

SCOTTISH FUNDING COUNCIL
A Review of Coherent Provision and Sustainability in FE and HE: Call for Evidence
Response from Heriot-Watt University

1. COVERING STATEMENT

Heriot-Watt University welcomes the SFC review of coherent provision and sustainability of FE and HE and the Universities Scotland response on behalf of the HE Sector. The review comes at a time of profound change and challenge across society, governments and institutions, as well as the economy. The combined issues identified in the SFC's briefing document are unprecedented and Universities and Colleges are called on to play a major role in recovery and to collaborate across sectors to envision and create sustainable futures. There has never been a more important time for partnership and collaboration.

Heriot-Watt University's mission is to create and exchange knowledge that benefits society. Our strategic plan and priorities are underpinned by a values-led approach set out in **Strategy 2025**, placing our students and staff at the heart of everything we do. Our strategy builds out from our heritage as the world's first Mechanics Institute, ***created to provide inclusive access to the knowledge and skills necessary for emerging industries in a growing economy***. This heritage carries forward into today's modern international university with a leading position in transnational education and strong international footprint.

With a distinctly international profile, commitment to widening participation globally and to excellence in research and enterprise, we aim to create a unique environment where people can flourish through lifelong learning, develop their careers, advance the most promising ideas and deliver outstanding impact for society. The University is also well placed to help boost productivity by educating the future international workforce, nurture specialist talent, advance R&D in emerging areas of technology, build global collaborative partnerships, commercialise technology and develop new trade and investment opportunities.

CONSULTATION RESPONSES

2. (Question a) What do you think works well in the current further and higher education arrangements that we should keep in order to secure Scotland's inclusive social and economic recovery from the current pandemic? How can we best preserve and strengthen those features of education, research and innovation in Scotland that we most prize, in a very challenging funding environment?

The following sections provide examples from the sector and Heriot-Watt University which illustrate what works well and should be kept in order to secure inclusive and sustainable futures, and how we can preserve our areas of key strength and the values that underpin and sustain us.

2.1 Research, Innovation and Commercialisation

Scotland has a research ecosystem that supports the full range of research activity from fundamental discovery to its application to social, economic and environmental challenges. Scottish Universities capture more research funding per capita than the rest of the UK, bringing valuable investment which we can leverage and build on to solve the challenges facing our society. Much of this research is carried out in collaboration with other Universities and in partnership with industry. A good example from Heriot-Watt University is the ORCA hub:

Case Study: ORCA Hub

The ORCA Hub is a multimillion-pound programme led by Heriot-Watt University aimed at addressing the offshore energy industry's vision for a completely autonomous offshore energy field. Launched in October 2017, ORCA Hub is part of the government's Industry Strategic Challenge Fund (ISCF). Led by the Edinburgh Centre for Robotics (Heriot-Watt University and the University of Edinburgh), in collaboration with Imperial College London and the Universities of Oxford and Liverpool, ORCA Hub brings together internationally leading experts with industry partners to create a multi-disciplinary consortium with unique expertise. The £32M project has over 30 industry partners who co-fund the programme.

COVID-19 has demonstrated the vital importance of science and innovation, with Scottish researchers at the forefront of the global efforts to respond. The challenges of pandemic, impacting across all aspects of society also calls for interdisciplinary solutions; as we move forward, we will need to be even more creative and innovative, working collaboratively on the major global challenges. Some examples of Heriot-Watt's research at this time are:

Researchers launch race to develop sustainable COVID-19 vaccine delivery

Heriot-Watt scientists, led by Professor Phil Greening from the Centre for Sustainable Road Freight and Toby Peters, Senior Research Fellow and Professor of Cold Economy at the University of Birmingham, are launching a major new research project in India that will help to engineer an efficient and sustainable delivery mechanism to get an eventual COVID-19 vaccine to billions of people around the globe. Researchers racing to develop, test and manufacture an effective coronavirus vaccine, will need to distribute the drug globally, but universal vaccine access is already a major challenge, particularly in low-income countries across the global south and partly due to the lack of robust cold-chains.
<https://www.hw.ac.uk/news/articles/2020/coldvirus.htm>

Engineers lend expertise in COVID-19 fight - 17 Apr

A group of biomedical engineers are working together to manufacture vital supplies for frontline NHS staff as the enormous impact of the covid-19 pandemic continues to be felt around the world. Production of protective face shields began at the Edinburgh campus with the aid of 3D printers and highly-specialist industrial laser cutting machines, led by academic and technical staff that include Dr Steven Hammer, Nathan Oo, Dr Theo Lim and Dr Michael Crichton. The team has already received a number of requests from hospitals, care homes and GP surgeries for Personal Protective Equipment (PPE) and are working with health authorities to reach those most in urgent need. The team can even use the technology to manufacture components for ventilators if required.
<https://www.hw.ac.uk/news/articles/2020/engineers-lend-expertise-in-covid-19-fight.htm>

2.2 Commercialisation of Research

As a nation, we are strong at commercialising our research and driving impact from this investment. Scotland has a disproportionately high number of spinout companies, largely driven by the innovative companies born out of leading universities. 14% of all UK spinout companies reside in Scotland.

