

A Framework for Higher Education in Scotland



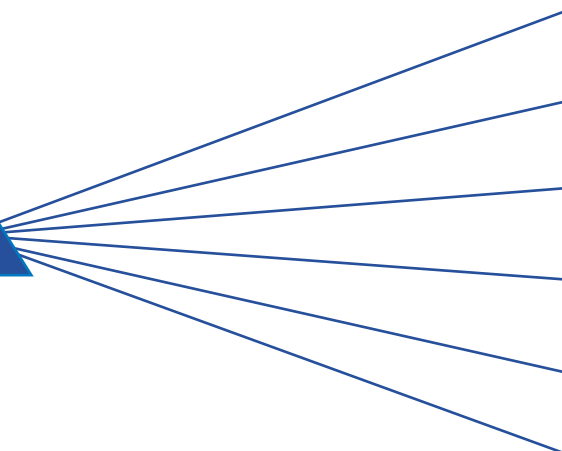
Higher Education Review:
Phase 2



SCOTTISH EXECUTIVE

Making it work together

A Framework for Higher Education in Scotland



Higher Education Review:
Phase 2

Scope

The focus of this review (Terms of Reference at Annex A) has been the higher education provided by the 20 higher education institutions (HEIs) funded by the Scottish Higher Education Funding Council (SHEFC) (listed at Annex B). References in this report to the “higher education sector” are to these institutions, which provide almost all of Scotland’s degree-level higher education (SCQF level 9 and above), as well as some at Higher National Certificate and Diploma and equivalents (SCQF levels 7 and 8). A significant further proportion – over a quarter – of Scotland’s higher education is provided in further education colleges, almost all at SCQF levels 7 and 8. This review has not included a detailed examination of higher education in further education colleges, but has looked at the relationship between further and higher education institutions, and considered the distinctive and important role each plays in providing higher education to meet Scotland’s needs.

The work to set out a strategy for higher education in Scotland began in 2001 and the contents of this report draw on the wide range of activities undertaken as outlined at Annex C. This report is not produced as a response to the recently published White Paper for Higher Education in England.* The Executive recognises that there are challenges and opportunities for Scotland in that paper. In taking forward the implementation of this strategy, we will consider the potential implications of developments in England.

* *The future of higher education* published on 22 January 2003 and available at www.dfes.gov.uk



Ministerial Foreword

It is time for a new relationship with our higher education institutions – for the social, economic, cultural and civic benefit of our nation.

It is time to build on the better understanding which has already begun to develop since devolution.

This is a moment to celebrate the achievements of the staff and students in our universities and colleges. We recognise the value of academic freedom – the freedom that allows those in our institutions to be creative, to innovate, to choose their direction, to challenge. History shows that strong higher education sectors are those where people are given, and use, room to develop and change with a changing world, and to seize opportunities for advancing what can be achieved through teaching, scholarship and research. We want higher education to be an attractive place to work and study for those who prize the chance to experiment and explore.

In return, we think it is right to expect a contribution to the achievement of national priorities through the teaching, scholarship and research undertaken in higher education, recognising that Scottish society, through the Executive, is the sector's single largest funder. To achieve this we want our providers of higher education to work ever

more closely together, taking advantage of Scotland's small scale – and recognising the challenges it sets. To stimulate and support this, we want SHEFC to play a new role, bringing institutions together to help shape the overall strategic framework and to foster coherent planning and delivery. I welcome the pioneering work on strategic dialogue with those in the sector which SHEFC has already begun. Harnessing the power of institutional self-determination for the greater good lies at the heart of our approach.

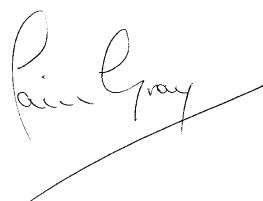
Among our national priorities is the strong desire that our higher education sector plays its full part within wider lifelong learning in Scotland. Strengthening the relationship between further and higher education is central to the Executive's Lifelong Learning Strategy, *Life Through Learning; Learning Through Life*, underpinned by the proposal in that Strategy to merge the Scottish Further and Higher Education Funding Councils. The single most important practical expression of that strengthening relationship will be the growth of more opportunities for learners to progress seamlessly through education, particularly through well-managed articulation from one level of course to another. Thanks to initiatives developed by staff themselves, Scotland already leads the UK in "2+2" and similar arrangements. The next challenge will be to embed such opportunities across higher education.

This report sets out how we believe the higher education sector in Scotland needs to develop over the next ten years – in teaching and learning, research and knowledge transfer, and governance and management. We cannot afford simply to stay as we are – we live in a world where past success is no guarantee of future achievement in any sphere. If Scotland is to reap the benefits of a vibrant, successful higher education sector in the years ahead, we have to be ready to change – ready to compete successfully for the most talented people in an increasingly competitive world, and ready to nurture and retain the talent we already have here in Scotland.

The priorities set out here are the product of more than a year of discussion, dialogue and consultation. This report builds on the organisational review of SHEFC already published as the first phase of this review. I am grateful to the many who gave time to assist this process, and especially to the members of our advisory panel, whose work has done much to shape our thinking. Inevitably, this report will be read in the light of the recently-published White Paper on higher education in England. That document now becomes part of the context for the implementation of the proposals here. But this report is not a reaction to the White Paper, and readers looking for a point by point response to it will be disappointed.

We will now work with the Funding Council, those who provide higher education and other interested parties to take forward the proposals set out here. This will include a third phase of this review process, which I have already announced, to look more fully at the long-term issues for Scottish higher education in the light of the proposed changes to the funding of higher education in England. We will take that forward in the same consultative way we have used for earlier stages, and in a way which firmly places this work within the implementation of the lifelong learning strategy for Scotland.

It is time for a new partnership with higher education, built on confidence and trust. Time to work together for Scotland.

A handwritten signature in black ink that reads "Iain Gray". The signature is written in a cursive style and is positioned above a horizontal line that extends to the right.

Iain Gray, MSP
Minister for Enterprise, Transport and Lifelong Learning

Executive summary

Overview

The higher education sector in Scotland has a record of excellence in the delivery of teaching and learning and research outcomes of which those who work in higher education, and Scottish society, can rightly be proud. But we cannot be complacent. The expectations and contribution of higher education are changing and it is important to look forward.

Higher education institutions are autonomous bodies whose independent status protects their ability to be challenging and creative in delivering teaching and research. But governments, funding bodies and other national organisations all play a critical role in setting the broad context for the day-to-day work of universities and colleges.

It is time for a new relationship between the Scottish Higher Education Funding Council, the higher education sector, individual higher education institutions and the Scottish Executive. The model for these relationships is one which:

- Puts learners and the delivery of relevant, quality outputs at its core.
- Is built on a constructive relationship between the Executive, SHEFC and those in higher education, with regular formal and informal dialogue.
- Explicitly recognises the importance of leaving space for institutions and the Scottish Funding Councils to innovate, with a Higher Education Funding Council that is willing and able to respond to progressive proposals from within the sector itself.
- Values and supports closer dialogue and collaboration amongst key partners and beyond.

Starting point

We look to our higher education institutions to serve learners: helping people develop throughout their lives so that they play the fullest part they can in society and the economy. We also look to higher education to serve society: making a significant contribution to the health, wealth and culture of a thriving and creative Scotland. Scotland needs a higher education sector which achieves these aims by working as a community of diverse institutions, all contributing to the generation and transmission of knowledge and ideas through different combinations of high-quality teaching and research. The Executive wants the distinctive strengths of institutions to be valued and used, individually and collaboratively. It wants provision to be developed and delivered within a strategic framework of national priorities which is shaped in partnership with those within higher education.

Harnessing the full potential of the significant public investment in higher education to meet future challenges will require developing further the capacity for change and recognition of the drivers which influence decision-making and behaviours in institutions. Policy making

needs to be informed by a better understanding of what motivates those studying and working in higher education.

The Scottish context

The overarching framework and priorities within which higher education and the higher education sector operate are those for lifelong learning.¹ These seek to achieve personal fulfilment and enterprise; employability and adaptability; active citizenship and social inclusion.

Higher education is also a significant contributor to growing businesses, better skills and global connections and so is inextricably linked with the achievement of the aims of a smart, successful Scotland.² Developments such as the establishment of Futureskills Scotland, *learn direct scotland* and Careers Scotland are important resources for students and those who work in the sector providing better and relevant information to inform decisions. Also, the outcome of the National Debate for Education³ recognised the more connected context in which higher education in Scotland now operates and the importance of closer working across the providers of education to ease the transition for learners through the education system.

¹ *Life Through Learning; Learning Through Life*, the Executive's strategy for lifelong learning in Scotland published on 11 February 2003 at www.scotland.gov.uk/library5/lifelong/l1ss-00.asp

² *A Smart, Successful Scotland: Ambitions for the Enterprise Networks* published in October 2001 at www.scotland.gov.uk/library3/enterprise/sss-00.asp

³ *Educating for Excellence: Choice and Opportunity, The Executive's Response to the National Debate* published 29 January 2003 at www.scotland.gov.uk/library5/education/ndser-00.asp

Teaching and Learning

Key challenges will be speeding the rate at which flexible and innovative provision is developed which: is responsive and relevant to the needs of learners, employers and the wider marketplace; fully contributes to the Executive's aspirations for lifelong learning and closing the opportunity gap; is high quality and operates efficiently.

In this report we consider:

- **Making best use of capacity**
- **Enhancing quality**
- **Relating supply to demand**
- **Flexibility**
- **Access and participation**
- **Articulation and routeways**
- **Graduate skills and employability**
- **International markets.**

Research and Knowledge Transfer

Key challenges will be: continuing to compete successfully for the best people in an increasingly competitive world; ensuring research plays an increasing part in Scotland's economic and social well-being, delivering the most gains possible for the Scottish economy and the quality of life. Some of the most exciting breakthroughs in research in the next decade are expected to be at the boundaries between disciplines, across the sciences, arts and humanities. The funding system needs to encourage exploration at these boundaries. Research and scholarship should also feed directly into the provision of teaching. We consider:

- **Investing wisely**
- **Connectivity**
- **Knowledge transfer.**

Governance and Management

To achieve our vision for higher education, institutions will need to be well-managed and well-governed organisations which motivate, value and reward their staff. Leadership skills will be required at all levels and good management and business systems must be in place, while governing bodies have a key role in helping institutions develop their strengths, remain relevant and strategic in their thinking and planning, and be responsive to the needs of learners, employers, staff and wider society.

In this report we consider:

- **Governing bodies**
- **Leadership and management**
- **Collaboration and maximising the effective use of resources.**

Funding

This review has not examined the overall level of funding available to the higher education sector in Scotland. Its focus has been on how government, the Funding Council and institutions can work together to make the most effective use of the resources already provided to the sector, to make sure that Scottish higher education responds to the needs of learners and succeeds in the future.

The Scottish Executive has increased its funding commitment to the higher education sector in real terms every year since devolution.⁴ But with increased funding have come new demands and the external environment within which our HEIs operate is becoming more demanding and competitive.

In this report we consider:

- **Funding levels**
- **Funding sources**
- **Funding systems.**

A further phase of this review will look at the longer term implications for Scotland of funding changes planned in England.

