

Enterprise and Learning Committee

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Purpose

The purpose of this document is for Bangor University to provide evidence to the National Assembly for Wales Enterprise & Learning Committee's inquiry into the economic contribution of higher education.

Background

Bangor University has a strong research base across a spectrum of academic disciplines engaging in research at national and international levels. The University actively enables and encourages all academics in developing links with commercial and industrial bodies in the UK and overseas. The University also aims to be responsive to local and regional needs, and is particularly conscious of its North Wales location and role as a research resource, partner for business, and a training base for Wales. The University is committed to economic regeneration and wealth creation for the benefit of the people of the region and is an enthusiastic partner in the Môn a Menai initiative.

Bangor University is committed to excellence. This is not only an aspiration but also an imperative. Within the rapidly changing and increasingly competitive higher education environment we, along with many other universities, face many challenges as research funding becomes ever more consolidated and the competition for students, staff and research opportunities intensifies.

Being complacent and resigned to a second-rate future is not an option. Such an institution in our geographical location and without a substantial population base will not survive, let alone thrive, in the new climate. Only a university that is genuinely excellent will be able to attract the staff and students required to assure its future, and to lead the development of a knowledge economy for the region.

Bangor University as an Employer and Consumer of Goods & Services

The information is based on the Universities UK (UUK) standard model for the above, based on data for the financial year 2005-2006.

Key findings of the study year are extracted below:

Bangor University was shown to be a substantial business, with a total revenue of £96.34 million. It provided 1425 full time equivalent jobs (2300 individuals)

Bangor University itself spent £93.13 million. It also attracted non UK students who spent a further £4.61 million off campus.

Overall the University's activities generated over £239.12 million of output in the UK with around £176.50 million of this in the region.

The institution was responsible for generating £14.45 million of export earnings

Bangor University as a driver for the Knowledge Economy

The vision in our third mission plan 2007-2010 is based on our key role in driving the Knowledge Economy (KE) in the region. It builds on our 2 core 'products', research and graduates and there are three cornerstones to the plan:

Feeding the KE - e.g our graduates and Continuing Professional Development.

Growing the KE - through activity such as Knowledge Transfer Partnerships and collaborative industrial/business activity

Regenerating the economy - e.g. through our commercial IP portfolio including licensing, spin-out companies (from staff and students), attracting Global R&D for Inward Investment and capital development programmes

The evidence base for the role of Research-led HEIs in UK can be found in a number of reports and reviews, in particular the following sources: the Work Foundation, NESTA and the recent Lord Sainsbury review. They all point to Science, Technology and Innovation as key drivers of the knowledge economy where the research-led HEI role is vital. The evidence internationally from, for example research at MIT in the US, suggests that a step change in the impact on a region based on University activity occurs when research income hits the £40m mark (critical mass in research). Our current annual research income is £23m.

Success in Accessing Funding

Bangor University has been awarded nearly £27m from Structural Funds to deliver a total of 43 projects; over £25m from Objective 1 to deliver 31 projects; over £2m from INTERREG IIIA to work on 9 projects in partnership with organisations in Ireland; and over £600K from the EQUAL initiative awarded to the GWLAD project.

Projects include:

the innovative PhD programme, 'Developing Research Skills' (DRS), which, in phase 1, has 90 Bangor PhD Students all working with companies, the majority SMEs rising to 120 to date in phase2 (extended to Swansea and Aberystwyth Universities);

the Management Centre, which is providing leadership and executive management training for SMEs in Wales and specialist training globally;

CAST linked to TechniumCAST headline figures to date include 240 new jobs (high tech); 489 jobs sustained; 34 companies incubated, 22 housed at present and full.

the Bangor-led Welsh Institute for Sustainable Environments (WISE) Network, linked to Synnwyr Busnes/Business Sense, providing access to research, facilities and advice to all business in Wales on sustainable environments.

In addition to European Funding, Bangor has been successful in leveraging other sources of funds to support a range of projects including the Environment Centre for Wales, the new £7m centre of excellence for environmental science, which was opened by the Prime Minister Gordon Brown in February 2008; Bilingualism Research centre (£5m), one of only two in the UK; the World Education Centre (based at Bangor), which is one of 26 new recipients sharing a £5.5m Government funding boost; and an award of £50K from the Arts & Humanities Research Council to deliver a nationwide postgraduate training scheme.