Given over a quarter of students in the UK currently run or plan to run a business whilst they are at university, there is great potential to build on Scotland's commercialisation ecosystem to create growth from new business creation.

Heriot-Watt University is home to Converge, Scotland's largest entrepreneurial training programme for staff and students at Scottish Universities and Research Institutes. The programme is supported by the Scottish Funding Council and is an excellent example of collaboration between Universities, originally a Heriot-Watt initiative, it now supports all Scottish Universities.

- Each £1 invested by universities in Converge from 2011 to 2019 generated £8.51 GVA for the Scottish economy in 2019
- Each £1 invested by universities in Converge leveraged £31.64 in external funding

2.3 Universities as drivers in the economy

Universities are anchor institutions bringing the technological innovation, highly skilled workforce and international outlook vital for our economy to thrive. When considering which higher education arrangements we should keep in order to secure Scotland's inclusive social and economic recovery we need to consider the synergies between these activities and the powerful innovation ecosystem created as a result. Our vibrant ecosystem also creates high-quality employment - Scotland's universities support over 72,900 jobs and add £4.6 billion to the **Scottish** economy¹.

2.4 Creating a Highly Skilled Workforce

Our Universities develop adaptable, resilient graduates, ready for the future world of work, with a wide range of attributes and the self-confidence needed to succeed in diverse careers throughout their lifetime. Our Universities work with business and shape and develop their portfolio to support economic growth, continually launching new programmes in response to the changing jobs market. Through postgraduate studies our Universities create the leaders of the future and retrain our workforce through flexible learning. At Heriot-Watt we have recently helped hundreds of Scottish employees upskill with the necessary management and leadership skills needed to respond to the pandemic through micro credentials and online learning). In response to projected **future jobs growth** in creative, digital, design and engineering disciplines complemented by digital technology, architectural and green occupations, we have reshaped our portfolio – launching a new suite of programme areas in 2020 and 2021, including MSc Digital Leadership, MSc Digital Marketing, MA Digital Design Innovation and Business Analytics and Consulting.

2.5 The sector's globally recognised enhancement-led approach to quality

Scotland is renowned for the quality of its HE sector with outstanding performance in research and access to a wide range of education opportunities that reflect the nation's commitment to an inclusive and fair society. The Scottish sector is globally recognised for its enhancement-led approach to quality, the success of which is underpinned by cross-sectoral collaboration. The Enhancement Themes and 'Focus On' projects typify this collaborative ethos, whereby HEIs collectively work on topical themes and key areas for action in order to develop strategies and practical resources which can be used by all HEIs.

2.6 Student partnership and building Resilient Learning Communities

Student Partnership is inherent in enhancement activities and is central to Heriot-Watt University's approach, ensuring that initiatives are fully informed by the student view. For example, the new Enhancement Theme – Resilient Learning Communities² – was selected as a direct consequence of COVID-

¹ <https://scottishfinancialnews.com/article/scottish-universities-generate-4-6bn-to-the-economy>

² <https://www.enhancementthemes.ac.uk/resilient-learning-communities>

19, and reflects the sector's concern to continue to work together to enhance the student learning experience in a significantly changed external environment.

2.7 Commitment to Widening Access – ‘One Heriot-Watt’ Approach Supporting all Student Success

The sector shares the Scottish Government's strong commitment to widening access to education opportunities and progression for all. Examples of initiatives in widening participation at Heriot-Watt include our global strategy to support all student success. Our strategy encompasses inclusivity and participation in the widest possible sense, not constrained by governmental definitions. This allows the University to implement and deliver the strategy according to our ethos of “One Heriot-Watt” and focus on the success of all of our students, whatever pathway they choose to follow. Initiatives include the introduction of our **Maths Gym**³ which offers support to all students in all subject areas. Recent work has included close collaboration with our **Scholar programme**⁴ to provide additional support packages for new and existing students.

2.8 Strength in Digital Learning Pedagogy

Heriot-Watt, like a number of other Scottish Universities, is a global leader in online and digital learning. This has enabled the sector to respond rapidly to the pandemic through offering an increasingly mature blend of digital and face-to-face learning building on Scotland's distinctive student-centred approach to enhancement of learning and teaching. Scholar is a prime example of the benefit of academic collaboration across sectors in Scotland:

The Scholar programme was launched by Heriot-Watt University in 2001 as an academic collaboration designed to increase access and social inclusion in further and higher education while offering support to pupils and teachers. It has been hugely successful and is a great example of collaboration between Schools, Colleges and the University at the intersection of levels of qualifications. Scholar now includes 37 online courses for Scottish Schools and Colleges, bringing together the expertise of teachers and lecturers in Schools and Colleges.