Conclusion

At the heart of this review has been an open dialogue with the Funding Council, a wide range of people involved in delivering higher education and other stakeholder organisations. We want this process to continue as we move forward, guided by a shared commitment to **responsiveness, relevance, quality and coherence.**

⁴ The most recent Spending Review is providing a real terms increase over 3 years of just under 7% and will see funding for the HE sector from SHEFC increase from around £700 million to over £800 million over the same period (this does not include income HEIs receive from the Student Awards Agency for Scotland). Details contained in *Building a Better Scotland – Spending Proposals 2003-06: What the Money Buys* available at www.scotland.gov.uk/library5/government/babs-00.asp

Roles and Relationships

Our starting point

We look to our higher education institutions to serve learners: helping people develop throughout their lives so that they play the fullest part they can in society and the economy. We also look to higher education to serve society: making a significant contribution to the health, wealth and culture of a thriving and creative Scotland. Scotland needs a higher education sector which achieves these aims by working as a community of diverse institutions, all contributing to the generation and transmission of knowledge and ideas through different combinations of high-quality teaching and research. The Executive wants the distinctive strengths of institutions to be valued and used individually and collaboratively. It wants provision to be developed and delivered within a strategic framework of national priorities which is shaped in partnership with those within higher education.

Harnessing the full potential of Scotland's investment in higher education to meet future challenges will require:

- developing further capacity for change – within and by individual institutions, and in the system as a whole;
- recognising the range, complexity and changing nature of external and internal drivers for change which influence decision-making and behaviour in institutions.

Our higher education institutions will need to be innovative, responsive and adaptable to meet the needs of learners, society and the economy in the future.

They should have the confidence and support to experiment and to develop their strengths. The diversity which already exists amongst institutions should be a strength which makes it easier, not harder, to deliver agreed national priorities across the sector as a whole, and to develop collaborative working within and across disciplines and institutions, wherever there are benefits to be gained.

Roles and relationships

We need a clear definition and understanding of the bodies who will be key to the interpretation, communication, delivery, review and evaluation of the priorities for higher education in Scotland as well as a clear understanding of the relationships between these bodies.

Higher education is delivered by our institutions, not by government departments or funding bodies. Higher education institutions are autonomous bodies whose independent status protects their ability to be challenging and creative in delivering teaching and research. But government, funding bodies and other national organisations all play a critical role in setting the broad context for the work of universities and colleges.

In Scotland, the key relationships are between the Scottish Executive (SE), the Scottish Higher Education Funding Council (SHEFC) and higher education institutions (HEIs). Essential partners within Scotland are the Scottish Further Education Funding Council (SFEFC) and Further Education colleges (FECs) – especially those that deliver higher education courses (which currently account for around a quarter of those undertaking some form of higher education), and the Enterprise bodies – Scottish Enterprise (SEn) and Highlands and Islands Enterprise (HIE).

The Executive believes that right at the heart of policy making for higher education needs to be a real understanding of what motivates those studying and working in higher education – so that we work successfully to meet the aspirations of students and staff.

There have been significant changes in the roles and relationships in higher education over the last few years – not least with devolution – and there will be more changes ahead.⁵ However policy develops, and structures and remits change, we think there are some things which should be fundamental to the way relationships operate between government, funding council and institutions. These are:

- greater clarity in the goals set by the Executive for higher education and more focused reporting by SHEFC on the performance of the sector against these national priorities and targets;
- even greater emphasis on continuous enhancement of quality and on innovation and flexibility;
- acknowledgement of informed student demand as the preferred driver of the type and pattern of higher education provision;

⁵ The review of the Scottish Higher Education Funding Council which formed the first phase of this HE review, identified a number of ways in which SHEFC should develop as an organisation, in a report published on 29 August 2002 and available at www.scotland.gov/who/elld/herereview.asp The Executive's Strategy for Lifelong Learning published on 11 February 2003 announced that the Scottish Further and Higher Education Funding Councils will merge. This will require legislation.

- a significant move towards more co-ordinated decision-making by institutions, structured communication, sharing of information and good practice, identification of opportunities for collaboration, and for the development or reorganisation of provision;
- a proactive role for the Funding Council in stimulating strategic decision-making in the sector and working closely with the Scottish Executive to ensure that higher education policy is well-informed;
- a key role for the Funding Council in facilitating and influencing at a strategic level the relationships between the Scottish Executive, the higher education sector, employers and enterprise.

Within this model, the **Scottish Executive** will:

Set high-level priorities.

Set the overall financial settlement for SHEFC.

Identify clear targets for the sector as a whole and monitor their achievement.

Be clear about what are the fundamentals expected of all institutions.

Ensure that higher education policy in Scotland takes account of wider developments in Scotland, the UK and internationally.

Stimulate improvements in informed learner demand through bodies such as Careers Scotland, *learnirect scotland* and the provision of data.

Provide information to inform decision-making by learning providers such as that produced by Futureskills Scotland and the Sector Skills Councils.

Have coherent and effective mechanisms for identifying and prioritising individual Executive departments' specific teaching and research needs and discussing these with SHEFC.

The Scottish Higher Education Funding Council will:

Continue with its core financial distribution and monitoring functions, seeking continuous quality enhancement, and the development of adaptive systems.

Provide active leadership, facilitating discussions between institutions, stimulating strategic decision-making across the sector and supporting the sector in adapting to change.

Work with institutions to establish a framework for delivering national priorities within which individual institutions can plan their own contributions.

Work with the Executive and other stakeholders to develop appropriate specific targets for the sector, review and develop new systems for measuring performance where needed and report regularly on the performance of the sector in priority areas, including international benchmarking.

Link with other national agencies.

Advise the Executive on issues relating to higher education.

SHEFC's Strategic Dialogue Process is a new agreement between SHEFC, Chairs and Principals of HEIs and Universities Scotland, which offers an opportunity for the sector to employ its knowledge and expertise collectively to develop coherent sector strategies. Early priorities have been identified as: Leadership & Management; e-learning; Widening participation; Excellence in Teaching and Knowledge Transfer. Discussions under this process will inform policy making as well as supporting individual HEIs in drawing up their own strategic plans.

www.shefc.ac.uk/content/library/press/2002/prhe0602.htm

Individual higher education institutions will:

Transmit, extend and challenge existing knowledge and ideas through high quality teaching and research.

Focus on high quality delivery in all areas, to provide learners with a positive learning experience.

Be well-governed and well-managed organisations.

Plan strategically, recognising and developing their strengths.

Regularly review the relevance of their activities to ensure they are responsive to the needs of learners, employers and other stakeholders, and to the policy framework set by the Executive.

Actively engage with the wider community.

Work with other organisations – including further education colleges – to maximise the opportunities available to learners, particularly through articulation and progression, and the potential of research.

Be accountable for the funding invested in them both publicly and privately, and maintain public confidence in the value of their output.

Taking this framework as its starting point, and recognising the changing environment in which higher education operates and where we are now, this paper sets out the developments the Executive believes will be needed over the next decade in:

- Teaching and Learning
- Research and Knowledge Transfer
- Governance and Management.

It also considers some aspects of funding and suggests further work on that theme.

Before turning to the plans for the future, the next section assesses where we start from.

Devolution

Most aspects of higher education are devolved – the Scottish Parliament can legislate, core funding comes from the Scottish Executive and the fundamental policy framework is set in Scotland. The Scottish Parliament has already shown a strong interest in higher education – most recently through the work of the Enterprise and Lifelong Learning Committee.⁶

Against that background, the Scottish sector retains important links with the rest of the UK. There is considerable movement of students and staff around the UK, and further afield – enriching the mix in our higher education institutions, to Scotland's benefit. Day-to-day links are formed between students, staff and institutions, and the sector itself chooses to organise many functions and activities on a UK-wide basis – allowing Scotland to draw on the benefits of a larger scale where that is useful. One critically important activity directly concerned with higher education is reserved – the UK Research Councils from which Scottish institutions gain significant funding under the “dual support” system.⁷

In taking forward its ambitions for higher education in Scotland, the Scottish Executive is committed to working constructively with the other administrations within the UK on higher education policy, as part of its wider approach to lifelong learning.

⁶ The ELL Committee published its inquiry into Lifelong Learning in Scotland in October 2002. It also undertook a review of SHEFC's Review of Teaching and Research Funding and published its report in October 2001, both available at www.scottish-parliament.uk

⁷ Under the dual support system, the Research Councils provide research funding across the UK which complements the funding provided separately in each part of the UK by the funding councils, including SHEFC.

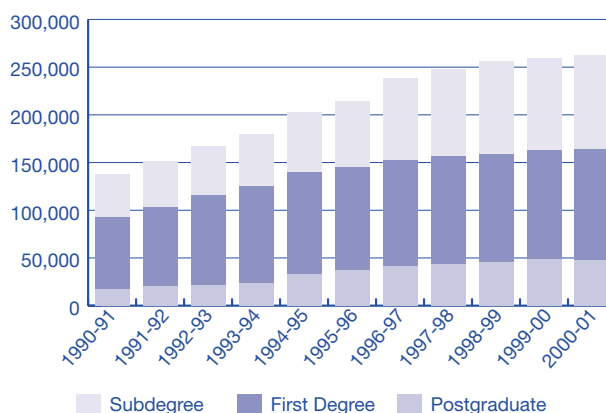
Higher Education in a Changing World

Lifelong learning policy in Scotland is about personal fulfilment and enterprise; employability and adaptability; active citizenship and social inclusion to build a Scotland where people have the confidence, enterprise, knowledge, creativity and skills they need to participate in economic, social and civic life. Higher education and the higher education sector have a crucial role to play in fostering this lifelong learning culture for Scotland and developing the skills and knowledge for a smart, successful Scotland.

Where are we now: Teaching and Learning

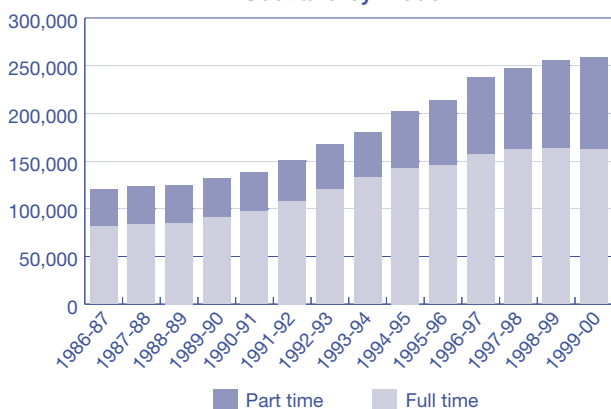
There has been a significant increase in participation in post-compulsory education in Scotland and, within that, those undertaking higher education courses. The increase in higher education is only partially fuelled by those taking degrees. The bulk of recent expansion has in fact been in people taking courses at SCQF levels 7 and 8 – usually HNC/Ds, mainly at further education colleges – which has increased more than threefold since 1986/87.

Students in Higher Education (HEIs and FECs) by Type of Qualification in Scotland 1990/91 to 2000-01



Source: Higher Education Statistics Agency and the Scottish Further Education Funding Council

Number of Higher Education Students in Scotland by Mode



Source: Higher Education Statistics Agency.

