

Enterprise and Business Committee Inquiry into Horizon 2020

Response by the Higher Education Funding Council for Wales (HEFCW)

About HEFCW

- 1 HEFCW is a Welsh Government Sponsored Body established in 1992 under the Further and Higher Education Act. It assumed responsibility for funding higher education (HE) in Wales on 1 September 1993. It administers funds made available by the Welsh Government in support of the provision of education and the undertaking of research at higher education institutions (HEIs), and the provision of prescribed HE courses at further education institutions (FEIs). It also accredits providers of initial teacher training for school teachers.

Purpose

- 2 This paper presents initial responses to the issues under discussion by the Committee. There has not been time to seek approval of HEFCW's Council for this paper, which must therefore be regarded as a submission from officers only.

Conclusions

3. The key points from this submission are:
 - 3.1 The Horizon 2020 (H2020) proposals, published by the European Commission (EC) in November 2011 **present a significant opportunity for Wales to further raise its research quality and capacity for innovation, and to enhance international engagement and competitiveness**, thereby helping to transform the Welsh economy and contributing to *Europe 2020*¹, and the Welsh Government's strategy for higher education, *For Our Future*² and *Science for Wales (SfW)*³ objectives.
 - 3.2 The HE sector in Wales is well placed to make a significant contribution to **the proposed thematic objectives of the programme, especially in those areas of current strength**, including, but by no means exclusively, in areas aligned with the objectives of *SfW*. HE currently represents almost three quarters of all Welsh participation in the current framework programme (FP7).
 - 3.3 However, there are a number of key challenges:
 - a. The new programme will be **highly competitive** as universities from around Europe, and beyond, seek to compensate for national budget cuts to Research and Innovation (R&I).
 - b. There will need to be **adequate resources available** in the agreement of the EU's Financial Perspective 2014-2020, to deliver the new programmes, and linked programmes, such as Structural Funding (SF).

- c. A more strategic approach which **clearly aligns the different EU funding programmes** (in particular H2020 and SF), will help to ensure that opportunities for take-up from the programme are maximised in Wales.
- d. The capacity for HE in Wales to be successful in H2020 can be enhanced and supported through the new SF programme, with **investment in R&I from this programme at a scale that will make a difference.**

3.4 We trust that the information in this submission is of help to the Committee's inquiry, and we stand ready to assist further in any way that the Committee requires.

Issues under consideration

4 We address in turn each of the areas that the Committee wishes to consider in the course of its inquiry.

The potential impact of the EC's draft legislative proposals for the future Horizon 2020 on Wales

Participation by HE in the current Framework 7 programme

- 4.1 The proposals for the EU's new funding programme for R&I, Horizon 2020, published by the EC in November 2011, maintain core elements of its predecessor Framework 7 (FP7). In total, Wales has received over €84m from FP7 since 2007. The Welsh HE sector has been awarded 84% of the total funding to Wales and comprises a higher percentage of total Welsh FP7 activity (72%) than the UK average (60%).⁴ This reflects the relative lack of corporate and 'other research centre/ public body' (e.g. the Met Office) R&I activity in Wales, and highlights the importance of the HE sector in securing this funding for Wales.
- 4.2 Welsh performance is particularly strong in some fields, and less so in others. Within the co-operation strand of FP7, over 5.6% of the UK engagement in the Food, Agriculture and Biotechnology, and over 4% of the Nanosciences, Nanotechnologies, Materials and New Production Technologies cooperation, takes place in Wales.
- 4.3 Overall, the Welsh share of the total UK HE activity is around 3%, which is about the same as its current share of UK Research Council activity (about 3.3%). This probably reflects several factors: relative core underfunding (and the resulting smaller scale of research capacity, including actual numbers of academic staff); structure and organisation (which is already being actively addressed in Welsh HE); and the mix of subjects in HE in Wales relative to the rest of the UK, being orientated rather more to arts, humanities and social sciences than to the STEM subjects (which is where the larger grants lie).