2.9 Links between HE and FE

Our links with the FE sector are strong and include links with local colleges for the provision of the **Associate Degree programmes**. Additional articulation programmes to support the learner journey, and linkages into the **Regional Learner Passport**, are being developed.

2.10 **Graduate Apprenticeships** offer huge benefits to businesses and provide an alternative route through Higher Education for those for whom a degree has previously been out of reach due to family history or other circumstance, previous poor experience of education or current personal circumstance which requires them to (remain in) employment.

2.11 International Connectivity

Our excellent higher education is a one of Scotland's top brand propositions, strengthening our global reputation (Brand Scotland). The UK International Education Strategy⁵ notably identified higher education as a key sector to drive export led growth.

The following section focuses on how we would strengthen and preserve these features of education, research and innovation in Scotland that we most prize, we propose the following:

2.12 RESEARCH AND INNOVATION

To pivot to a highly skilled, sustainable and inclusive economy will be dependent on a strong innovation ecosystem. Our **research and innovation powerhouse** can be preserved and strengthened to unleash a new wave of innovation to create long-lasting economic and societal benefits for our country by:

³ <https://mathsgym.hw.ac.uk/>

⁴ <https://scholar.hw.ac.uk/>

⁵ <https://www.gov.uk/government/publications/international-education-strategy-global-potential-global-growth/international-education-strategy-global-potential-global-growth>

- **Leverage funding for research** using Scottish Government investments in research to enable Scottish institutions to attract and leverage significant additional UK-level and international resources into Scotland.
- **Target research investment to promote economic, social and cultural recovery**. For instance, investment in mission-driven research on key social, economic, cultural and environmental challenges such as a green recovery or inclusivity.
- **Strengthen place based initiatives** to enhance the role of universities as anchor institutions through more place-based growth initiatives such as Enterprise Zones and the *Strength in Places* Fund.
- **Enhancing our strong commercialisation pipeline** building the capacity to take new ideas from research laboratories and convert them into commercial success (UIF, High Growth Spin out investment).
- **Develop a joint Universities and Colleges National Institute for Enterprise** (a successor to the current SIE), to create the entrepreneurial minds of the future needed to grow the economy.
- **Creating financial frameworks that can fund the risk and uncertainty that surround new technologies** to create the growth sectors of the future

2.13 LEARNING TEACHING AND SKILLS

We can support future jobs and creating a skilled workforce through strengthening our learning and teaching foundation, for example:

- **Widening Access and Supporting Success with Investment to promote equality of access and opportunity.** COVID-19 disproportionately impacts the more disadvantaged in society. In the current climate and the future we now face it will be even more imperative than before to create, in partnership with our students and staff, an inclusive student experience and culture that inspires learning and fosters belonging and engagement in ways that encompass the diverse needs and backgrounds of our students. We will need to build on our current practice to continue to provide effective and timely support so that all students can make a successful transition to higher education and can continue to develop the skills and attributes which will provide them with a personal framework for life-long learning and future employability. This will be especially important now given the apprehension and anxiety that some new and continuing students will experience in getting back to their studies.
- **Shared responsibility at institution and sector levels.** This will involve work across the University, and the sector, to provide responsive and well-coordinated support for students who face personal crises and hardship during their studies. We continue to work to understand specific needs of our students and to respond to those needs by developing tailored academic and personal support which facilitates each student to realise their potential. This is evident in the work going on within our **Maths Gym** provision. There are clear opportunities to make this provision additionally accessible through our Responsive Blended Learning approach which could provide greater inclusivity for those students who found it difficult to attend fully on campus, for example, those with caring responsibilities. This will allow students to pace their learning to better align with the circumstances they are experiencing providing a more flexible way of learning. Through the continuing work of the **Widening Participation Manager National Forum** we are investigating how to work collaboratively across the sector to provide a set of online provision targeting both students and staff.
- **Working in Partnership with FE.** Discussions continue with our FE partners as to how we may strengthen these relationships and support transition post-Covid. We continue to work closely with our partner groups to identify issues and barriers that may affect applicants from particular groups, including **the Hub for Success and Care-Experienced, Estranged & Carers East Forum** (CEECEF) around care experienced, estranged and young and adult carers and **SWAP East** for college and mature students. In particular we have provided practical support to LEAPS as they have moved their events and information, advice and guidance (IAG) online.
- **Incentivising participation in higher levels of education** – scholarships for postgraduate study in areas that will transform the economy and produce a fairer society (as we enter the 4th Industrial Revolution

data suggest⁶ a much lower potential job loss impact from automation rates for highly educated workers with graduate degrees or above, than for those with low to medium education levels.)