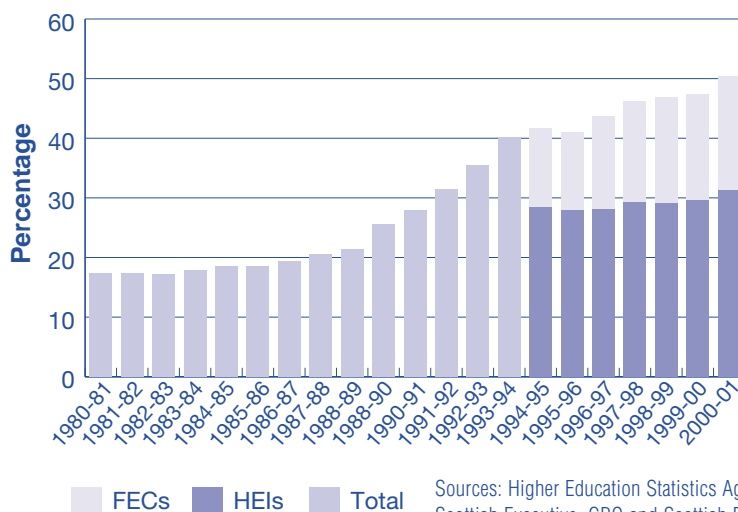
Within this increase there is a significant growth in the number of people studying on a part-time basis.



The Age Participation Index* – broken down by HEIs and FECs

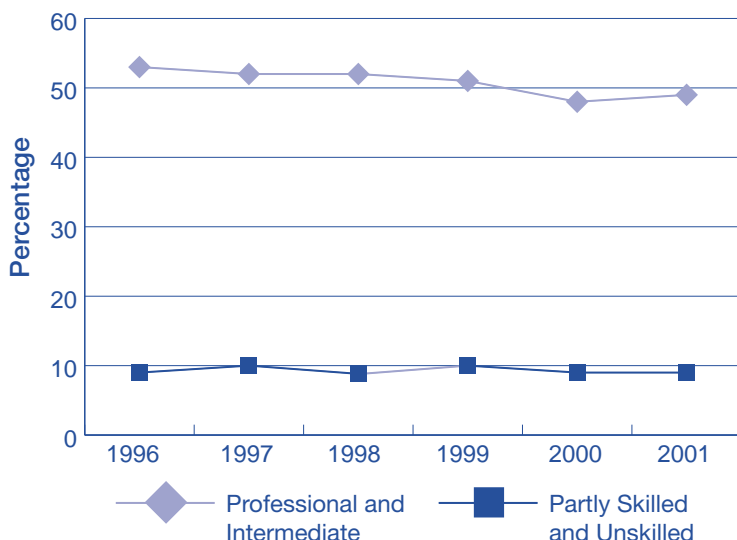
Participation: again, a major element of that increase is the expansion in the numbers of people taking HE courses at our FE colleges – now accounting for around a quarter of all higher education undertaken in Scotland.

*The Age Participation Index (API) is used to measure the number of Scots who entered higher education anywhere in the UK for the first time. It is calculated as the number of young Scots (aged under 21) who enter higher education as a percentage of the population in Scotland aged 17.



Sources: Higher Education Statistics Agency, Scottish Executive, GRO and Scottish Further Education Funding Council.

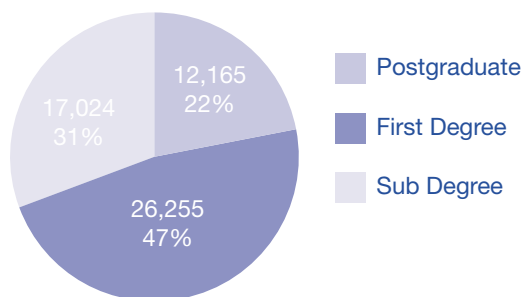
UCAS Social Economic Breakdown



Source: Universities and Colleges Admissions Service

Participation by socio-economic groups: despite the increasing numbers of those taking higher education in HEIs, including those taking full-time undergraduate courses, the proportion of those entering HE from socio-economic groups IV and V, as measured by UCAS, has not changed in recent years.

Graduate and Diplomates from Higher Education Courses 2000/01



Source: Higher Education Statistics Agency and the Scottish Further Education Funding Council

As would be expected, this expansion has led to an increase in the **numbers of graduates and diplomates**.

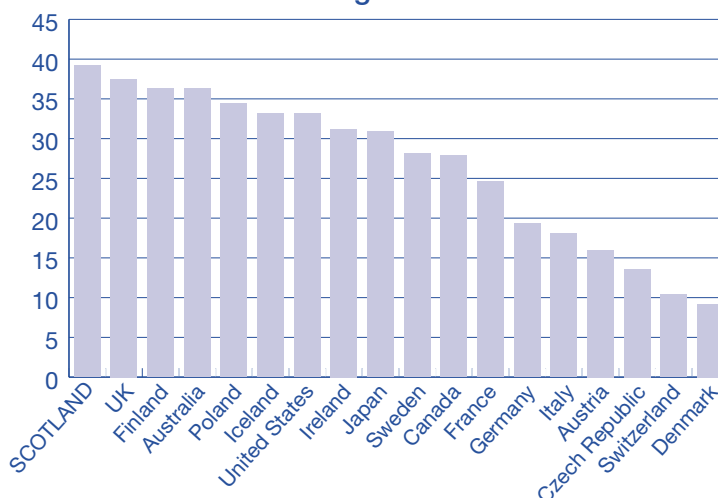
Compared with 1986/87, the numbers of students gaining:

- **HNC/D and equivalent** qualifications have increased more than threefold
- **first degrees** have doubled
- **postgraduate** qualifications have nearly doubled.

Compared with OECD countries, at 39.2%, Scotland had a **graduation rate from first degrees*** above that of **all** OECD countries for which data are available, the average being 25.9%.

* The gross graduation rate is defined as the number of people graduating from higher education first degrees during the year as a percentage of the population at the typical age of graduation.

Graduation rates from Higher Education first degrees 1999/00



Retention Rates* in Higher Education

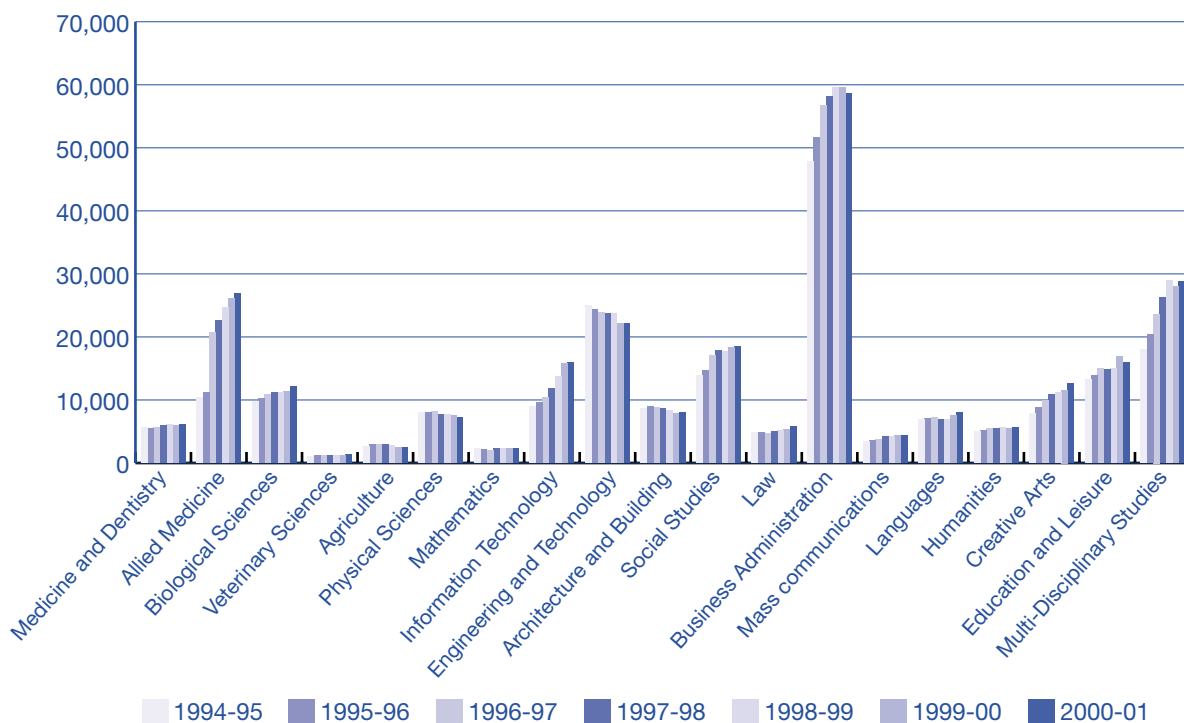
Overall, retention in the UK, and Scotland, is significantly higher than in other OECD countries where the average drop-out rate is around 40%.

* Projected learning outcomes and efficiencies. Based on the proportion of full-time students expected to obtain a degree or transfer to another institution.

	1996-97	1997-98	1998-99	1999-00
Total UK	85	85	85	84
Scotland	81	84	84	83
England	85	85	85	84

Source: UK Funding Councils' Performance Indicators on Higher Education

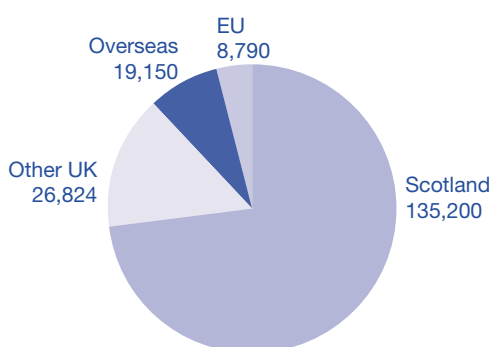
Students in Higher Education (HEIs and FECs) by Year and Subject Group



Source: Higher Education Statistics Agency and the Scottish Further Education Funding Council

The overall distribution of higher education qualifications by **subject category** in Scotland is not dissimilar from the OECD average. The largest concentration of qualifications are awarded in the fields of social sciences, business and law with an average (across the OECD and in Scotland) of every third graduate obtaining a degree in this area. The subjects where Scotland has a higher proportion of graduates are life and physical sciences, maths and computer science.

Number of HE Students in HEIs by Domicile 2000-01



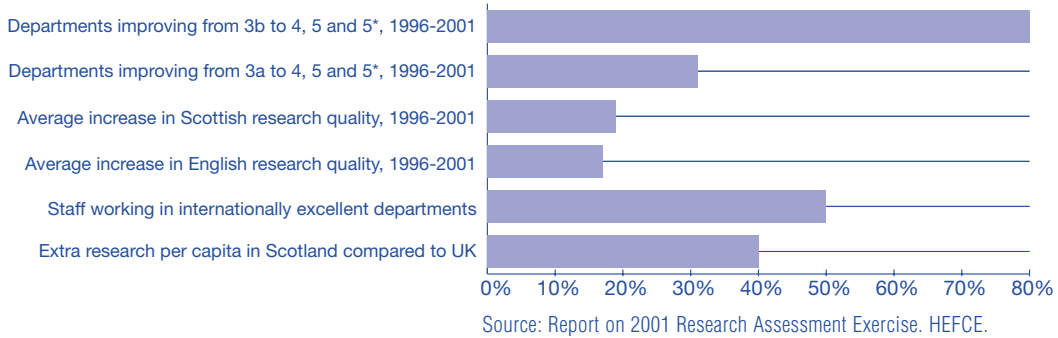
Source: Higher Education Statistics Agency

Around 10% of students in HEIs are non-EU **international students**. As well as enriching the student experience and offering international links for the future, these students contribute some £70 million in fees to institutions and are estimated to spend over £120 million off-campus – so benefiting the economy more widely.

