

Call for Evidence on the Scottish Government Enterprise and Skills Review

Response from the James Hutton Institute

Sent to entandskillsreview@gov.scot

The following is a response from the James Hutton Institute to the call for evidence by the Scottish Government on Enterprise and Skills. The response is presented under each of the questions posed in the review. The James Hutton Institute is very willing to participate in any follow-up discussions or to provide more information on specific issues raised in the response.

Submitted by David Miller, Knowledge Exchange Coordinator on behalf of the James Hutton institute

Contact email:

David.miller@Hutton.ac.uk

Questions:

1. Have you had direct interaction with enterprise or skills advice or support? Y/N

Yes.

2. Tell us briefly about your experience: –

i. What were you trying to access?

- (a) Informed insight and sectorial networking to evaluate opportunities for business development, background and knowledge of new developments in EU funding schemes, and for establishing a Knowledge Innovation Community around Food and Drink principally supported by European Union funding. These were supported and informed by Scotland Europa , and also involved Scottish Enterprise and the Scottish Funding Council
- (b) Opportunities for business development and international networking to link with Scottish and UK Government activities in India and China, and participation in coordinated activities (e.g. Exhibitions profiling Scottish expertise, Middle East). These were working through Scottish Development International.
- (c) Support for Organisational Development and process improvement within the Institute.

ii. Through whom and when?

The assistance and experiences relate to the period following formation of the James Hutton Institute in April 2011. Examples of mechanisms were through Scotland Europa, as a member; Scottish Development International and their infrastructure for organizing networking and collaborative activities overseas, and shared exhibition areas on themes or focused events.

iii. What was your experience?

In each case the experience was positive and productive. The quality of engagement between the public bodies and Institute staff was good, with some cross-referencing between organisations where appropriate.

iv. What worked well and less well?

Engagement with the various “Team Scotland” agencies on the Knowledge Innovation Community around Food and Drink worked very well, enabling effective communication and a coherent joint engagement strategy to be agreed.

v. How did you find the quality, ease and speed of service?

The speed and effectiveness of the support was of a high quality, with good pre- and post-activity engagement.

vi. What did you think of the cost or value of the service?

The value of support for participation in overseas activities was good, with direct benefit from the subventions provided, and significant simplification of participation due to most practicalities being handled centrally.

Examples of value of facilities and resources are those of Scotland Europa and Scotland House in Brussels for formal and informal meetings and working space while on visits to EU institutions. Particular value has come from high quality engagement facilitated by Scotland Europa providing insight to upcoming opportunities for business development through Horizon 2020 funding or other mechanisms supported by the EU.

3. If you have not used such services can you outline why this is the case? Reflections on the system of support

The services intimated above have been used so no response.

4. What do you see as the strengths and weaknesses of the current approach?

The alignment of activities and emphasis with the Scottish Government Economic Strategy and its Programmes for Government are apparent. The key strengths are the increasingly close working of bodies on complementary activities which deliver to the overarching goals. However, apart from seeking to ensure such delivery it is not automatically apparent as to what constitutes the 'current approach'. Therefore, the most evident weakness is a lack of a system wide view of education and training through further and higher education, and apprenticeships, through to the development of skills for business and industry including business creation, and the interactions and feedback between each component of the system.

5. What needs to change in the current system of support to make it simple and clear, and help us deliver Scotland's vision?

In evolving the current means of support the following should be considered:

- (i) A re-emphasis of the roles and responsibilities of the different parts of the bodies contributing towards the development of enterprise and skills.
- (ii) A better understanding of where opportunities exist for linking the components of the Scottish system of education, training, business and society to engender technical and social innovation. That should enable all types of stakeholder to better identify sources of expertise relevant to achieving their objectives.
- (iii) A programme of effective knowledge exchange which is designed to take advantage of the vertical integration of research, development and commercialization of products and services within Scotland. This should include the better establishment of guides and pointers for research and industry to capitalize on the combined capabilities of each. Examples of best practice in the co-development and communication of research which leads to improvements in industrial supply chains are the agri-industry events the James Hutton Institute and partners (e.g. AHDB, SRUC) runs at Scottish farms of [Cereals in Practice](#), [Potatoes in Practice](#), and Fruits for the Future.
- (iv) The development and roles of advanced training networks in specific topics which bring together industry, science and relevant stakeholders can be targeted to exploit excellence and world class reputations in specific areas of the Scottish economy. This could build on models developed by the European Union such as the Marie Curie

Training Initial Training Networks, and the UK Research Councils training networks. Examples of such networks which are designed to support delivering of the right skills and services for sectors of industry are:

- (a) [Native Seed Science, Technology and Conservation \(NASSTEC\)](#) (total value 3m Euros) was formed from three leading seed companies in Europe working with research partners which include James Hutton Institute and Royal Botanic Garden Edinburgh in the training of a new generation of experts equipped with relevant knowledge of plant ecology, molecular biology, taxonomy, conservation, seed biology, breeding and horticulture. Outputs include training materials communicated through a global e-learning environment.
- (b) [‘Soils Training and Research Studentships’](#) (STARS) (total value £2.3M programme), in which James Hutton Institute is a partner with other UK organisations (NERC and BBSRC), is to create a new generation of highly-skilled soil scientists who understand the soil ecosystem from environmental, biological and social perspectives. The consortium provides an infrastructure which links the UK’s leading facilities, national archives, databases, long term monitoring sites, and environmental informatics resources relating to soils. The combination of skills and facilities will support interdisciplinary PhD studies (11 studentships per year for three years) to tackle problems faced by the agricultural industry as it learns how to adapt to environmental and social pressures for change.