- **Provide stability for apprenticeship funding** and providers, enabling businesses to workforce plan over a longer period through recurrent funding. A clear articulation from **Modern Apprenticeship** frameworks to HEIs' **Graduate Apprenticeships** programmes would support “no time lost” transition.
- **Create future ready graduates through partnership with business**, expanding schemes such as Heriot-Watt's Future Made For Success.

Case Study: Future Made for Success

Future Made for Success is a new Heriot-Watt Postgraduate taught offer that integrates relevant industry input directly into the taught programmes in areas of future skills challenges through mentoring, careers advice and industry challenges to enable students to develop relationships with potential employers. For employers this provides access to talented individuals and enhanced engagement with the university.

- **Encourage development of stackable, micro-credentialed short courses to support lifelong learning** through a cost-shared (government, employer, individual) lifelong learning account that is tax efficient for both employers and employees. Grow SFC Upskilling Programme to create more flexible learning pathways for those in employment – create flexibility and agility with the learning system to respond and adapt to business needs, transitioning between type and duration of skills.

Case Study: Upskilling Scotland

With support from the Scottish Funding Council, Heriot-Watt delivered a new Skills Scotland Scholarship programme aimed at working professionals living in Scotland. During the pandemic, courses were specifically developed to help businesses improve their productivity through the upskilling and re-skilling of key employees. Employees studied online and were provided with full access to our state-of-the-art online learning platform. The scholarship offered masters-level courses from our MBA programme, across a range of key disciplines. Over 240 Scottish learners have signed up in the past four months, from over 100 different businesses in Scotland, ranging from small SME's to multi-nationals.

- **Support the development of digital/online-education assets** to build a more resilient, flexible and connected sector.

Given the scale of the economic disruption caused to the economy and the jobs market by Covid-19, it is crucial that the Scottish Government and its agencies provide opportunities for education leavers, and those seeking to re-skill, irrespective of their age. Heriot-Watt University Student Union believes that grant-support for education leavers will help them can develop their skills when trying to find work.

2.14 STUDENT ASSOCIATIONS

Students' associations are central to supporting and advocating for students - especially now as we navigate the impacts of COVID-19. It is crucial that the Scottish Government continue to recognise the key role Students' Associations play in delivering a strong student experience and student voice at institutions across Scotland and ensure that they are properly resourced. Heriot-Watt University Student Union strongly believes institutions have a duty to involve students' associations in any conversations on financial sustainability and to continue to recognise the crucial role that they have in supporting students through the Covid-19 outbreak.

Heriot-Watt University Student Union believes that it is fundamental that the Scottish and UK governments provide the funds necessary to protect jobs, the wide variety of courses on offer at our institutions, and first-class student services.

⁶ <https://www.pwc.co.uk/economic-services/assets/international-impact-of-automation-feb-2018.pdf>

3. **(Question b) What do you think colleges, universities and specialist institutions should stop doing, or do differently, in order to contribute effectively to an inclusive social and economic recovery? (You may wish to comment on teaching and skills development, sectoral and employer needs and employability, research, innovation and knowledge exchange, widening access and equalities issues.)**

Building on some of the examples and priorities outlined above, the following section sets out areas where the sector could capitalise on opportunities brought out by the pandemic crisis, as well as areas where Heriot-Watt University has prioritised its approach under its Strategy 2025 and in the face of serious financial challenges:

- 3.1 **At Heriot-Watt, we are working towards a more flexible academic architecture**, permitting microcredentials of 5 credits (50 effort hours) which are SCQF credit-rated and stackable. These could be slotted into 4 or 5 year UG programmes, with a particular skills focus, but also provided as separate CPD units, enabling learners to build up towards a certificated qualification. A more flexible academic architecture would also provide pathways and delayed specialisation, with clear social and economic routes. Post-COVID, choice is going to be governed even more by concerns about employment, but also social impact.
- 3.2 **Scottish HEIs could collaborate to market their flexible offerings as a collective**, building on work at sectoral level to brand Scotland. In a post-COVID environment, individuals will need to be able to find information easily on flexible offerings which match their requirements.
- 3.3 **The Pathways from college to university** is something we want to see supported. Heriot-Watt University has been in discussion with Forth Valley College in particular about how we might facilitate progression from Foundation and Modern Apprenticeships, particularly in STEM areas.
- 3.4 **We continue to work with Career Ready**, an external body focussing on the needs of high school students to develop employability skills and provide information on next steps after high school. The mentoring programme continues to grow with staff from across the university encouraged to join the mentoring scheme and support a young person to develop their skills.
- 3.5 **How we approach Widening Access in light of COVID 19 impacts**
- It will be important to not only focus on students from MD20 backgrounds but on a wider set of criteria. This includes, for example, low income indicators such as eligibility for free school means and education maintenance allowance, and at-risk groups such as care experienced students and young carers. These numbers are likely to increase dramatically as the impact of an economic downturn and the long term health impact of the virus become known. This, in turn, will increase the levels of work required to support these students in the future.
 - Issues surrounding **digital poverty** existed pre-lockdown but have come to the fore due to the need to move to online delivery. This is a matter that will have to be taken into account right across the sector. Support from the government around Covid-19, in particular for hardship funds for Scottish students, has improved the situation for a number of our widening participation students who will be disproportionately affected by lockdown. Funding measures for students outwith this geographical group will also need to be considered.
 - Future collaborative work across the sector can be improved and facilitated by the provision of a central online resource, or repository, for information provided by the government to avoid bias. This could sit alongside the **Framework for Fair Access** and would provide a central, promotable, unbiased location for collaborative sector work.
 - Heriot-Watt has undertaken Equality and Privacy Impact Assessment (EPIA) across the range of tools implemented to support the change in working practice resulting from the pandemic covering remote working, furlough processes, essential staff (on campus) and returning to campus. EPIA is also embedded into processes that will come into practice in supporting the longevity and sustainability of the University.