Where are we now: research and knowledge transfer

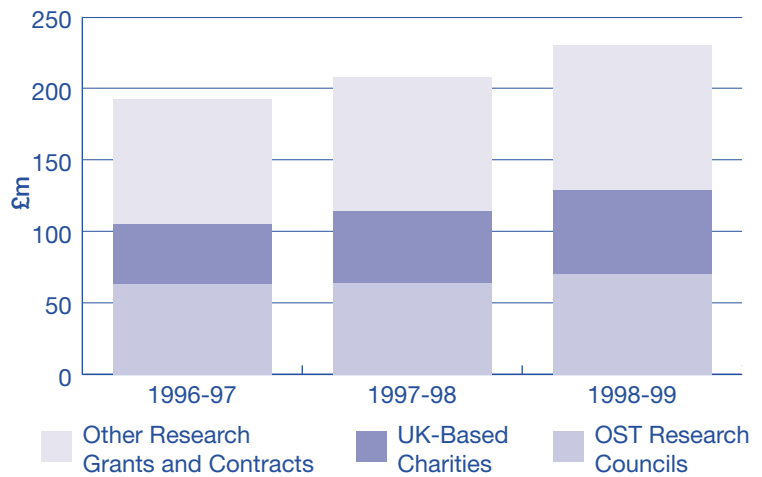
Relative to its size, Scotland has a strong, diverse research base producing 1% of the world's published research with less than 0.1% of the world's population. The results of the 2001 Research Assessment Exercise demonstrated that Scottish higher education institutions have responded effectively to the challenges and incentives it set with a rate of improvement in average rating between 1996 and 2001 that is faster than in the other parts of the UK. The RAE has encouraged departments to think strategically about their research visions, objectives and resources and emphasised merit assessed by peer reviewed published work.

Measurements of the Quality of Scottish Research

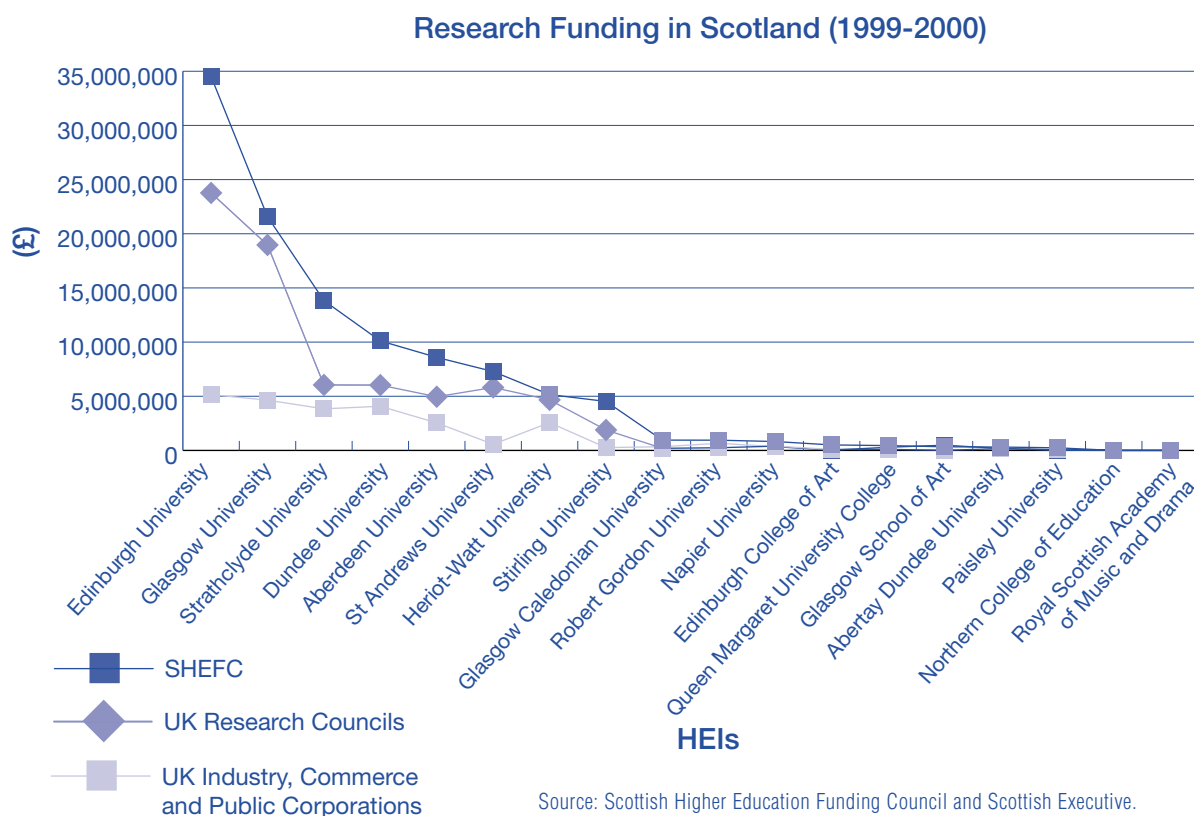


Scottish institutions are also very successful at securing, in intense competition with other UK higher education institutions, UK Research Council funding.

Income from Research Grants and Contracts



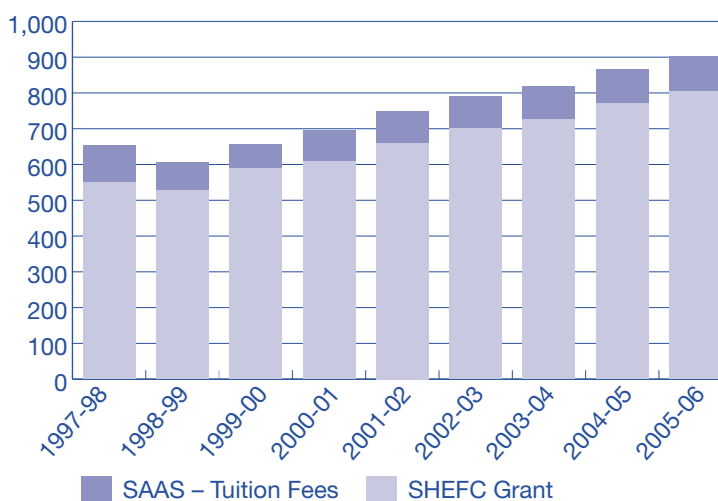
The chart below shows the distribution of SHEFC funding for research and the correlation between this and the ability to win UK Research Council funding by individual Scottish HEIs.



Where we are now: Overall Funding

The largest single source of funding for the sector is from the Scottish Executive via SHEFC.⁸ The Executive plans to increase the funding to SHEFC by over £100 million over 3 years – just under 7% in real terms. This will take the level of funding the sector receives via SHEFC from over £700 million to over £800 million. In addition, HEIs will receive tuition fees from the Student Awards Agency for Scottish and EU students which amounted to almost £90 million in 2001-02.

Scottish Executive Funding for Scottish HEIS



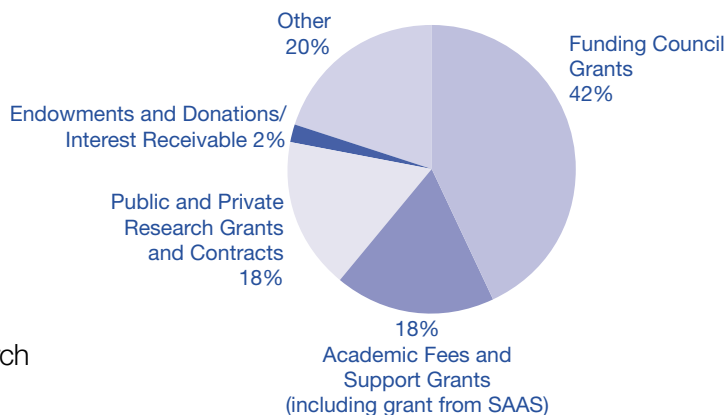
⁸ SHEFC has the responsibility, under the Further and Higher Education (Scotland) Act 1992, for the distribution to individual institutions of the mainstream funding allocated by the Executive. Ministers are specifically precluded from directing funding to specific institutions, courses or programmes of research. In addition, from time to time Departments within the Executive contract directly with institutions for the delivery of specific courses, research and other services.

Higher education institutions are funded from a variety of sources and have proven adept at diversifying their income base. On average, public funding accounts for about 56%⁹ of their income – a proportion which has been decreasing as the value of income from other sources has grown significantly in real terms. This varies significantly from institution to institution.

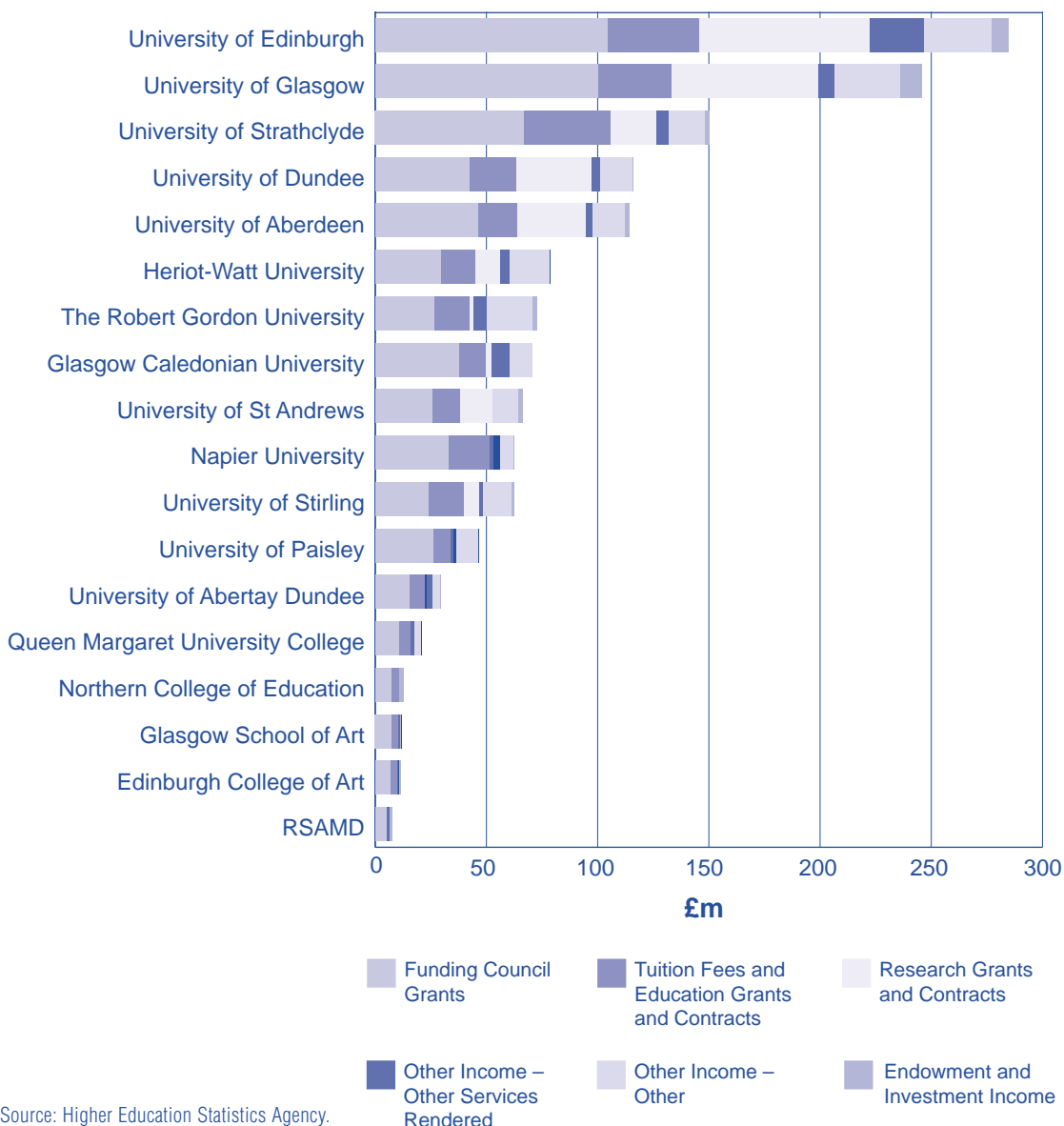
Public funding includes SHEFC grants, Research Council grants and payments from SAAS.

