as commented on above:
- Maintaining the UK dual-support system
 - Sustaining or replacing European Structural Funds with a devolved package of funds devolved to Wales
 - Ensuring UKRI operates effectively UK-wide and is sensitive to devolved interests
 - Ensuring that the Industrial Strategy Challenge Fund recognises and interfaces with research and innovation activity where Wales is sector-leading
 - Where additional funding does not trigger an 'automatic' Barnett consequential, Universities Wales would welcome equivalent allocations being made to Wales, as was the case following allocations of funding to HEFCE from the Newton Fund and the Global Challenges Research Fund.
- 9.7.2. Universities Wales would recommend that the UK Government engage with the current review of government funded research and innovation in Wales, being led by Professor Graeme Reid.

10. What more can we do to improve basic skills? How can we make a success of the new transition year? Should we change the way that those sitting basic qualifications study, to focus more on basic skills excellence?

11. Do you agree with the different elements of the vision for the new technical education system set out here? Are there further lessons from other countries' systems?

12. How can we make the application process for further education colleges and apprenticeships is clearer and simpler, drawing lessons from the higher education sector?

- 12.1. The above areas are areas of devolved responsibility. Given the number of businesses and organisations which operate across the Wales-England border, increasing policy disparity between Wales and England presents significant challenges. Recent changes to apprenticeship policy - the introduction of the levy coupled with the England-only voucher system – have caused confusion amongst employers operating in Wales. Universities Wales would recommend that, where possible, significant policy changes in skills be carried out in dialogue with devolved administrations, potentially through the joint Ministerial Forums.

12.2. The concept of Institutes of Technology may be more effectively implemented through existing institutions which are delivering technical education in partnership with industry. These would include universities and partnerships between universities and further education colleges. There has been significant progress in Wales in developing universities as collaborative institutions, this leads to more efficient use of facilities and infrastructure, and ensures a focus on delivery not structures.

12.3. A strategic alliance was established between the University of South Wales and four further education colleges to provide higher education in further education across South East Wales. This provides structured progression routes from entry level to FE and HE, and provides access to learning opportunities locally at 23 campuses across South Wales. This alliance has approximately 1,600 full-time and 1,300 part-time students studying higher education in a further education settings

13. What skills shortages do we have or expect to have in particular sectors or local areas, and how can we link the skills needs of industry to skills provision by educational institutions in local areas?

13.1. In Wales, three Regional Skills Partnership Boards (RSPBs) cover the entirety of Wales and are tasked with analysing economic challenges and likely growth areas, and identifying the skills needed in the local workforce. The boards produce plans which provide recommendations to influence the prioritisation and deployment of skills funding. These RSPBs can be a mechanism through which to identify skills shortages in Wales to inform the development of the industrial strategy.

13.2. It is also worth noting that the Welsh Government is currently working with NESTA to establish new tools to inform innovation policy in Wales: the [Arloesiadur](#) project is building a web platform that will automatically access, combine, and analyse different datasets derived from web sources with the aim of providing information on industries with strong growth potential and how connected or fragmented business and knowledge networks are.

14. How can we enable and encourage people to retrain and upskill throughout their working lives, particularly in places where industries are changing or declining? Are there particular sectors where this could be more appropriate?

14.1. Provision which enables the workforce to retrain/upskill is vital for future economic success. The key principles for doing this successfully are:

- Speed. We need to skill and reskill people right now.
- Partnerships. It is essential that collaborative working becomes the norm to ensure smooth transitions between different study modes.
- Scale. In order to achieve the retraining/upskilling ambitions set out in the green paper, digital and online is an essential tool for delivering skills at scale.

14.2. Many universities in Wales already operate in partnership in upskilling/retraining.

14.3. **The Open University in Wales** has been supporting workforce transformation in Welsh public services. As part of this work, the OU in Wales has worked with all NHS Wales Health Boards and Trusts to deliver programmes for nursing-focused clinical Health Care Support Workers and all 22 Welsh local authorities to develop a new role of Social Work Practitioner.