3.6 **Focus our research strengths on inclusive economic growth and a green recovery**

Our research specialisms will support the creation of new high growth, knowledge driven economic sectors – creating the products and solutions of the future. These span areas such as earth and marine sciences, health technologies, robotics and automation, infrastructure, energy transition and decarbonisation (through the Industrial Decarbonisation Research and Innovation Centre, with Heriot-Watt playing a leading role in the UK green recovery package, Race to Zero Emissions). Maximising the potential of our research is at the core of our recovery prospectus. In the first instance we will look to leverage over £100M of external funding to:

- (1) build a global net-zero network in Scotland (putting our Nation at the forefront of the green recovery);
- (2) create a national Robotarium to ensure we global are leaders in robotics and artificial intelligence; and
- (3) grow medical technology supply chains through our new Medical Manufacturing Centre.

3.7 **Modernise our portfolio in line with the demands of learners and business and redesign our academic architecture to provide the flexibility of time, place and space for learners**

The economic fallout from Covid-19 will require both the acceleration of skills of the future, and the reskilling/retraining of our existing workforce to drive an education led recovery. The greatest impact will be felt by the young, particularly those that are entering or less established in the job market. Helping people get back into employment will require greater support for widespread education and reskilling, particularly relating to growth areas that support a sustainable future.

3.8 Heriot-Watt has all the key components drive value through lifelong learning. Through our **Scholar** programme, we support over 150,000 students in school, college and at home, helping them prepare for courses aligned to the SQA curriculum. Our **Graduate Apprenticeship** programme is a leader in work-based learning. Our **undergraduate, postgraduate and MBA** programmes provide many ways to engage with industry and society at large. Online and responsive blended learning approaches supported through a re-designed academic architecture will enable us to reach learners at all ages. We will build on this and develop a unique flexible learning system to support lifelong learning.

3.9 We want the **jobs guarantee scheme** proposed in the **Advisory Group on Economic Recovery Report** to include access to higher education up to postgraduate level. The scarring effect that Higgins worries about for this generation of young people may be felt by graduates among others as they emerge into a depressed jobs market. So a guarantee should among other things support people who are graduating during the post-COVID recession e.g. by supporting them to undertake postgraduate study that will set them up for success as the jobs market recovers. There is a widening access element to this, as people who enter higher education with less social capital are likely to be hit hardest by the recession when they graduate – our work as a society to widen access to HE will lose its power if we're not also able to support people into success when they graduate.

4. (Question c) How can colleges, universities and specialist institutions best support Scotland's international connectedness and competitiveness in the post-pandemic, post-EU membership environment?

- 4.1 **Top brand proposition:** The University sector is one of Scotland's top brand propositions, strengthening our global reputation. The UK International Education Strategy⁷ notably identified higher education as a key sector to drive export led growth.
- 4.2 **Heriot-Watt University has a leading position in transnational education,** providing access to high quality Scottish higher education locally as well as globally. Transnational education recognises that not all students are able, or wish to leave their home locations, but do want to access globally high quality higher education. The value of this is amplified by the COVID19 context where movement is restricted. Heriot-Watt University, with its campuses in Dubai and Malaysia and extensive partner network, would bring particular emphasis to the call for recognition and support of universities as a key export industry. Heriot-Watt does not have 'satellite' or 'branch' campuses, but rather a single and unified Scottish university proposition across continents. The University would welcome the support of Scottish Government and industry involvement to leverage the reach of the University to shared benefit. This is highly aligned to redoubling of Trading Nations set up by the Government in its response to the Higgins report.