- 4.4 The HE sector is co-ordinating its efforts on the current FP through the officers of Welsh Higher Education Brussels (WHEB) who have set up groups of leading academics in Wales to look at where the sector may establish international research partnerships which accord with the key Welsh Government research priority sectors (see below). These aim to significantly enhance the success of Wales in FP7, and its successor, H2020. The work of these groups aligns closely to priorities in SfW (such as increasing Wales' share of external research funding and the development of National Research Networks).

Horizon 2020 – opportunities & challenges for Wales

- 4.5 In principle, the EC's proposals for the H2020 programme offer a greater level of available funding, a wider range of opportunities, and more straightforward processes for the sector to engage with European funded R&I than previously; although **the competition for this funding will also be much greater.**
- 4.6 The proposals for a €80bn programme, an increase from about €53bn in 2007-13, split the funds between three main objectives or 'pillars' of : **excellent science** (€24.6bn); **industrial leadership** (€17.9bn); and **societal challenges** (€31.7bn).
- 4.7 These present significant opportunities for Wales and will contribute to wider European (e.g. *Europe 2020* and *Innovation Union*⁵) and Welsh Government (e.g. *SfW* and its programme for economic renewal⁶) objectives.
- 4.8 Europe's universities are planning an 'onslaught of applications to H2020'⁷ to compensate for national budget cuts. Even if H2020 gets the increased budget of €80bn being sought by the EC, many believe that **it won't be enough to satisfy the impending increase in funding applications.** The European University Association (EUA) has said recently: 'Only those who know how to deal with the system will be successful. H2020 will just not be big enough'.⁸
- 4.9 The proposals also include a single, revised set of rules to **simplify funding applications, reporting and auditing of the programme.** This will attract more academics to engage with the programme, reduce the administrative burden, especially for co-ordinators, and allow HEIs to support the professional development of the next generation of researchers by recruiting staff dedicated to H2020 projects. Greater simplification should also encourage participation from the business sector, including from SMEs.

Key objectives & their implications for Wales

- 4.10 **Excellent Science:** this pillar aims to further raise research quality; secure long term global competitiveness, and help to attract more of the world's best researchers to Europe.
- 4.11 These objectives are also core priorities in SfW, which further emphasises that **'Wales has to improve its performance in winning competitive research or R&D funding'**. It recognises that 'winning these funds is a true test of our international excellence'. The Welsh Government's strategy for higher education, *For Our Future*⁹, highlights that 'excellence in research has a vital role to play in both delivering social justice and economic prosperity'.
- 4.12 The proposed budget for the Excellent Science pillar (over €24bn) represents one third of the overall budget. It is also proposed that the budget for the European Research Council (ERC) should increase by 77% to €13.3bn within this pillar. Under FP7, academics in Wales have been successful in securing the highly prestigious ERC grants (having so far won €15.426m, around 2% of the UK share).
- 4.13 Also within the Excellent Science pillar, £5.7bn has been allocated to researchers' training and mobility under the Marie Curie Actions, an increase of 21% compared to FP7. However, there will be less funding available annually at the start of the programme. The Marie Curie Action is a highly competitive part of FP7 and the Welsh HE sector has been successful in accessing this funding (€12.696m, around 2.6% of the UK share to date). However, the proposed profiling of this funding will make this even more challenging for much of the duration of the H2020 programme.
- 4.14 The European Institute of Technology (EIT) element of the programme brings together research, education and innovation. Some MEPs have expressed scepticism over the proposed ten-fold increase in budget in EIT, and questioned how their benefits might be spread beyond the few that are funded within Knowledge and Innovation Communities (KICs)¹⁰. It is questionable whether Welsh HE will be able to take advantage of this funding to any great degree, in what some perceive will be an 'elitist' aspect of the new programme.
- 4.15 MEPs have also emphasised that the 'stairway to excellence' in H2020 must be designed in such a way as to encourage the 'first spouts of excellence': **The 'stairway to excellence' should lay the ground for participation of small units of embryonic excellence, such as small research groups and highly innovative start-ups.** Such an approach would be beneficial to Wales, which has such examples of smaller-scale and emerging excellence.¹¹
- 4.16 **Industrial Leadership:** this pillar aims to make Europe a more attractive location to invest in R&I, develop industrial leadership, and to help innovative SMEs to grow into world-leading companies. These objectives are mirrored in SfW.