14.4. **UHOVI (Universities Heads of the Valleys Institute)** was focused on HE in FE, work-based learning, community and schools outreach in non-traditional, hard to reach areas and promoting progression to higher level learning. In the final year of the UHOVI funded project there were over 2,000 learners at over 47 venues, with 585 employees from over 100 employers within the Heads of Valleys region in South Wales. With a budget of circa £2.5m a year, clear and demonstrable economic development and social inclusion targets were delivered through a broad range of collaborative partnerships.

15. Are there any further actions we could take to support private investment in infrastructure?

15.1. To increase private investment in infrastructure in areas such as Wales, it would be worth exploring the potential for differential tax arrangements. Such an arrangement would potentially also benefit Wales' historically poor levels of private investment in research and development (BERD) which for 2015 was around 0.65% of Welsh GVA⁹

16. How can local infrastructure needs be incorporated within national UK infrastructure policy most effectively?

16.1. Universities Wales welcomes the focus on infrastructure investment. A number of large infrastructure projects hold particular importance to the economic growth of Wales, and potentially increasing private investment in research and development. Including:

- The proposed Swansea Tidal Lagoon
- Rail electrification
- The South East Wales Metro
- The M4 relief road
- The reduction of tolls at the Severn crossing
- Energy investments including nuclear in North Wales

16.2. There are skills challenges posed by large infrastructure developments, such as the proposed Swansea Tidal Lagoon, and a UK-wide industrial strategy must take into account the ways in which those skill needs can be planned for and met. Given the overlap in areas of devolved and non-devolved responsibility, such skills planning would need to be developed alongside the devolved administrations.

Questions 17 – 21

No response to be put forward by Universities Wales

22. What are the barriers faced by those businesses that have the potential to scale-up and achieve greater growth, and how can we address these barriers? Where are the outstanding examples of business networks for fast growing firms which we could learn from or spread?

22.1. European Structural Funds play a key role in Wales in providing innovation funding. These funds also make-up for the low performance of Wales in private investment in research and development (BERD). The potential loss of these funds when the UK withdraws from the EU presents a potential barrier to business scale-up and growth. Universities Wales recommends that the UK Government sustains or replaces this funding through a devolved package of structural funds.

23. Are there further steps that the Government can take to support innovation through public procurement?

23.1. No response to be put forward by Universities Wales

24. What further steps can be taken to use public procurement to drive the industrial strategy in areas where government is the main client, such as healthcare and defence? Do we have the right institutions and policies in place in these sectors to exploit government's purchasing power to drive economic growth?

24.1. In relation to healthcare, please see individual responses from universities in Wales.

⁹ StatsWales, <http://gov.wales/statistics-and-research/research-development-expenditure/?lang=en>

**25. What can the Government do to improve our support for firms wanting to start exporting?
What can the Government do to improve support for firms in increasing their exports?**

25.1. No response to be put forward by Universities Wales

26. What can we learn from other countries to improve our support for inward investment and how we measure its success? Should we put more emphasis on measuring the impact of Foreign Direct Investment (FDI) on growth?

26.1. The industrial strategy should recognise and support the role played by universities in securing inward investment.

27. What are the most important steps the Government should take to limit energy costs over the long-term

27.1. No response to be put forward by Universities Wales

28. How can we move towards a position in which energy is supplied by competitive markets without the requirement for on-going subsidy?

28.1. No response to be put forward by Universities Wales

29. How can the Government, business and researchers work together to develop the competitive opportunities from innovation in energy and our existing industrial strengths?

30. How can the Government support businesses in realising cost savings through greater resource and energy efficiency?

30.1. We have outlined above a number of projects being led by Welsh universities which could contribute to realising greater resource and energy efficiency, including:

- BEACON Biorefining Centre of Excellence, led by Aberystwyth University in collaboration with partners at Bangor University and Swansea University, supports Wales-based companies to develop renewable energy products and services, assisting in the transition to a low carbon economy and helping mitigate the impact of climate change.
- FLEXIS, a partnership between Welsh Government, Cardiff University, Swansea University, University of South Wales, Tata Steel, Swansea City Region, and Neath Port Talbot County Borough Council. FLEXIS is focused on developing smart energy distribution systems
- SPECIFIC, led by Swansea University, is developing 'Homes as Power Stations' which will fit new and existing buildings with integrated renewable energy technologies

31. How can the Government and industry help sectors come together to identify the opportunities for a 'sector deal' to address – especially where the industries are fragmented or not well defined?