Opportunity: Global Foundation College

In response to COVID-19, the University undertook a rapid development of its Foundation programme in Malaysia to ensure that the intake in April 2020 was not lost and that the students would have the means to fulfil their learning plans. This has proved highly successful and the July 2020 intake to the online Foundation Programme has surpassed its targets. The rapid development of an online Pre-Sessional English Programme has been similarly successful with increased numbers of students joining the programme compared to previous years in a face to face mode. The development of a Global Foundation College using the University's campus footprint in Asia is an opportunity for Scotland and Scottish HEI's as a pathway provider, increasing access at a time when movement for international students is likely to be constrained.

- 4.3 **Our research excellence offers a beacon for inward investment,** attracting global investment through our collective concentrations of talent, innovation and facilities. Creating more innovation or enterprise zones, with co-location and growth space for international businesses, within University campus locations could support Scotland's international connectedness and competitiveness in the post-pandemic, post EU environment.
- 4.4 **Furthermore, our global footprint could be utilised more to help business export into new markets.** Heriot-Watt University has campuses in Dubai and Malaysia, offering routes into MENA and ASEAN markets. Our new GRID facilities in all of our locations will enable new forms of partnership through digital connectivity. Building on these existing (University) investments (circa £60M) could further support international connectivity.

⁷ <https://www.gov.uk/government/publications/international-education-strategy-global-potential-global-growth/international-education-strategy-global-potential-global-growth>

Case Study I: Global Research Excellence

The Heriot-Watt University Centre of Excellence in Smart Construction (CESC) in Dubai, is the University's first such centre outside of Edinburgh. The Centre has key research areas in sustainability, robotics and construction management and was launched in September 2019 and is engaging with global industrial partners, many with a footprint in Scotland, to overcome some of the global challenges related to the construction sector and create new global business opportunities. CESC is a multidisciplinary Centre with themes including blockchain, 3D printing, automation, logistics and data analytics. It will promote greater research engagement of staff at the Dubai Campus as well as collaboration between multidisciplinary HWU research teams across Heriot-Watt, and those in industry and the UAE government.

4.5 **Our entrepreneurial ecosystem** could be further enhanced to support the development of businesses from international students – this would not only result in local business growth but also enhance National connectivity and future supply chains/exports. Supporting international placements in Scottish Companies (such as the Heriot-Watt International Business Management Masters with Placement) could catalyse an international outlook within SMEs and reduce future barriers to exports.

Through building on our research collaborations we can create region to region partnerships that will enhance trade, one example of this is the current discussions with Ontario Principals regarding connectivity to Canada.

5. (Question d) What opportunities and threats does the post-pandemic environment hold for colleges, universities and specialist institutions? For institutional leaders, how are you planning to address these challenges and opportunities?

The recent challenges and impacts of the pandemic on funding, on society and the economy have called for a review of the University's strategy and reflection on priorities for the future. The review has re-affirmed that Strategy 2025 provides a resilient framework in the context of the uncertainties we face, but we have focused down on key priorities which will ensure delivery and improved efficiencies in order to meet our mission as a University in all our locations. Clear strategy, vision and leadership is critical at a time of such uncertainty and challenge. These priorities for 2020/21 will feature in our response to the consultation, in particular:

1. Learning and Teaching

- Deliver 'Responsive Blended Learning' for semester 1 2020/21 and build on success of online initiatives such as the rapid development of Foundation online at our Malaysia Campus, embedding positive education;
- Creation of a more flexible academic architecture, permitting microcredentials and much greater variety and flexibility around building qualifications;
- Further development of the Heriot-Watt International Foundation College as a pioneering global widening access initiative, with partnerships in Scotland for sustainable recruitment channels;
- Stimulate initiatives such as 'Future Made for Success' - a new Heriot-Watt Postgraduate taught offer that integrates relevant industry input directly into the taught programmes.

2. Excellence in Research and Enterprise

- Creation of a framework for transdisciplinary collaboration and a focus on excellence in Research; area such as net zero, medical technologies and robotic/artificial intelligence;
- Launch of our recovery prospectus, engaging with stakeholders, building strategic partnerships to support the recovery and help build sustainable inclusive growth in all the places we operate.

3. Sustainable futures

- Drive efficiency and savings to shape the University for a sustainable financial future;
- Showcase the transformative potential of our research activities in Environmental Sustainability and developing a new Climate Action Plan. (The Plan will set targets toward the achievement of net zero emissions and set these in the context of the University's broader role in tackling climate change, through its research, teaching and policy interventions).
- Seek collaborations with a wide range of partners to strengthen global delivery and sustainability.

6. (Question e) What forms of collaboration within the tertiary education eco-system would best enable a coherent and effective response to these challenges and opportunities?

Universities start from a strong tradition of collaboration, which is at the heart of the research effort, which has been an increasing feature of the innovation landscape, and which is hard-wired into learning & teaching through the enhancement themes. We are bound closely into a collaborative ecosystem that crosses national boundaries and promotes Scotland's openness. More recently Heriot-Watt and other Edinburgh Principals have been meeting regularly to discuss local collaboration opportunities that will enhance the outcomes for our staff and students, build resilience in our organisations and lead to new opportunities.