- 4.17 Industry groups across Europe have already voiced their satisfaction with the EC's focus on applied R&I throughout the programme, and the significant role played by industry-driven research.¹² The proposals also target 15% SME participation in H2020.
- 4.18 Although there is significant industrial research undertaken in Wales, especially where business engages with universities in research to advance its products, processes and services,¹³ participation by industry in the current FP7 remains relatively low (around 2.5% of the UK share). However, **there is limited information on private sector participants in Wales, and this constrains the potential engagement by HE with these participants.**
- 4.19 SfW recognises that there is **a need to 'build strong links with our anchor companies...embedding them in the Welsh economy by developing close links with further and higher education institutions'**.
- 4.20 There is also the potential, for example, for the HE sector to support innovative SMEs in Wales to internationalise (an objective of the EC's proposals for the new SF programme¹⁴) and to work with some of the best international SMEs as partners in projects, through for example, their links with international alumni.
- 4.21 However, this would require there to be **clear synergies between H2020 and the new SF programme in Wales** (see below Section 5), and a **greater cross-over between the different strands of the H2020 programme**, so that R&D undertaken within universities is prioritised for activities funded under the Industrial Leadership pillar, where SMEs can transform research results into competitive products and services.
- 4.22 **Societal Challenges:** addresses the policy priorities of the Europe 2020 strategy and major concerns shared by countries in Europe and elsewhere.
- 4.23 It is presented as a 'natural successor' of FP7's co-operation programme, and divided into 6 areas. These broadly focus on health; food and agriculture; energy; transport; climate; and inclusive and secure societies.
- 4.24 Three of the H2020 challenges are mirrored and supported by the Grand Challenges priorities in SfW: **'Life Sciences and Health', 'Environment, Energy and Low Carbon', and 'Advanced Engineering and Materials'**; these coincide with the research priorities in *For Our Future*, which also highlights an additional strand: 'Digital Economy' (a theme also highlighted in H2020).
- 4.25 These well-defined areas of academic and business strength also fit well with what the EC terms 'smart specialisation', a concept which is underpinned by the premise that transformational science-led economies succeed because they are focused on a few areas, done really well.

- 4.26 Wales' HE sector exhibits excellence in several of the other key H2020 challenges including for example, **food and agriculture, marine and maritime research and the bio-economy.**
- 4.27 The EC emphasises that great societal challenges, and curiosity-driven research at the frontier of knowledge (under the Excellent Science pillar), will require **an increasingly multidisciplinary approach to research and innovation.** Research topics will be more flexible and open to different types of interdisciplinary projects. This will provide opportunities for strengthening HEIs' existing collaborations (such as between departments and universities) in Wales and enable new ones, both within and beyond Wales. However, **it will also be important for there to continue to be scope for smaller projects and collaborations** (see para 4.14 above).
- 4.28 Social sciences and humanities will be mainstreamed in H2020. These are areas in which Welsh HE already has particular strengths (para. 4.3 above) and it **will therefore be important for there to be greater clarity on how this mainstreaming will be implemented.**
- 4.29 The EC is committed to opening H2020 to international partners from across the globe. While this will be a welcome opportunity for Wales to enhance its excellence in collaborative R&I, researcher mobility, and raise its international profile, this could also create even greater competition for funding in some areas of the programme.

Assess the opportunity for synergies between H2020 and the future EU structural funds in Wales aimed at improving future participation in H2020

EC's proposals and recommendations

- 5.1 The regulatory proposals of both funding instruments (H2020 and SF) encourage the development linkages and synergies in the delivery of the programmes themselves. Both programmes are aligned to the strategic goals of Europe 2020, which are in turn aligned with Welsh Government policy (e.g. SfW).
- 5.2 The EC proposes that the next round of SF should be used to produce transformational and long-term change to address the causes of economic difficulty rather than its symptoms. The Commission also proposes that this activity should be **set within a R&I strategy which concentrates resources on a limited set of priorities (through smart specialisation)** and outlines measures to stimulate private investment.¹⁵
- 5.3 The EC proposals call for 'a more integrated approach for joined-up strategies with other EU policies and financial instruments'.¹⁶ This approach is in line with the EC's Common Strategic Framework,¹⁷ which recommends closer

alignment of cohesion (structural) funding with the new R&D programme under H2020.