31.1. No response to be put forward by Universities Wales

32. How can the Government ensure that 'sector deals' promote competition and incorporate the interests of new entrants?

32.1. No response to be put forward by Universities Wales

33. How can the Government and industry collaborate to enable growth in new sectors of the future that emerge around new technologies and new business models?

33.1. Universities in Wales have a long history of collaboration with both Government and industry. We would recommend that the UK Government explore tripartite models of Government/University/Industry collaboration to enable growth in new sectors of the future. For example, activity in Wales establishing the world's first Compound Semiconductor Cluster and the agreement between Horizon Nuclear Power and Bangor University to develop graduate skills for the nuclear energy sector and to provide access to R&D facilities and expertise.

34. Do you agree the principles set out above are the right ones? If not what is missing?

34.1. In driving growth across the whole country, high quality research and collaboration are the bedrocks of a growth economy, and can be significant levers in balancing growth across the country.

34.2. Universities Wales welcomes the principle of backing local connectivity with strategic infrastructure investment. From a strategic perspective and in addition to the research and infrastructure requirements already outlined, the following projects hold a particular importance for Wales:

- Swansea Tidal Lagoon
- M4 Relief Road
- South East Wales Metro
- Rail Electrification
- Energy investments including nuclear in North Wales

34.3. Swansea University's £250 million Science and Innovation campus is a good example of how universities can drive economic growth and regeneration in a region.

34.4. There is a need for the industrial strategy to better recognise the devolved structures in place in the UK. For example, the green paper includes comments on raising skills levels nationally, despite this being an area of devolved responsibility, and expanding mechanisms such as HEIF, which does not exist in Wales.

34.5. Universities Wales welcomes the creation of Ministerial Forums on Industrial Strategy, and we hope that the forums provide a meaningful way for the devolved administrations to engage with and steer the UK-wide industrial strategy.

34.6. The role of European Structural Funds in funding research and innovation activity in Wales is outlined earlier in this response. The UK's withdrawal from the EU presents a significant risk to growth in Wales. To ensure that growth is driven across the whole country, it will be necessary for the UK Government to put in place a devolved package of funds to replace the structural funds.

35. What are the most important new approaches to raising skills levels in areas where they are lower? Where could investments in connectivity or innovation do most to help encourage growth across the country?

35.1. A potential approach for further development in raising skills levels in areas where they are lower is greater collaboration between universities and further education colleges. For example, Swansea University and Gower College Swansea's Talent Bank provides further education students with training by higher education educators in a higher education environment.

36. Recognising the need for local initiative and leadership, how should we best work with local areas to create and strengthen key local institutions?

36.1. Universities Wales strongly recommends that the UK Government works closely with devolved administrations and sector agencies in the development of the industrial strategy. Doing so would ensure that the industrial strategy is developed in a way that is cognisant of the structures, needs and context of Wales.

36.2. As outlined above, UK-wide institutions such as UKRI must be sensitive to devolved interests and approaches that help clarify this relationship, for example through memorandums of understanding, would be welcomed.

37. What are the most important institutions which we need to upgrade or support to back growth in particular areas?

37.1. Collaborative networks and centres have a fundamental role in supporting growth in Wales. Universities Wales would welcome commitments in the industrial strategy to supporting the development of these networks in Wales. Examples outlined above include:

- SPECIFIC at Swansea University
- Life Sciences Research Network Wales
- Food Innovation Wales
- BEACON Biorefining Centre of Excellence

38. Are there institutions in certain areas which we could help create or strengthen to support local growth

38.1. No response put forward by Universities Wales

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