Approximately £4m has been invested in projects in Bangor, using funds from the Knowledge Exploitation Fund. Activities include: collaborative research activities with small and large companies across supply chains in Wales and beyond; From the Centres of Excellence for Technology and Industrial Collaboration (CETIC)s, further development had established 2 new Technology Transfer Centres (TTCs) in Advanced Polymers and Low Carbon Materials, a further 2 TTCs bolstered through enhanced capabilities in nanotechnology and photovoltaic capabilities.

Strong involvement in the commercial development of our intellectual property (IP) portfolio has resulted in further collaborative research, and the University is in the process of negotiating some exciting commercial opportunities.

Embedding of Entrepreneurial Education at Bangor University

Bangor has been a strong performer in Knowledge Transfer Partnerships (KTPs) since the 1980s, and is close to celebrating its 100th partnership. The total portfolio value for Bangor currently stands at over £10M in today's prices. Bangor KTPs have included ground-breaking and award-winning projects. The University is particularly proud of its award-winning partnerships: Sain Records and the School of Music (Best Application of Technology & Knowledge, 2000), Lane 4 Management Ltd and the School of Sport, Health & Exercise Sciences (Winning Partnership, 2007) and Vision Support Training Ltd and the School of Computer Science (Winning Partnership, plus Best Partnership in the UK, 2007),

Since August 2000, 22 new businesses were created from technologies and knowledge created by the academic and graduate communities within Bangor University. All 22 businesses were located within the Bangor geographical area, creating both employment and generating revenues to the local community. Of those businesses, 20 are still trading. Outlook Expeditions is the largest company employing in excess of 75 staff with a turnover of approximately £3M per annum.

With an exciting new focus and strategy emerging, a number of new academic-based spinout businesses are currently in the process of being created, which will initially be based within the CAST Technium facility.

Bangor University has also set-up an IP Panel of external expert advisors, which has been in operation for the last twelve months. The panel has been engaged in reviewing the IP portfolio of industry-active Schools.

Over the last 2 years, there have been over 50 participants in the one-to-one business start-up mentoring, through the Graduating to Enterprise Programme (G2E). During this time, a wide-range of businesses have been created, including those trading in: marine science, photography, computer software and information technology, clothes design, environmental science and online tutoring services. One particular trend of note is that many of these businesses are started by graduates returning to the Bangor area.

Bangor's Contribution to the Skills Agenda

For over 10 years Bangor University has pioneered the use of Structural Funds (European Social Fund (ESF)) to support Higher Skills development through PhD provision and taught Masters programmes, developed to meet the needs of key economic sectors in Wales.

The DRS programme has resulted in 120+ business focused PhD projects with companies based in the Objective 1 area of Wales (West Wales and the Valleys). Participating businesses have included micro, SME and large companies, with projects covering a broad range of disciplines from Computer Science to Theology.

External evaluation of the programme has demonstrated the underlying importance of Higher Skills development to both students and company partners. This initiative has been acclaimed in Wales and Europe as one of the most innovative and successful examples of Structural Funds being used to address a region's R&D and Higher Skills needs. Plans are in place to expand the scheme and further develop the transferable skills element to include bespoke business training and networking components.

Working with the Careers Service in Aberystwyth and Bangor Universities, University Innovation Bangor (UIB) and Commercialisation & Consultancy Services (CCS (Aberystwyth)) have developed a robust plan to improve engagement with the Skills for Employability agenda over the next three years. This plan requires us to work closely with the Sector Skills Councils (SSCs) and with each other to drive a 'step-change' in our ability to deliver the recommendations of the Leitch Review by 'raising employer engagement, demand and investment', helping to 'embed a culture of learning', and 'raise awareness and aspiration among adults'.

A niche contribution the University makes here is as the leading provider of bilingual study opportunities which contributes to creating a

bilingual workforce. Examples include the provision for higher level skills in specific professional areas, such as environmental, justice and creative industries sectors.

Collaboration with the FE Sector

Bangor recognizes the importance and value of close collaboration with its FE partners. Building on the Reaching Wider Consortium developed over the last 8 years, a practical example of this relationship is the work Bangor has undertaken through the Welsh Assembly Government -supported KTP Mentoring Project (KEF funded).

This project created mentoring relationships between HEIs and FE Colleges across Wales to grow the capability of FE in the development of successful KTPs. The project was particularly productive in North Wales, where Bangor University established mentoring relationships with Coleg Menai, Coleg Llandrillo Cymru and Deeside College. Each of the Colleges has set-up KTP projects with companies and the project itself has left an ongoing legacy of the Institutions working together on KTP and sharing business leads of mutual interest.