This graph gives an indication of the overall income of Scottish HEIs and the sources from which this is secured.

Income of Scottish HEIs 2000-01: £1.5 billion



Funding Sources (£m): 2000-01

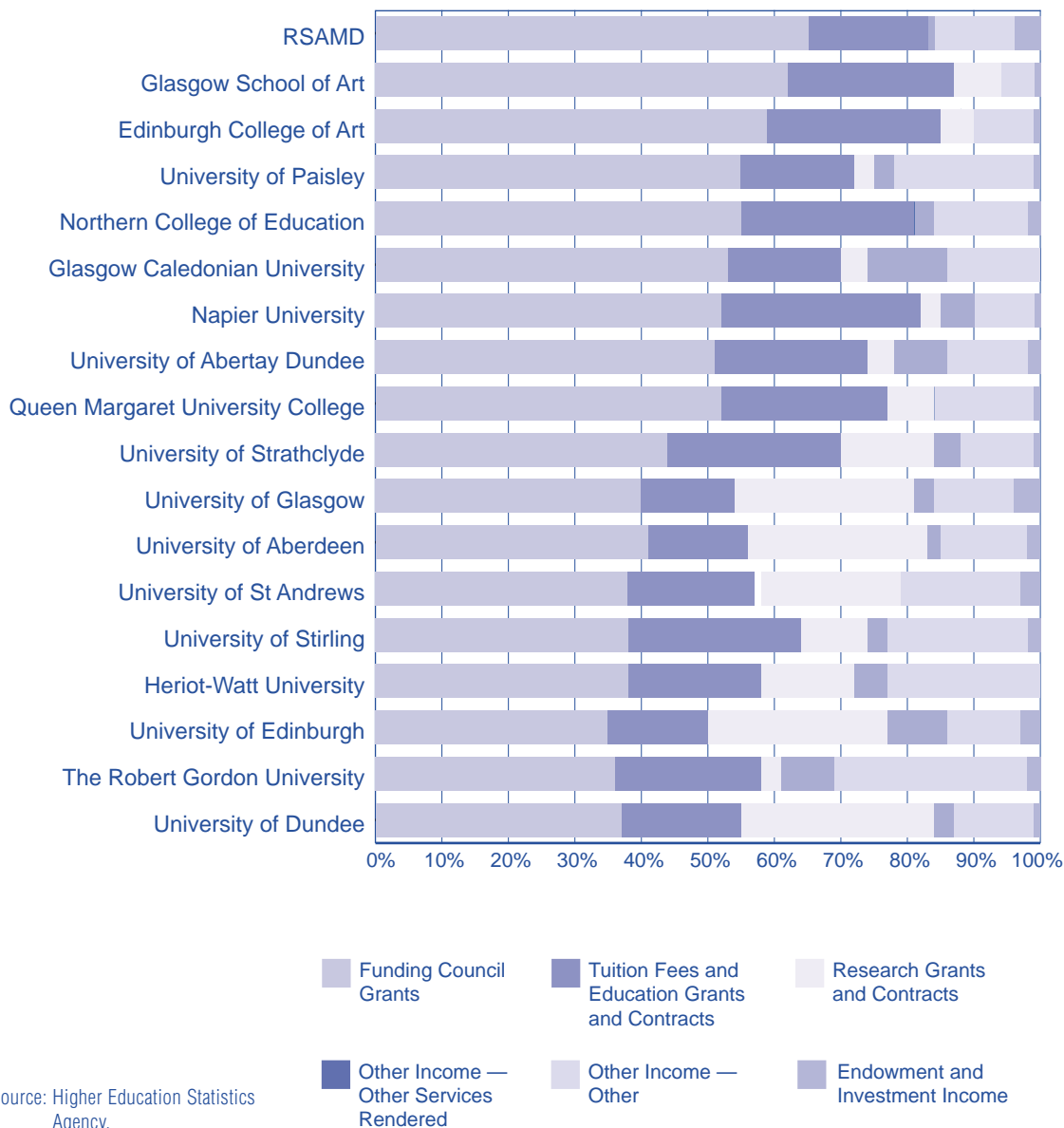


Source: Higher Education Statistics Agency.

⁹ Proportion of total income from public sources (Funding Council, OST Research Councils and publicly funded tuition fees) from *Facts and Figures* published by SHEFC.

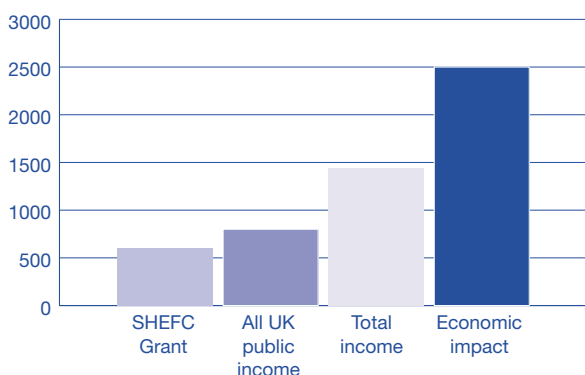
This graph gives an indication of the proportion of their overall income which HEIs secure from various sources.

Funding Sources (%): 2000-01



Source: Higher Education Statistics Agency.

Economic impact of Scottish higher education



Overall, from a SHEFC grant of £609 million in 2000-01, higher education was estimated to be worth more than £2.5 billion to the Scottish economy – and of every £5 higher education spends, £4 of that is spent in Scotland.

Source: Scottish Higher Education Funding Council 2001, Economic Aspects of Scottish Higher Education Institutes (COSHEP) McNicol, Kelly and McLellan 1999.

In summary, the Scottish higher education sector is already performing strongly in many important areas:

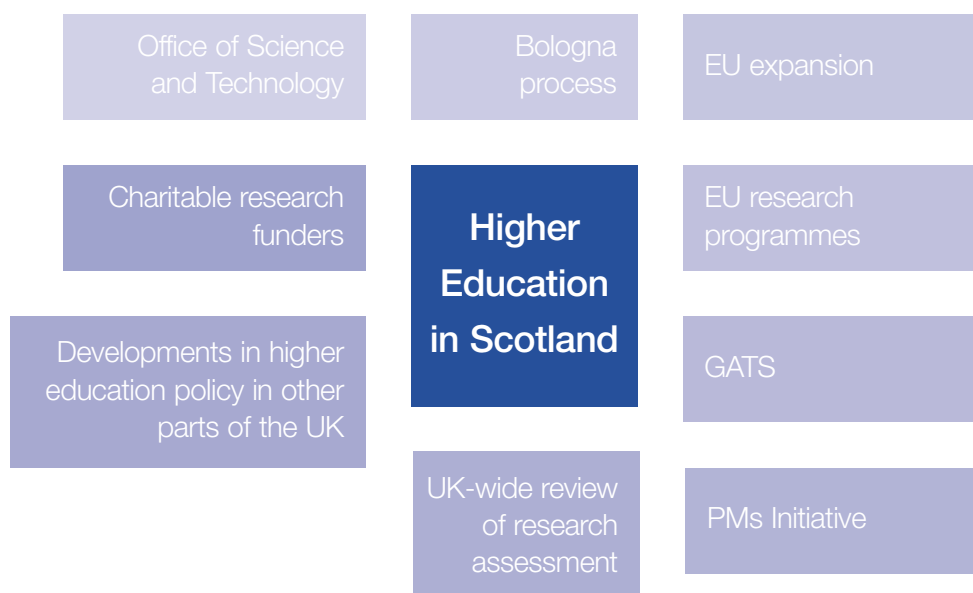
- At 50%, **participation by young people** in higher education, whether in higher education institutions or further education colleges, is at its highest ever.
- **Teaching Quality** assessments indicate that over three quarters of teaching is rated as Excellent or Highly Satisfactory.
- We attract more than our share of **international students**.
- Our **diverse research base** produces 1% of the world's published research with less than 0.1% of the world's population.
- The average increase in Scottish **research quality** in the 2001 Research Assessment Exercise was greater than for other parts of the UK.
- Scotland's HEIs secure some 12% of the UK Research Council funding, 14% of UK Government Departments' **research funding**, 14% of EU research budgets for the UK and 35% of UK universities' **royalty income** for Intellectual Property with 9% of the UK population.

This is a record of excellence in the delivery of teaching and learning and in research outcomes of which our institutions, and Scottish society, can rightly be proud. But we cannot be complacent – there are areas where there is more to be done. The expectations of higher education are changing and it is important to look forward.

The wider context

Scottish higher education is a system in transition. The **external challenges** to be met, and not exclusively by higher education, are well recognised – demographic changes, responding to the informed learner, changes in demand for learning and when and how this is accessed, and new developments in teaching and technology. The momentum of the internationalisation of education and research is speeded up by the new information and communication technologies and has increased competition: between HEIs, between countries and commercial and other organisations, both for students and for those who work in higher education. The competition to attract and retain talented researchers and research funding in this international marketplace is growing ever more fierce.

Bodies and processes beyond Scotland with which we need to continue to keep in touch, and seek to influence, currently include:



The Prime Minister's Initiative (PMI): to attract more non-EU overseas students to the UK to generate additional income for our institutions and to boost trade and diplomatic links. The Scottish Executive has contributed towards the funding and strategic development of PMI since its inception in 1996.

General Agreement on Trade in Services (GATS): to facilitate progressive liberalisation of trade among the various members of the World Trade Organisation (WTO). The overarching aim is to achieve non-discriminatory market access for service suppliers to boost international trade. Negotiations are conducted by a series of requests and offers facilitated by the WTO. The target date for completion of the current round is 1st January 2005. The UK Government leads, but works closely with the Executive on issues concerning education, including higher education.