The James Hutton Institute will be delighted to confer further on how models of such training networks can deliver to the vision and aims of the Scottish Government Economic Strategy.

6. What are the right:

i. Roles

Important roles include supporting collective efforts which link initiatives to deliver to overarching aims. These are in facilitating the promotion of Scottish expertise and skillbase, with the emergence of a potentially key role in promoting their benefits and impacts in markets beyond Europe in a period following UK secession from the EU.

ii. Services

Amongst several priorities is the maintenance of participation of Scottish agencies in relation to the European Union, of which Scotland Europa is of particular importance. It provides a valuable service in identifying opportunities for business funded by EU sources post UK secession. EU Directorates General (e.g. DG Agri, DG Env), fund research and consultancy to advise and support delivery of public policy from organisations based outwith EU Member States recognizing the international significance of many challenges in agri-food-environment sectors. Scottish research organisations have been very effective at securing funding in these sectors from EU sources, often with Scottish partners in a relevant industry, thus multiplying the benefits of research funding to wider economic return.

iii. Skills

The agencies should be able to draw on the skillbase of Scottish research and industry to develop targeted and effective means of developing strategies and plans, co-constructed with the relevant suppliers and users of those skills. Options for drawing on such skills include:

- (a) designing mechanisms for funding short-term secondments to public bodies on specific topics or tasks, including PhD students;
- (b) co-locating industry support teams in recognized centres of relevant expertise, such as development of practices for a circular economy, adapting to climate change, social innovation in rural communities.

iv. Behaviours needed from our agencies to support this transformation?

A continued and increasing commitment to work with research organisations in the development of new opportunities to capitalize on exiting public investment. The James Hutton institute would be delighted to confer on such approaches and the potential role for the new Scottish Government Centre of Knowledge Exchange and Impact (CKEI), a role of which is to aid translation of the research of the Scottish Government Strategic Research Programme to the benefit of industry and society. The research programme and CKEI are primarily delivered by the Main Research Providers to Scottish Government of which James Hutton Institute is one.

7. How might we ensure this step-change reaches and benefits all of Scotland, building on regional and local strengths?

Drawing from the skills and capabilities of Scottish research and industry, noted in 6(iii) above, should include the geographic distribution of organisations and their facilities. For example, local strengths identified in proposals for several City Deals in Scotland (e.g. Dundee, Aberdeen) include better exploitation of closer links between industry, education and training in delivering world class capabilities on topics such as food and drink (e.g. developing an International Barley Hub at James Hutton Institute, Dundee), and energy. Such engagement benefits from processes which stimulate collaboration to identify emerging opportunities and co-construct visions of what can be gained from linking research, education and business. This may include collocation of key capabilities such that industry and research can jointly develop the relevant skills and expertise for shared benefits.

A key part of developing the expertise and skills for the future is recognizing the importance of social innovation, and how individuals and communities can best respond or take advantage of mechanisms enabling enterprise. In the agri-food-environment sector a challenge is to build on local and regional skills, often gained from many years of experience, which understands the best strategies for production suited to local environmental conditions, whilst ensuring resilience in systems with respect to external factors such as changes in climate, economy, technology and society. So, in developing support for rural development post—UK secession from the EU, structures which link enterprise and skills should consider the lessons learnt from programmes such as LEADER and the importance of skills in leadership and community development alongside those which are technical and scientific in nature.

8. How would we know if the system is working better?

Indicators of improvements in levels of achievement should include:

- (i) Formal – indicators relating to links between science and industry.

The European Commission guide on the assessment of the results and impact of the Horizon 2020 Programme contains some approaches which could inform discussion of the effectiveness of achievement of the development of skills and enterprise. Of particular relevance is the type of indicators which relate to training (e.g. the Marie Skłodowska-Curie Actions), industrial leadership and collaborations (e.g. number of outputs jointly produced by science and industry), and the engagement of SMEs and research teams.

WWW link at:

<https://ec.europa.eu/programmes/horizon2020/en/news/horizon-2020-indicators-assessing-results-and-impact-horizon>

- (ii) Informal – An appreciation of the importance of ‘soft systems’ and networks.

This could include broadening the GlobalScot Network beyond a focus on business and identify links with the global networks of Scottish research organisations.

9. How might public resources be deployed most effectively to match priorities, deliver value for money, and flow through the minimum number of levels and organisations to the user?

Continue to encourage and support development of closer working relationships and familiarity of different elements of Scottish Government policies and practice. Scottish research institutes and universities continue a proud heritage of creating a corps of leaders, practitioners and communities around the globe who have been influenced directly or indirectly by Scottish policy, industry or academia. For example, the James Hutton Institute Post-Graduate School has 116 PhD students from 27 countries. Working closely with Scottish Government, SDI, and Scottish Universities, the Hydro Nation Scholars and International Fellows Programmes are developing international water leaders of the future (currently 18 from 11 countries), supporting the Scottish Government Hydro Nation Strategy, managed by the Institute through the Scottish Government Centre of Expertise in Waters (CREW). Research collaboration in India is focusing on sustainable rural communities, developing a science and technology bridge for water use and management, supported by the Hydro Nation Strategy and SDI together with CEH, the British High Commission Science and Innovation Network Team, Indian Institute of Science, Indian Institute of Technology and Ministries and agencies such as the National Mission for Clean Ganga. Such coordinated activities position Scotland at the forefront of international science and knowledge exchange, and provide Scottish students opportunities to work with researchers of international standing to address global challenges.

10. Is there any other published evidence, or good practice, which you would particularly highlight that you wish us to take into account during the review?

See point 8 above.