- 5.4 Unlike the current period, **a project may receive support from one or more EU funding programme**. This welcome development would allow for example, a single project to receive support from both the ERDF and the ESF, or the ERDF and H2020.¹⁸
- 5.5 The EC's proposals for SF highlight that R&I is to be prioritised throughout cohesion policy.¹⁹ The draft ERDF regulations in addition stipulate that there should be a minimum allocation of 80% of the budget to R&I activities in More Advanced Regions and 50% in Less Advanced Regions. They propose that these area specific investment priorities will include '**enhancing research and innovation infrastructure capacities to develop R&I excellence** and promoting competence'^{20 21}
- 5.6 The EC's proposals also emphasise that ESF will contribute to 'Strengthening research, technological development and innovation, though the development of post-graduate studies, the training of researchers, networking activities and partnerships between HEIs, research and technological centres and enterprises.'²²

Proposals by the European Parliament

- 5.7 The issue of synergies between the FP and SF has been on the political agenda at European level for several years, and has been addressed and analysed by different bodies, including the Commission's 'Synergies Expert Group' (SEG), who produced a report in 2011.²³
- 5.8 This report emphasises that the future national / regional Operational Programmes for SF related to R&D should have a clear orientation on:
- Promoting local-global connectedness
 - Enhancing cooperation between academia and industry focused on the support of clusters
 - Improving and developing capabilities and skills for research, innovation and entrepreneurship
 - Promoting the modernisation of universities and research and technology organisations, including upgrading and renewing research equipment
 - Including Research Infrastructures in regional development strategies
- 5.9 Recommendations from this report have recently been endorsed by MEPs during their examination of the EC's legislative proposals, leading to the amendment process.²⁴
- 5.10 These MEPs have highlighted that:

- **‘Building greater synergy and as much complementarity as possible between H2020 and the structural funds is urgently required’.**
- **‘It is essential that these programmes are complementary and that bridges are built in both directions, aligning the two programmes’.**

As such, they emphasise that SF have a role to play – both ‘upstream’ and ‘downstream’ (i.e. in the sense of the process of innovation from concept to market) – with regard to the H2020 objectives.

5.11 Upstream from H2020, the SF can be used for capacity building , and here two recommendations stand out, where SF could be used to:

- finance equipment, human resource development, the creation of clusters in priority areas of H2020, and small grants for preparations of proposals for H2020
- fund ERC, Marie Curie or collaborative projects that meet the criteria of excellence but which cannot be funded due to budgetary constraints. H2020 would therefore confer a ‘seal of excellence’ on positively evaluated projects.

5.12 Downstream from H2020 – there are two recommendations which could be used to help smooth the passage from conception to market. SF could:

- finance or co-finance the follow up to H2020 research projects
- be used to encourage access to knowledge or to facilitate deployment of resulting knowledge in terms of economic or societal use.

What this means for Wales

5.13 **The EC proposals on synergies between the two programmes, which may be further strengthened (by the EP) during the amendment process,** would allow Wales to integrate activity across the different EU funding streams in new ways.

5.14 It would become possible to use SF (where in Wales we have an advantage over most other parts of the UK) to build capacity in R&I in areas of value to Wales that **could then provide a stronger platform for launching bids into the competitive processes such as H2020 (including prestigious ERC) and Research Council bids,** and leverage in to Wales other sources of funding and investment.

5.15 There is a need to build greater capacity within HE itself, which could be achieved through a change in focus in the new SF programme, especially as it relates to **priorities for investment and performance indicators** (where a

more flexible approach consistent with the new ERDF regulations could include support for research itself as an output in Wales).²⁵