Bologna Process: The Bologna Declaration, signed in May 2001, is a commitment in principle and practice to create a comparable and increasingly converged system of graduate and post-graduate education across Europe, in order to maximise transferability and mobility within Europe. Governments, institutions and other stakeholders are currently working on the necessary detail to achieve these objectives. The process is expected to be completed by 2010. The Executive is working with the DfES to take this forward.

OST: The UK Department of Trade and Industry's Office of Science and Technology (OST) funds the seven UK Research Councils, which provide funding for particular research projects and postgraduate research studentships across the UK. The OST also funds the larger share of the Science Research Investment Fund (SRIF), a joint programme with the HE funding bodies, including SHEFC, for developing science research infrastructure in HEIs.

EU Research Programmes: The Sixth Framework Programme (FP6) is the European Union's main instrument for the funding of research in Europe. The main focus of FP6 is the creation of a European Research Area which will foster scientific excellence and improve competitiveness and innovation through increased co-operation, complementarity and co-ordination.

UK-wide review of research assessment: Sir Gareth Roberts, at the request of the four UK HE funding bodies, including SHEFC, is leading a review into the means by which research at UK higher education institutions is assessed. The review is expected to report in May 2003, followed by a further phase of consultation.

Charitable research funders: research charities are now major funders of the science and engineering base, spending over £600 million a year on scientific research across the UK. In 1999-2000 the Wellcome Trust alone spent around £350 million on science research across the UK.

The Scottish context

Lifelong learning has had a high profile in Scotland since devolution.

Life Through Learning; Learning Through Life which provides the overarching strategy for lifelong learning in Scotland within which higher education has an important role to play in delivering the desired outcomes.

The Executive's *Science Strategy for Scotland*, published August 2001, looks to higher education to deliver many of its objectives.¹⁰

All three of the core objectives of the Executive's enterprise strategy in *A Smart, Successful Scotland: Ambitions for the Enterprise Networks*¹¹ are significantly dependent on the activities of our higher education sector. Growing businesses, better skills and global connections all benefit from higher education activity and feature as part of this higher education review.

Recurring themes in the responses to the consultation and discussion with the HE Review Advisory Panel in undertaking this review were the importance of **responsiveness, relevance, quality** and **coherence**. These are the same themes which underpin the Executive's strategy for lifelong learning.

Responsiveness and relevance:

- of learning to life;
- of learning opportunities to learners' and employers' needs;
- of funding mechanisms to learners throughout life, and;
- of government interventions where market deficiencies require them.

We aspire to a high **quality** learning experience for all learners, across all aspects of provision in Scotland, which is fit for purpose, in the widest sense.

We attach importance to clearer roles, relationships and expectations. Within the publicly-funded sector which supports learning at many levels and in many ways, the Executive wishes to see each of the bodies it funds work collaboratively to deliver a joined-up and **coherent** system.

Extract: *Life through Learning; Learning Through Life*.

Developments such as the recently established Futureskills Scotland and the publication of its first employers' survey in November 2002, *The Scottish Labour Market 2000* and proposed follow up activity, provide important data which can be used by providers (and learners) to identify labour market needs and opportunities.

¹⁰ Available at www.scotland.gov.uk/library3/education/ssfs-oo.asp

¹¹ See note 2 above.

In addition, the last few years have seen the creation of bodies such as Careers Scotland, and *learn direct scotland* to provide better, relevant information for both users and providers of learning opportunities. And, more recently, the outcome of the National Debate for Education underlined the importance of schools (and colleges) working with the higher education sector recognising the more connected context in which higher education in Scotland now operates and the importance of easing the transitions for learners through the education system.

Labour market supply

As we move towards a knowledge based economy and the need for an ever more skilled and flexible workforce, higher education has an important role to play in delivering the science, knowledge and skills to sustain this. The vocational nature of higher education is often undervalued in debates on specific labour market needs – for example, when it is argued that an increase in participation in higher education reduces the level of relevant vocational skills in the population.

A significant proportion of higher education is focussed on meeting local and wider labour market needs, on delivering degree and other vocational courses ranging across all industry groups from engineering and construction to hospitality and the performing arts, architectural technology and computing to journalism and communication studies. Alongside this, there is also a raft of courses available

which, while not necessarily demonstrating a direct link to a particular occupation or specialisation, provide learners with transferable skills and abilities which are much valued in the workplace. The value to the individual and the labour market is evidenced in the fact that 9 out of 10 graduates are in employment compared with 5 out of 10 of those without formal qualifications and graduates, on average, benefit from significantly higher levels of lifetime earnings than non-graduates.

Vocational skills are about more than specific job-related skills – they are about not only knowledge, but also attitudes and behaviour. A critical need in Scotland is to develop entrepreneurial skills in the workforce. Higher education has a crucial role to play in developing these attitudes, behaviours and skills.

Widening participation therefore not only opens up options and choices for people who may never have aspired to continue in education and so increases their life choices, but also provides a rich and varied pool of skills for the economy. Where supply does not meet demand, increasing recruitment and retention may be more a matter for the labour market than the learning market. It is for the learning market to respond to demand of students and employers in offering relevant and flexible provision; it is for the labour market to provide the conditions to ensure people then follow through and remain in the occupations required.

Public services

The provision of the appropriate number and type of higher education places in courses which supply our public services¹² in Scotland is particularly important in meeting the Executive's objectives – especially in health and education – providing doctors, nurses, health professionals, teachers, social workers, among others. In developing a strategy for higher education and looking to the longer term, account needs to be taken of the potential impact of policy imperatives on the numbers of trained people required in the workforce, the type of skills required, and new working practices.

For instance, the National Health Service is undergoing enormous change with advances in medicine and in the way in which healthcare is delivered. Central to the reform of NHSScotland, to improve healthcare services for patients, is a workforce which is flexible and responsive and supports change in service delivery. Workforce development in NHSScotland, encompasses a range of planned activity in the education and training of staff, recruitment and retention, new ways of working and job redesign, changing roles and career packages and pathways. New arrangements have been set in place to take this work forward through the implementation of 'Working for Health', the first Workforce Development Action Plan for NHSScotland.¹³

It is important that within the Executive, and in conjunction with the Funding Council, there is a clear understanding and communication of requirements and dialogue with HEIs. We need to ensure that a better understanding of workforce requirements in these sectors leads to the development of an appropriate supply of skilled people.

Next steps

We have grouped the steps which need to be taken to deliver our higher education under three main headings:

- Teaching and Learning
- Research and Knowledge Transfer
- Governance and Management.

A further section considers aspects of funding and suggests further work on that.

There are a number of themes which cut across all these headings, in particular: diversity within a strategic framework, relevance, flexibility, collaboration and adaptability of systems.

¹² 40% of jobs in Scotland are in the public sector.

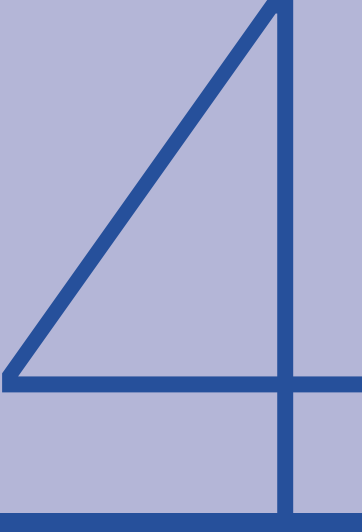
¹³ *Working for Health* published in August 2002 and available at www.scotland.gov.uk/library5/health/wfh-00.asp

Teaching and Learning

Main messages

Key challenges in teaching and learning will be speeding the rate at which flexible and innovative provision is developed which: is responsive and relevant to the needs of learners, employers and Scotland more widely; fully contributes to the Executive's aspirations for lifelong learning and closing the opportunity gap; is high quality and operates efficiently. This will require:

- sustaining and enhancing quality;
- better information to support student choice;
- greater responsiveness to demand;
- taking account of the different types and needs of learners in developing and designing teaching strategies and provision;
- detailed attention to the quality of the student experience;
- alertness to new thinking about approaches to teaching and developments in technology;
- greater co-operation and collaboration across and between institutions and sectors;
- development of more and greater transparency in routes and entry and exit points for learners;
- universal use of SCQF;
- development of current and new markets (including skill-boosting for those in work, and further growth in international markets);
- a strong, self-critical approach to relevance within institutions.



Making best use of capacity: 50% of young Scots now participate in higher education. The Executive does not plan any significant further expansion of government-funded places in higher education institutions.¹⁴ We need instead to work with institutions to make the best use of the existing capacity of the Scottish higher education sector.

Institutions have a responsibility to students, and wider society, to offer students the opportunity to progress as quickly as possible to successful completion of their course of study and achievement of a qualification. Well-managed articulation, full accreditation of prior learning, good initial advice on choices, better retention and opportunities for accelerated study all need to become even more widespread. That will allow the significant number of places already funded in higher education institutions¹⁴ to be used to enable more people to achieve the higher education qualifications of which they are capable and ensure that the time students spend dependent on student support and foregoing earnings is only ever as much as is really needed for what they want to achieve.

To progress this we will:

- ▷ 4.1 Require SHEFC to target any further expansion on those institutions which can demonstrate that, by a variety of strategies, they are seeking to use existing places more effectively.

- ▷ 4.2 With SHEFC, develop a measure for the number of students successfully completing a qualification relative to funded places allocated, and set a Scotland-wide target for an increase in that figure to which all institutions will be expected to make a contribution.

Enhancing Quality: As institutions develop and change their teaching provision it will be essential that quality enhancement is embedded in all teaching activity.

We welcome the new quality enhancement arrangements developed in Scotland in partnership by the Quality Assurance Agency, SHEFC, institutions and students.¹⁵ The new quality regime has a clear focus on quality enhancement, with institutions expected to demonstrate that they have clear, well-managed strategies for promoting constant quality improvement across all aspects of learning and teaching. The Executive particularly welcomes the close involvement of students' representatives in designing and implementing this new system, and the recognition in the new arrangements of the importance of the overall quality of the student experience. Students have a right to expect that they will be well treated by providers and benefit from professionally-managed systems.

¹⁴ For 2003-04 133,350 full-time equivalent places will be funded.

¹⁵ The details of the new arrangements can be found at www.shefc.ac.uk/content/shefc/qli/qa&enhancement.htm

To progress this we will:

- ▷ 4.3 Expect SHEFC to monitor closely the implementation of this new system, to ensure that it delivers real benefits to students, reduces low value-added bureaucracy and continues to provide a sufficient level of assurance and accountability.
- ▷ 4.4 Ask the QAA/SHEFC/US/NUS Quality Working Group to examine the proposals in the DfES White Paper which relate to quality, to identify if any proposals in it which are not already covered in the new Scottish arrangements should be considered for adoption here.

Relating supply to demand: The capacity of institutions to anticipate, lead and respond to the range of external drivers for changing demand will be critical to future success.

Some of the drivers for change are already apparent. Scotland's population is expected to decline over the next 20 years as a consequence of a falling birth rate. As a result, the proportion of older people in the population, is expected to increase significantly.¹⁶ As the demographic changes continue, employers will increasingly need a workforce of all ages and with the skills for the 21st century. Markets and technologies are changing. People will stay in the labour market longer and need to update their knowledge and skills more frequently. Higher education will need to adapt to these changes.