Collaboration between HEIs

Aberystwyth and Bangor Universities intend to continue to build on the firm foundation of the Aberystwyth-Bangor Research and Enterprise Partnership (supported by HEFCW and the Welsh Assembly Government), which was launched in the autumn of 2006.

The vision of the Research & Enterprise Partnership is to develop internationally competitive research expertise through collaboration in four research centres and the establishment of a collaborative Research and Enterprise Support Unit, impacting on the economy of Wales.

Examples of impacts to date include increased income from UK Research Councils; research and consultancy contracts; a Memorandum of Understanding with the United Nations International Development Organisation recognizing the Centre for Catchment & Coastal Research as a research centre, and a series of high-profile events with research institutes and companies in Singapore which enabled the Centre for Advanced Functional Materials & Devices to showcase its activities, raise the profile of Welsh science, and develop collaborations.

Further research collaboration between Aberystwyth's planned new Institute of Biological and Rural Sciences (to be formed as a result of the merger of IGER Wales into Aberystwyth) and the College of Natural Sciences at Bangor, creating the largest such grouping in the UK and positioning Aberystwyth and Bangor as international leaders in Biological and Environmental Sciences.

The other major collaboration led by Bangor within Wales is the Welsh Institute of Cognitive Neuroscience, involving Bangor, Cardiff and Swansea.

Widening Participation & Bangor's Cultural Contributions to the Region

The University plays a significant role in the society and economy of North Wales, and recognises the importance of combating social exclusion in the area through our outreach initiatives into the communities of North Wales, especially in Community First areas. We shall continue to support the efforts of the Reaching Wider team in North Wales through research on the causes of economic and social exclusion, and by informing policy.

The University contributes to improving access to and participation in education in the region through a number of pathways drawing upon the Community University of North Wales to provide the infrastructure. Example activity includes the Talent Opportunity Programme (TOP) which in 2006/7 involved 10 schools across North Wales and involved 1500 year 9-11 pupils; that of the School of Lifelong Learning which offers flexible, part-time degrees that are delivered during evenings and weekends, and are designed to meet the needs of those who cannot attend the University full-time; works in partnership with other agencies in the community (both voluntary and statutory) to deliver modules in venues across North Wales.

Economic Regeneration

The University's Estates Strategy (October 2006) is a key contributor to the transformational change in Bangor University and beyond. Bangor University will create new and reconfigured buildings which will enhance the physical space and provide a focus for regional, European and international engagement. Working, living and learning spaces will service the University and wider communities, will help to deliver the academic vision and provide a crucial focus for North West Wales.

The creation of an Arts and Innovation Centre in North West Wales will replace Theatr Gwynedd and the Students' Union building in Bangor. The Centre will provide facilities capable of engaging local and regional audiences and participants through a wide range of artistic, educational and community-focussed activities, as well as fostering economic regeneration through an innovative business centre - "where Art meets Science". This initiative will reflect the strong cultural identity of the North West Wales area. Although within the Menai Hub, the development has the potential to have considerable impact in other parts of the North and Central Wales areas. The Centre will enhance development opportunities as a quality destination, providing increased opportunities for other sectors in the region such as tourism, leisure and creative arts.

The creation of an Health and Technology Campus at Bangor City of Learning will include a Science and Technology Centre, based on open innovation. The campus will conduct cutting-edge scientific research, working with businesses to exploit this research commercially, and providing a strong supply of highly-skilled people for the development of the economy. The provision will house R&D, Technology and Knowledge Transfer activities to help improve links between business and academia, these facilities will provide a wider range of

academic opportunities for young people. One of the beneficial side-effects of a critical mass of scientists is the greater probability of healthy levels of spin-offs and spin-outs of science-based innovation and enterprise in science-based high-tech companies; linking in to the Techniums in the region; supporting inward investment and creating a next generation Science Park.

Summary/Recommendations

In summary, Bangor University will strive to be one of the key drivers of the Knowledge Economy in Wales and continue to strengthen and develop its economic contribution to the North West Wales sub-region, Wales and beyond. The roles (along with the research and teaching & learning) are as a major employer, deliverer of business and enterprise training, partner for organizations wishing to participate in open innovation, and the commercialisation of cutting-edge research in a wide range of disciplines.