- 5.16 By this means we could address the much rehearsed challenge of building capacity in R&I (in both universities and businesses, working in partnership) **on a scale that can compete effectively. This is primarily a matter of investment.**²⁶ If we chose to move in this direction in relation to SF in Wales, **it will be essential for funding allocations to be big enough to make a difference on the scale of operation of competitors across the UK and Europe.**²⁷
- 5.17 In the current programming period, there has been limited progress in exploiting the opportunities that arise from linking SF to FP7. There are a few *ad hoc* examples in Wales to date.²⁸ In the new programming period, it will be both possible and desirable to create the conditions that enable interaction in a strategic way and **on a scale that makes a real impact to Wales.**
- 5.18 A question we also posed in our evidence to this Committee's Inquiry into the EC's proposals for the new SF programme was **whether we can manage to construct processes within the management of the new programme that will enable us to capitalise on these opportunities. This will lie within our own discretion in Wales.**
- 5.19 There are many examples where, given the right conditions, there could be a positive impact on participation by Wales in H2020. For example, SF in Wales could be used to attract more world leading researchers to Welsh HEIs and industry, which in turn could boost the success rate of ERC applications and the retention of these staff. The need to attract more research stars to Wales is a core theme in the *SfW*.²⁹
- 5.20 Transnational activity proposed under SF, will enable the opportunity to work with other regions to build research capacity in Wales e.g. by investing in cross border research infrastructures, and to further develop the potential for international research collaboration and partnership.
- 5.21 This Committee's report into the *Draft legislative proposals for EU structural funds 2014-20* (February 2012)³⁰ concluded that the next round of SF should be used to **support transformational, long-term economic and social change in Wales working towards a high value, knowledge-based economy.** It highlighted that **prioritising research and development, knowledge exchange and innovation and building synergies between EU SF and EU research funding (H2020) was pivotal to that shift in economic transformation.**
- 5.22 It is as yet unclear how the priorities for the new SF programme, recently approved by Cabinet and announced by the Deputy Minister, will achieve these recommendations.³¹

What the Welsh Government should prioritise in seeking to shape the UK Government's position in the Council of Ministers, and feed these views into the negotiations taking place in Brussels (including the European Parliament)

Budgetary Negotiations

- 6.1 The budget available to EU H2020 programme will need to be sufficient to secure Europe's global competitiveness and, together with strategically linked funds such as SF, the economic transformation of regions such as Wales. The budget negotiations leading to the agreement of the EU's Financial Perspective 2014-2020 could have a significant impact on the level of funding that Wales will receive.
- 6.2 Influencing the UK Government to ensure that the approach taken is in the best interests of the whole of the UK's economy as it participates in these negotiations will be a key priority. The UK Government, and others such as Netherlands, Finland and Sweden, want to reduce the H2020 budget from the €80bn proposed by the EC to around €50bn. The European Parliament, on the other hand, has proposed a budget of €100bn.
- 6.3 It is within the interests of the HE sector in Wales, and Wales as a whole, to **secure the maximum budgets for both H2020 and SF**, especially in view of the significance the combination of this funding, through HE, will have for delivering SfW and, in turn, transforming the Welsh economy.
- 6.4 In terms of H2020, it will be particularly important to **ensure that the budget for the Excellent Science pillar is retained** and as a minimum that it represents at least one third of the overall H2020 budget. Key areas for Welsh HE will be ERC and Marie Curie; there will be less opportunity to take advantage of the EIT funding.

Co-ordination between EU-funding Instruments

- 6.5 The EC proposals emphasise that each Member State shall prepare a Partnership Contract which will set out 'an integrated approach to territorial development supported by the Common Strategic Framework (CSF) Funds **setting out – the mechanisms at national and regional level that ensure co-ordination between the CSF and other Union and national funding instruments**'.³²
- 6.6 For the reasons given under above (Paragraphs 5), the integration of EU funding streams will be an important focus for Wales in its negotiations with

the UK, and Brussels, especially in relation to the development of the Wales specific element of the UK's Partnership Contract, where **the EC will require that there are specific references to the links between H2020 and SF.**

Consider how the science strategy for Wales and other relevant Welsh Government policies are aimed at maximising the opportunities to organisations in Wales from participation in the future EU research and innovation funding.