To progress this we will:

- ▷ 4.5 Ask the Funding Councils and Enterprise Networks to plan the most effective use of resources to meet demand for learning and training, agreeing joint targeting and funding where appropriate.¹⁷
- ▷ 4.6 Ask the Funding Council look at future labour market requirements and types of learner and use this analysis to help institutions develop their provision so that it meets future demand.
- ▷ 4.7 Improve the quality and consistency of information for all learners, through *learnirect scotland* working with Careers Scotland and Future Skills Scotland, further education colleges and others to ensure that learners have a seamless service incorporating the provision of information and guidance.¹⁸
- ▷ 4.8 Review the current arrangements within the Executive for communicating future workforce requirements in key public sector areas, including arrangements for the funding of health-related education and development,¹⁹ and with SHEFC put in place better mechanisms for addressing these requirements.
- ▷ 4.9 Expect all institutions to have mechanisms in place for regularly reviewing their provision in response to demand.
- ▷ 4.10 Continue to provide data via Futureskills Scotland and other sources to inform learning providers, employers and learners about future supply and demand.

¹⁶ *Life Through Learning; Learning Through Life: The Lifelong Learning Strategy for Scotland* contains more information on projected demographic trends in Scotland over the next 20 years.

¹⁷ Commitment in *Life Through Learning; Learning Through Life*.

¹⁸ Commitment in *Life Through Learning; Learning Through Life*.

¹⁹ As referred to in the Executive's White Paper on Health, *Partnership for Care* published 27 February 2003 and available at www.scotland-gov.uk/library5/health/pfcs-00.asp

Flexibility: Institutions will need to offer learners a greater degree of flexibility of provision and modes of delivery. They will have to recognise and respond to the changing needs of different types of learner and SHEFC's own systems need to be able to recognise and support more flexible and innovative provision.

Improving the future life prospects of all, including meeting the needs of non-traditional learners, such as lone parents, women returning to work, disabled people and those with no family background of continuing education, requires institutions to be creative and flexible in designing and delivering provision.

The development of new options for degree-level study is needed, including accelerated and intensive courses, full and part-time mixed provision, and other provision for those who do not want to leave the labour market or want to be away from it for the shortest possible period. Also needed will be provision of inter-disciplinary learning in response to employer requirements such as those of the NHS. Short targeted courses and other provision also needs to grow – including

continuing professional development (CPD) – designed to meet the needs of employers and in-work learners, if higher education is to play its part in helping Scotland adjust successfully to a changing society and economy.

SHEFC has a central role to play in stimulating these developments – though we expect learners and employers to continue to be the main funders of CPD and other courses aimed at those in work who already have a higher education qualification. We believe that it is right to concentrate public investment by the Executive primarily on supporting initial undergraduate qualification.

In addition, the use of ICT needs to become pervasive, and Scottish HEIs need to exploit further the potential of e-learning and other technological developments to support learning, with institutions sharing their experience. In particular, we should be taking advantage of the unique experience of the Open University in Scotland in the provision of distance learning of all sorts. The OU in Scotland became SHEFC funded for the first time in April 2001.

Openings Programme

The Openings Programme is a series of short introductory courses at pre-degree level designed to prepare students for undergraduate study by sampling **Open University** supported open learning, developing study skills and building confidence. Initial evaluation has been extremely positive and shown that those students who might have been previously excluded by gender, ethnic origin, age and social status, can participate and

thrive in higher education. The courses cover specific areas of the curriculum such as maths, the arts, sciences or social sciences, and a highly popular course about dealing with change, such as returning to study or taking a different direction at work. Students can choose from five courses each of around 100 hours of study, which are offered at four points during the year.

Family Health Nurse

The **University of Stirling** has developed a “mixed mode” degree programme designed to prepare nurses working in remote and rural areas of northern Scotland for the new role of Family Health Nurse. The programme involves 40 weeks of full-time study, combining campus-based study in Inverness, web-based activities and practice-based learning. The concept of the programme emerged from the World Health Organization.

Approximately 30 students completed the pilot programme and graduated in June 2002. A formal evaluation is currently being conducted, but students have been very enthusiastic:

“Distance learning can be an isolating experience, but accessing the email and chat-room was an important way to communicate with colleagues and tutors and the support and reassurance received was invaluable”.

To progress this we will:

- ▷ 4.11 Ask SHEFC to examine what more specific work could be done, or incentives put in place, to stimulate the further development of more flexible provision.
- ▷ 4.12 Expect institutions to help raise aspirations and break down barriers to learning for different types of learners – including lone parents, disabled people, women returners, those from family backgrounds who have not traditionally continued in education, or those living in remote locations – by recognising and responding to their diverse needs and being creative and flexible in the design and delivery of provision.
- ▷ 4.13 Ask SHEFC to support and encourage the sustainable development of e-learning in Scotland in partnership with the sector and other stakeholders including through consideration of the recommendations made by SHEFC's e-learning group in its forthcoming report.
- ▷ 4.14 Support investment in ICT in HEIs whether through SHEFC or the Enterprise bodies.

Access and Participation: We need to see real improvement in the proportions of students from the most economically disadvantaged groups benefiting from provision in our HEIs, and to improve retention rates across students from all backgrounds.

On-line medical school (IVIMEDS)

An ambitious Scotland-initiated venture, which will radically change the education of tomorrow's doctors across the globe, will be pioneered from August 2003 by students at Hull York Medical School in the UK with the first enrolments in 2004.

Led by the **University of Dundee**, thirty of the world's leading medical schools from the University of Miami to the University of Queensland, Australia have joined as partners with those in Germany, Italy, Ireland, Spain, Hong Kong, China and the rest of the UK, to take forward this groundbreaking venture.

Its blending of the best of e-technology and face-to-face delivery could provide the cost effective answer to a range of problems

including increasing the numbers of trained doctors, widening access to the profession across cultural and academic boundaries and, for rural communities, conquering the 'tyranny of distance' that discourages those with potential from going away to train.

The virtual school will allow students around the world to pursue a medical education through a combination of e-learning and clinical experience in local health facilities. It means wherever they are studying – from the most remote and underdeveloped areas to high tech cities – they will have access to the best of international expertise across a range of specialisms.

Understanding the Universe

In collaboration with **Heriot-Watt University**, the School of Physics at the **University of St Andrews** is developing a range of modules to be delivered through WebCT virtual learning environment. Significant use is made of the power of the computer for providing useful simulations, and of the

environment for communications and assessment tools. The "Semiconductor Physics and Devices" module is being delivered to students working in industry undertaking the Doctorate Photonics programme, while other on-line material is being used by on-campus students.

HOTBED

The **RSAMD's** HOTBED project gives students quick and easy access to a storehouse of performances and precious archival recordings (mostly sourced from the archives of its partner, the School of Scottish Studies at the **University of Edinburgh**). HOTBED researchers are investigating the impact of using networked digital sound resources on learning and teaching for performance students, looking at the best ways of presenting resources and giving students appropriate tools to work with them. HOTBED – Handing On Tradition By Electronic

Dissemination – is about bringing 21st-century technology into an area in which music has previously been passed on by oral/aural transmission (rather than written transmission via notated scores). Here the computer takes on a role as a direct learning resource in which the main mode of interaction with the music is aural, rather than visual. RSAMD also highlights that "Last but by no means least, HOTBED is the home of some cracking tunes."

Scotland cannot afford to waste talent. While we welcome the significant level of participation in HE in Scotland, much of the increase amongst socially disadvantaged groups has been through the expansion in take-up of higher education opportunities at FE colleges. It remains disappointing that, within the HE sector, there has been much less movement in the proportion of those from the most economically disadvantaged groups. The Executive believes that Scottish HEIs are strongly committed to widening access and welcomes the seven pledges on this made by all Principals in March 2001 in “Our Commitment to Inclusion”. The next critical move must be to ensure these commitments are firmly embedded in institutions at all levels and particularly, in developing institutional strategies, to recognise the crucial gatekeeper role played by admissions staff.

We recognise that alongside continued work by higher education institutions, improving retention and attainment at school or in FE among the most disadvantaged young people will be critical to closing the access gap in higher education.

We also want to see further improvements in levels of retention in higher education for students from all backgrounds. We recognise that the reasons for non-completion are complex. Our ambition must be that all students have a positive

learning experience, complete their studies successfully and achieve their desired outcomes. Although retention rates in Scotland compare well with other countries, further improving retention needs to be pursued as a priority, so that access really means access to success.

To progress this we will:

- ▷ 4.15 Work with the representative bodies in the sector and the Funding Council to set new sector-wide targets for improvement in access from the most economically disadvantaged groups and for the retention of students of all backgrounds, and monitor performance against these.
- ▷ 4.16 In the meantime, continue to monitor progress through the Performance Indicators published annually by the Funding Council, and monitor the mix of entrants through the UCAS process.
- ▷ 4.17 Expect all institutions to contribute to closing the opportunity gap between those who achieve their full potential and those who do not, recognising that different strategies will work for different institutions, and that there needs to be flexibility to allow institutions to choose how they will make their contribution. Access and equality of opportunity regardless of factors such as gender, ethnicity, disability or background must be the goal.

Our Commitment to Inclusion: a statement signed by Principals of all HEIs in Scotland (2001)

Fair admission: Throughout the sector we will continue to ensure that admission to Scottish higher education institutions is fair, clear and transparent for all students.

Valuing all achievement: The sector will recognise and promote as many routes into higher education as possible, valuing both prior learning and previous work or other experiences of students.

Helping people succeed: The sector will create opportunities at all stages in life by providing, on our own and in partnership with others, alternative ways into higher education such as access courses and summer schools.

Flexible learning: The sector will offer flexible patterns of learning, including full time, part time and mixed, evening,

weekend and summer study options, and distance learning opportunities.

Building credit: The sector will enable the accumulation of academic credits by students as ‘currency’ to allow flexibility in when and where to study.

Supporting students: The sector will continue to give students all the support we can to make sure they complete their courses successfully, and where they don’t will continue to investigate the reasons and address them where we can.

Reaching out: The sector will continue to take higher education into local communities, particularly through work in urban and rural areas with low participation and poor access to learning.

- ▷ 4.18 Welcome innovative admissions strategies by individual institutions which seek to recognise talent and potential.
- ▷ 4.19 Expect all institutions to build links with schools and further education colleges, in particular by playing a full part in the Wider Access Regional Forums, and supporting the work of initiatives such as Greater Opportunities of Access and Learning for Schools (GOALS) and Lothian Equal Access Programme for Schools (LEAPS).
- ▷ 4.20 Actively examine the possibilities for the development of more opportunities for progression to degree-level study from SCQF level 7 and 8 courses provided by further education colleges.
- ▷ 4.21 Require SHEFC to examine access and retention strategies in its consideration of individual HEIs' strategic plans, to discuss with individual institutions any further action that may be required, and to share good practice.
- ▷ 4.22 Require SHEFC to monitor the use of its widening access premium, which is aimed at improving retention, assess its added value and advise the Executive by the Autumn 2003 on its impact. Expect the sharing of good practice on retention to be built into any future initiatives.
- ▷ 4.23 Stimulate more disadvantaged young people to remain in education by increasing support to 16-19 years olds from low income families to stay on at school and/or FE college, develop an entitlement programme for those leaving care whose schooling has been interrupted,²⁰ and pursue our aim of better results for all pupils leaving school but with clear and specific action to improve results for those currently underperforming.²¹

Articulation and routeways: Increasing the opportunities for articulation – for example through the development of “2+2” opportunities – will help us meet our ambitions for access and participation, flexibility, and best use of capacity. Potential and current students must have better information, advice and guidance to inform choices; relevant learning and experience should be taken into account by institutions in admitting individuals into degree courses; and institutions have to be flexible on appropriate entry points. The full accreditation of prior learning should be addressed as much as an issue for students entering with traditional qualifications as for non-traditional students.