- 6.1 The Scottish HE sector could define its approach collectively as “blended learning”:** HEIs are all developing the same approach relatively independently; there could be groups of HEIs leading particular developments for the benefit of the entire sector – an approach successfully employed in the Enhancement Themes, through collaborative clusters, with outputs taken up by the wider sector. This collaborative approach would increase efficiency and drive benefits in the sector at a time when resources will be constrained.
- 6.2 A sectoral approach on blended learning would provide the flexibility of time, place and space for learners.** In terms of efficiency, learning units can be more easily repurposed, minimising the pre-COVID categorisation of “on campus” and “everything else”, whereby “on campus” had been seen as the gold standard. From an international perspective, attitudes to online learning have been seen to shift with COVID stimulating a rapid re-think of the value and recognition of online learning as part of overall HE provision.
- 6.3** At Heriot-Watt our work developing a ‘**Responsive Blended Learning**’ for September 2020 onwards further supports accessibility, for example by the introduction of more flexible learning and flexible lab provision in areas that are traditionally very lab focussed. Much work has been done on how to provide a good student experience, and support our students, in areas where this practical aspect may be adversely affected by the current situation.
- 6.4 The Enhancement Themes and ‘Focus On’ Projects provide an effective model of collaboration:** not only in terms of focusing on a key current challenge and addressing this collectively, but also in terms of adopting collaborative clusters whereby groups of HEIs get together to work on particular issues for the benefit of the wider sector. The new theme of **Resilient Learning Communities** will be critical in helping the sector to respond effectively to creating and maintaining learning communities across diverse modes and locations of study. HWU has an advantage of having operated effectively for a considerable time period in a multi-location, multi-mode environment - the introduction of Responsive Blending Learning opens up the capacity for learning to be less constrained by time and place.
- 6.5 Collaboration on mission-driven research** should be between the diverse institutions who have the most relevant contributions to make to any particular theme or project, and these collaborations are as likely to be cross-border and international as intra-Scottish.
- 6.6 Collaborations for internationalisation** will be between institutions with shared interests and relationships in different markets, or complementary expertise to offer to export/foreign direct investment opportunities. Again, partners will be UK and international as well as Scottish.
- 6.7 There can be a more intra-Scottish and regional element to collaboration to provide learning opportunities that meet peoples’ needs,** for instance to ensure that a particular subject is available to learners within a region, to put together a complementary set of proposals for college and university interventions to meet the needs of people who have lost employment in the region, or to further co-develop pathways from colleges to universities.

7. **(Question f) How can SFC, alongside government and other enterprise, skills and education-focused agencies, best support colleges, universities and specialist institutions to make their full contribution to Scotland's inclusive, green and education-led recovery? In particular, you may wish to draw out:**
- **How scarce public resources should be prioritised to drive recovery**
 - **Particular areas of collaboration between agencies that would best support the sectors' contributions**
 - **Adaptations to SFC's funding and accountability frameworks to promote agile and collaborative action by the sectors to build Scotland's recovery**
 - **How SFC's funding and accountability frameworks should ensure that equality and wide access to educational opportunity are promoted as key elements of the recovery for younger people and adults**
 - **What support SFC and government could give institutions to adapt to a changed environment**
- 7.1 **Investment to ensure sustainability of the sector**
 Covid-19 has highlighted key issues for the sustainability of the Higher Education Sector. SFC, Scottish Government and other agencies can best support the sector, and ensure it is able to drive the future recovery, through investment to secure the resilience of the sector.
- 7.2 **The current emergency has shown that reliance on international student fees** to compensate for underfunding of core activities is extremely vulnerable to external shock. Even if international student numbers hold up better than originally projected, this vulnerability remains and there may well be further geopolitical shocks that bring it into renewed focus.
- 7.3 **Sustainable funding of core activities will greatly improve the sector's resilience as a key asset for Scotland.** A key issue is that the unit of resource is below the cost to deliver to Scottish and EU students and is low relative to the funding of students in England.
- 7.4 One specific and fundamental contribution will be for Scottish Government to make a commitment to retain in the higher education sector the resources potentially released by the change in EU students' fees status, to be re-purposed in support of the delivery of flexible learning that will support the recovery, for example Graduate Apprenticeships and increased capacity of higher level skills such as Masters provisions.
- 7.5 **Clarification on funding over a rolling three year period to give greater certainty** in planning would be welcome, rather than the current yearly allocation.
- 7.6 **Given the need likely challenges for young people emerging from education into a difficult economic environment, we would welcome prioritisation of resources to enable an education led recovery.** We recognise that public resources will be limited and need to be prioritised to where they can have the greatest impact in getting the nation through the recession and into a successful recovery. Given the limited resources, it may be beneficial to consider a realignment of budgetary focus in terms of student numbers to the areas which would support economic recovery.
- 7.7 **Additionally, the ability of corporates to take advantage of opportunities is hindered by the level of management training and expertise within the smaller to medium size companies.** Realignment of resource to help small to medium size corporates access and pay for practical management and leadership training would help to address such.
- 7.8 **The USS pension scheme contribution rates and liabilities are a significant risk to financial sustainability** for the sector. SFC engagement with USS on this subject to help protect the sector would be very welcome.
- 7.9 In the short term, the **Scottish Government and its agencies must continue to make emergency funds available to Scotland's students as necessary to ensure that no student faces destitution.** Heriot-Watt University Student Union welcomes that the Scottish Government has made over £16 million available to Scotland's students – for emergency hardship funds and summer support. We also welcome the recently-announced £5 million package of support to address digital poverty. Heriot-Watt University Student Union believes that the Scottish Government must revisit and improve the package of support on offer to