- 7.1 The Welsh Government's current focus on key drivers for economic change, including the HE strategy and research excellence, economic priority areas, emerging work on selected industrial sectors, and on anchor companies, and work in progress on developing an Innovation strategy for Wales, are timely and opportune in relation to specifically promoting participation with H2020, and the strategically linked SF programme.
- 7.2 A call for evidence by the Welsh Government on *Innovation Wales* is now out, and it will be important that the emerging strategy is consistent with the principles outlined in this evidence. And that it addresses the Commission's expectations in respect of Smart Specialisation, which is likely to be an ex ante condition for receiving SF.³³
- 7.3 In our evidence to the Enterprise & Business Committee's Inquiry into the draft legislative proposals for EU Structural Funds for 2014-2020, and in our response to the Welsh Government's *Reflection Exercise* (Annex 1) we argued that **the challenge to us collectively is how to bring these policy elements together to best exploit the emerging European funding possibilities, and how best to draw the right people together to ensure that *Innovation Wales* is as productive as it can be, and plays to existing strengths – such as those highlighted in *SfW*.**
- 7.4 We have already emphasised (section 5, above), **the need for synergies between SF and H2020 to enhance the opportunities for organisations in Wales to participate in the future EU research and innovation funding; success will largely depend on our ability to create the right conditions in Wales.**
- 7.5 Working together, the Welsh Government, HE, and industry can help to build up further, and exploit the critical mass of excellence required to engage with H2020, which will in turn contribute to recovery and growth in the Welsh economy. **However, this is a process that will itself need significant investment.**³⁴

- 7.6 One important source for this investment, as we have argued above, is SF. SfW emphasises that SF ‘must only be used in a transformational way, including leverage of other, competitively awarded funds focusing on both the creative and physical capital that will require investment’. It is generally recognised that **this area needs to be developed further - in partnership with the HE sector**. It will be important that there is a clear strategy for promoting synergies in Wales; rather than it being only tackled at a project-based level.
- 7.7 SfW makes an important commitment to **enhancing fundamental research**, and it is investment in this area that will help to underpin the highest quality of research required to succeed in what will be a highly competitive process. It will be important for the proposed new ‘Star’ researchers and their teams, and for the proposed new National Research Networks, to contribute strongly towards H2020 aims, and there should in practice be no difficulty over this given the alignment of SfW Grand Challenge priorities with those of H2020.
- 7.8 SfW also emphasises the importance of **developing collaboration between universities and business**. H2020 aims to support the whole innovation cycle from fundamental research to market and provides new opportunities for HE and business to work together **within the context of a new Innovation Strategy for Wales**.

NOTES

¹ *Europe 2020. A European Strategy for Smart Sustainable and Inclusive Growth*: http://europa.eu/press_room/pdf/complet_en_barroso_007_-_europe_2020_-_en_version.pdf

² *For Our Future. 21st Century Higher Education Strategy and Plan for Wales*. See: <http://wales.gov.uk/docs/dcells/publications/091125hedocen.pdf>

³ *Science for Wales. A strategic agenda for science and innovation in Wales*: <http://wales.gov.uk/docs/det/publications/120306scienceen.pdf>

⁴ European Commission, *FP7 Welsh Participants*, released 28 February 2012

⁵ *State of the Innovation Union 2011*: http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2011/state_of_the_innovation_union_2011_brochure_en.pdf#view=fit&pagemode=none

⁶ *Economic Renewal: a new direction*. See: <http://wales.gov.uk/docs/det/report/100705anewdirectionen.pdf>

⁷ *Research Fortnight* 18 April 2012, p.19

⁸ *Research Fortnight* 18 April 2012, p.19

⁹ *For Our Future. 21st Century Higher Education Strategy and Plan for Wales*. See: <http://wales.gov.uk/docs/dcells/publications/091125hedocen.pdf>

¹⁰ UKRO - *Horizon 2020: First Exchange of Views in Parliament*, 27 Jan 2012

¹¹ *Working Document on Specific Programme Implementing Horizon 2020 – The Framework Programme for Research and Innovation (2014-2020)*:
<http://www.europarl.europa.eu/sides/getDoc.do?type=COMPARL&reference=PE-488.047&format=PDF&language=EN&secondRef=01>

¹² *Research Fortnight*, 14 December 2011, p.19

¹³ SfW, p.11

¹⁴ *Proposed Regulations (Common Provisions)*:
http://ec.europa.eu/regional_policy/sources/docoffic/official/regulation/pdf/2014/proposals/regulation/general/general_proposal_en.pdf

¹⁵ *Proposed Regulations (Common Provisions)*, p.137, ANNEX IV

¹⁶ *Proposed Regulations (Common Provisions)*: p.4

¹⁷ *Elements for a Common Strategic Framework*:
http://ec.europa.eu/regional_policy/sources/docoffic/working/strategic_framework/csf_part1_en.pdf

¹⁸ *Proposed Regulations (Common Provisions)*: Art 55 (8) states that on condition that an expenditure item is not funded twice under the Structural Funds or any other EU instrument, a single operation is allowed to receive support from both the ERDF and ESF or the ERDF and Horizon2020.

¹⁹ *Proposed Regulations (Common Provisions): Article 9: Thematic objectives*, p.35

²⁰ *Proposed Regulations (Specific Provisions concerning the ERDF)* p11, para 1a:
http://ec.europa.eu/regional_policy/sources/docoffic/official/regulation/pdf/2014/proposals/regulation/erdf/erdf_proposal_en.pdf

²¹ ERDF Regs, p.11-12: The Investment Priorities under this theme are a) Enhancing R&I infrastructure and capacities to develop R&I excellence and promoting centres of competence, in particular those of European interest; b) Promoting business R&I investment, product and service development, technology transfer, social innovation and public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation; c) Supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production in Key Enabling Technologies and diffusion of general purpose technologies.

²² *Proposed Regulations on the ESF, Article 3*, p13, para 2c:
http://ec.europa.eu/regional_policy/sources/docoffic/official/regulation/pdf/2014/proposals/regulation/esf/esf_proposal_en.pdf

²³ See: http://ec.europa.eu/research/regions/pdf/synergies_expert_group_report.pdf

²⁴ *Working Document on Specific Programme Implementing Horizon 2020 – The Framework Programme for Research and Innovation (2014-2020)*:
<http://www.europarl.europa.eu/sides/getDoc.do?type=COMPARL&reference=PE-488.047&format=PDF&language=EN&secondRef=01>

²⁵ The draft ERDF regulations include: 'area of newly built or equipped research infrastructure facilities' (in square meters) and 'number of research jobs created in assisted entities' (ERDF Annex). There needs to be flexibility in the interpretation of these indicators (by WEFO) so HEIs are not required to only include enterprise/ commercialisation activity

²⁶ In our evidence to the Enterprise and Business Committee's (January 2012) Inquiry into the EC's proposals for the new Structural Funds programme, and our response to the Welsh Government's *Reflection Exercise*, we emphasised that despite committing all that we can, we nevertheless spend less per research member of staff in our universities than every English region except the East Midlands, and with the highest region, the East of England (around Cambridge) spending fifty per cent more than Wales.

²⁷ In our evidence to the Enterprise and Business Committee's recent Inquiry into the EC's proposals for the new Structural Funds programme, we noted that Saxony, for example, already focuses both its national and EU funding on improving innovation, investing around 40% of its ERDF alone in strengthening innovation, science and research. This has had such a transformational effect that part of Saxony does not now qualify for the next round of Convergence funding

²⁸ For example, Professor Tim Claypole of Swansea University (a winner of an EU RegioStars award in 2009) presented at two EU seminars on how a Convergence project on printing technologies progressed into a successful FP7 consortium. He will be presenting to a REGI-ITRE Joint *Public Hearing on synergies between EU cohesion policy and Horizon 2020*, at the European Parliament, 29 May 2012

²⁹ The proposed funding for the ERC will increase by some 77% over what has been available through FP7

³⁰ See: <http://www.senedd.assemblywales.org/documents/s5513/February%202012%20-%20Draft%20Legislative%20Proposals%20for%20EU%20Structural%20Funds%202014-2020%20Report.pdf>

³¹ *Principles and Priorities for 2014-2020 EU programmes in Wales*: <http://wales.gov.uk/docs/wefo/news/120508eufundingpriorities.pdf>

³² *Proposed Regulations (Common Provisions): Article 13 p.37&38*

³³ *Proposed Regulations (Common Provisions)*, p.137, ANNEX IV

³⁴ See for example: http://195.88.100.72/resource/files/2009/06/12/connected_university_report_NESTA.pdf