Scotland's learners, especially those from the poorest backgrounds, ensuring that Scotland's excellent progress on widening access is not undermined.

Areas of collaboration between agencies that would best support the sectors' contributions

- 7.10 **Collaboration between UK and Scottish Governments and their agencies to promote higher education's contribution**, e.g. to promote Scotland and the UK as attractive and welcoming destinations for international talent, and intelligent co-design of complementary measures to promote universities' contribution to the UK's competitive research strength, to promote mission-driven research addressing key post-pandemic challenges, to deepen universities' contribution to the transformation of "place"; and to ensure complementary contributions to supporting business recovery and growth e.g. through the enterprise agencies and Innovate UK.
- 7.11 **Collaboration between SFC and SDS** to ensure that the Graduate Apprenticeship programme is sustainably funded without detriment to other key contributions by universities, and flexible and adaptable to respond to the rapidly changing needs of business including shorter models of work-based higher education.
- 7.12 **Collaboration between Universities, SFC and the agencies to develop ambitious and bold place based interventions** that encompass infrastructure investment, skills development, innovation and commercialisation to attract inward investment and new partnerships (e.g. Enterprise Zones).
- 7.13 **Collaboration between SFC, SDS and the enterprise agencies** to avoid the scarring effect that unemployment could have on a generation and deliver a jobs guarantee, as recommended by the Benny Higgins review, that includes support for higher education's contribution to supporting individuals through the recession and into recovery, and that supports graduate internship opportunities for graduates emerging into the labour market during the depths of the recession.
- 7.14 **Collaboration between SFC, the enterprise agencies and institutions** to develop schemes to support individuals and enterprises to develop their skills and to develop new products and processes. This should include the development of incentives that are flexible and cross agency boundaries for businesses to seek help from universities as they look to survive the recession and thrive in the recovery.
- 7.15 Collaboration between Colleges and Universities to develop a true step-change and energised student focused enterprise experience by developing a joint Universities and Colleges **National Institute for Enterprise** (a successor to the current SIE), to create the entrepreneurial minds of the future needed to grow the economy.
- 7.16 **Collaboration between SFC, the enterprise agencies and higher education institutions to refer businesses to where they can best get support**, whether that be from the enterprise agencies or from a university.
- 7.17 **Streamlining:** At present, there is virtue in the multiplicity of agencies progressing similar themes (Universities Scotland, QAAS, SFC and AdvanceHE Scotland all, for example, progress key aspects of learning and teaching and the student learning experience.) This model could be redesigned: particular agencies could lead on identifiable strands, drawing in support and resource from other agencies and HEIs, so resource is concentrated rather than spread too thinly.

Adaptations to SFC's funding and accountability frameworks to promote agile and collaborative action

- 7.18 **Quality Reporting and Outcome Agreements:** Annual Institutional Quality Reports to SFC are not currently used by the SFC; QAAS provides an annual summary, which some HEIs make use of to inform their own developments, and SFC reports are included in the ELIR Advance Information Set. There is no clear correlation between the QAAS annual summary and SFC priorities in terms of learning and teaching; rather, SFC priorities are reflected in Outcome Agreements. There is no response from, or discussion with SFC in response to the Annual Institutional Quality Reports. The two processes could be combined: Outcome Agreement and Annual Institutional Quality Report, with both being discussed with HEIs and an analysis of

all HEIs' OA/AIQR being discussed at a sectoral level in order to determine national priorities. The funding framework would then be aligned to these combined national priorities.

How SFC's funding and accountability frameworks should ensure that equality and wide access to educational opportunity are promoted as key elements of the recovery for younger people and adults

7.19 While this is supported in theory not all groups face the same barriers and therefore interventions need to be focused toward addressing particular systemic issues. There is a need for a change in how equality interventions are undertaken to have a relevant, tangible and resourced impact on targeted groups.

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