The Abertay Wider Access Centre

Widening access to higher education to everyone who could benefit from it is at the heart of the **University of Abertay's** mission. School pupils, college students and adult returners to education all receive help to enter higher education from specially designed programmes.

The outcome is: 98% of new students in 2000/2001 were from state schools, 37% were from social class IIIM, IV or V and 27% came from low participation neighbourhoods. Mature students comprised 31% of the new intake. Success comes from a range of innovative schemes: Turning Heads, introducing school pupils to the university, Academic Compact, guaranteeing a university place to all pupils who go on to gain

the required Highers grades, AHEAD, Abertay's part-time access course for mature students, and a specially-designed transition course for students articulating into degree programmes from FE.

The University of Abertay is also reaching out to rural areas, to ensure that no-one is excluded because they live far from a university. Learning@Edzell, and now Learning@Kirriemuir, use the latest technology and teaching resources to offer access courses in the heart of the Angus Glens in a collaborative project run in association with **Angus College, Angus Council** and **Dundee University**.

²⁰ Both commitments in *Life Through Learning; Learning Through Life: The Lifelong Learning Strategy for Scotland*.

²¹ From *Educating for Excellence: choice and opportunity: the Executive's response to the National Debate on Education*.

Higher National Certificate and Diploma courses, and their equivalents at SCQF level 7 and 8, are valuable qualifications in their own right – popular with students and valued by employers, who are often involved in their design and delivery. There are no plans in Scotland to go down the route of Foundation Degrees. For many students HNC/Ds will rightly remain an end in themselves. In developing more progression and articulation routes – which will be critical to opening up our HEIs to a wider mix of students – it is in the long-term interest of Scotland that we still maintain the integrity of HNC/Ds and their equivalents as free-standing qualifications, characterised by a strong vocational focus. Taking this need into account, systems must support articulation between courses both between sectors and institutions, and HEIs and Further Education Colleges should work together to identify and streamline routes between providers. Information must be provided on entry and exit points, transportable credits and qualifications, the accreditation of prior experience and

learning, “2+2” and fast tracking options, financial implications and employment opportunities. To enhance the transparency of articulation routes, all qualifications and routes offered by higher education institutions should be mapped onto the SCQF. The Funding Council should facilitate and support these developments.

To progress this we will:

▷ 4.24 Introduce legislation to merge SHEFC and SFEFC.²²

▷ 4.25 Take receipt of proposals in the summer from the Funding Councils on how we can use the outcome of the FE/HE articulation exercise undertaken by the Scottish Advisory Committee on Credit and Access (SACCA), in collaboration with the Wider Access Regional Forums. This will cover mapping, student tracking and bridging arrangements to maximise the benefits to learners and extend good practice in this area.²³

Student Support Mentoring Project

The Student Support Mentoring Project is a pioneering project designed and coordinated by the **University of Paisley** and supported by the European Social Fund and the Scottish Executive's Social Inclusion Partnership Fund and Renfrewshire Council.

The project aims to:

Increase retention of SIP students who enter the University of Paisley.

Provide students with skills for graduate employment.

Provide sessional employment opportunities for students.

It does this by providing a programme of active support. Students have received assistance with book costs, childcare, computers, one-to-one mentoring, networking, and social opportunities, workshops in study skills, finance, action planning, CV writing and interview skills.

Widening access and articulation

As part of its strategic commitment to widening opportunity and broadening access to higher education, **Napier University** has so far developed partnerships with 15 Further Education Colleges throughout Scotland. Students who have completed HNC/Ds at the partner colleges can gain advanced entry (typically to years 2 or 3) of seventy different degree programmes (80% of Napier's provision) across a broad range of arts, business, science and technology degree programmes.

Bridging courses, mentoring and other support is offered to smooth the transition from FE to HE. In addition to these strong articulation pathways, Napier University also works with its college partners to provide degree programmes in the colleges. For example, Napier's Network Computing degree is delivered at **Aberdeen, James Watt and Lauder Colleges**. By working with FE Colleges in this way, Napier is providing educational opportunities to regions and communities that traditionally have not had local access to degree-level provision.

²² Commitment in *Life Through Learning; Learning Through Life; The Lifelong Learning Strategy for Scotland*. More detail on this proposal is contained in the document at page 60.

²³ Commitment in *Life Through Learning; Learning Through Life*.

- ▷ 4.26 Expect all institutions to use the outcome of the SACCA exercise to examine the scope for extending their own involvement in providing progression and articulation opportunities.
- ▷ 4.27 Encourage HEIs, FE colleges and the SQA to collaborate when qualifications are being developed, so as to maximise the potential for articulation and transition across sectors, and to improve information to students on courses where specific arrangements are available.²⁴
- ▷ 4.28 Continue to look to the Funding Council to play its part in helping to achieve the full implementation of the SCQF.

Graduate skills and employability: It is a strength of the Scottish system that higher education provides a generalist broad-based education to nurture critical reflective thinking and a breadth of knowledge and understanding, as well as vocational qualifications to provide specific knowledge and skills. Institutions must have robust systems in place to ensure that courses are, and continue to be, relevant to the needs of learners and to the wider needs of the economy and society. In addition to proficiency in specific skills, the development and recognition of the need for ‘soft skills’ is also important and should be seen as a core element of the learning experience which institutions should provide.

Most courses in HEIs are vocational – Scottish HEIs have a long and distinguished tradition of offering vocational education in subjects such as medicine and law. In recent years, many new courses have been developed in higher education in response to the need for new vocational skills. HEIs should be supported – and not criticised – for identifying new areas of study which respond to the changing labour market. HEIs in turn need to be alert to the importance of retaining public confidence in the sector as a whole, and therefore be ready to show that such new courses have the academic rigour and vocational relevance which learners and wider society rightly expect. Courses which are intended to prepare people for a particular career should always be developed and provided in as close partnership as possible with the relevant employer representatives and professional bodies. Professional bodies in turn should keep their own requirements under review, and work constructively with HEIs to ensure that they are not imposing unnecessary inflexibilities.

The *Scottish Employers Skill Survey 2002*²⁵ indicated that 75% of employers reported recruits from HEIs were well prepared for employment in terms of general or core skills. Employers with skills shortages reported that the skills most commonly lacking for higher skilled jobs are:

Easing progression

Building on the close relationship developed between Abertay and Fife College in the early 1990s, the **Abertay-Fife University Project** remains a highly successful role model for collaboration in Scottish tertiary education. The Project has seen concrete results, not least in enhanced local opportunities for lifelong learners, an increased regional skills base and, ultimately, a contribution to national competitiveness. The success that the College and University have achieved are best demonstrated by the hundreds of learners who have benefited from the joint programmes – people who might not have enjoyed a higher education without the Project.

The Project’s first success was to create genuinely seamless pathways for learners through articulation agreements between College HNDs and University degree programmes. Specially designed 3-year local degree courses followed, meeting employers’ skills needs and providing opportunities to access higher education for students unable to move away from the Fife region. Novel “2+2” honours degrees involving joint delivery at all levels are now on the agenda.

²⁴ Commitment in *Life Through Learning; Learning Through Life*.

²⁵ Futureskills Scotland publication, November 2002, available at www.futureskillscotland.org.uk/web/site/fssreports.asp

team working, customer handling and oral communication. These skills are not only valuable in the labour market – higher education should offer all students the chance to develop their ability to work confidently and effectively with other people.

Above all, students should have access to reliable information on career prospects, so that wherever these are an important factor in their decision on what and where to study, they can make well-informed choices – and course providers should take responsibility for ensuring that this information is available.

To progress this we will:

- ▷ 4.29 Ask SHEFC to ensure that the revised quality assurance arrangements for higher education encourage all institutions to work closely with employer representatives and professional bodies wherever they are developing and delivering specifically vocational courses.
- ▷ 4.30 Expect the Funding Councils to build on the work being done on careers education, information and guidance and its potential to contribute to the employability of learners. This is being taken forward in consultation with the sectors as part of the Councils' quality improvement strategy.
- ▷ 4.31 Work with Careers Scotland and Universities Scotland to develop a 'question card' which helps prospective students ask the right questions about the employment prospects of those courses which have an explicit vocational purpose.
- ▷ 4.32 Expect all institutions to draw on the information available from Futureskills Scotland and the Sector Skills Councils in reviewing and developing their provision.
- ▷ 4.33 Expect all institutions, in reviewing and developing course content, to ensure transferable and 'soft' skills will be developed and recorded.

Serving business

Today small business owners are multi-functional, spread across wide geographical areas, and access to conventional learning is often neither practical nor affordable. Innovation in teaching methods is being used by **The Robert Gordon University**, in collaboration with **Applied Arts Scotland** and **Scottish Enterprise Grampian**, to design and develop Scotland's first online Continuous Personal Development (CPD) training resource for the craft-based creative industries. This will help contribute to the competitiveness of creative industries in

Scotland, particularly in rural areas where access to conventional learning is problematic. The research is exploring the potential of digital technologies within the creative industries and developing digital resources. The materials will be available online via the RGU Virtual Campus, providing access to tutors and specialists by e-mail, peer group networks, downloadable material, business support tools and relevant web links.

On-line careers service*

UHI Millennium Institute, working in partnership with the **University of Aberdeen** and **Careers Scotland (Highlands & Islands)**, has launched an on-line careers guidance service for higher education students and recent graduates. The service provides information on career choices, employer contacts and advice on important skills such as writing a curriculum vitae and interview techniques. An innovative feature is a selection of interactive modules intended to assist in assessing skills and motivations and prepare job applicants for interviews.

UHI Millennium Institute also undertook training of Careers Scotland staff in the use of video-conferencing to assist them in providing individual career counselling to clients who are unable to visit the main careers service offices.

* The on-line careers service is available at: www.gradscotnorth.ac.uk

International markets: The presence of international students enhances the environment for all students – both academically and culturally. Retention of highly skilled graduates from overseas also has the potential to make an important contribution to the future economic and social well-being of Scotland. There is scope for greater collaboration among stakeholders and more strategic marketing of Scottish higher education overseas – both in encouraging students to come here and in the provision of distance learning opportunities. Making the best of the distinctiveness and reputation of Scottish education to attract greater numbers of international students is an important goal. We must work together effectively to achieve it. Because Scotland has a relatively compact sector, we believe that collaboration rather than competition will maximise the benefits to the sector, and indeed Scotland, as a whole. Closer collaboration is compatible with maintaining the existing profile of particular courses and institutions in overseas markets while raising the overall profile of Scotland to the benefit of all.

We welcome the work being done by institutions both individually and collectively to attract greater numbers of international students to Scotland. We also recognise and value existing work on co-operative initiatives involving a range of stakeholders, including the distinctive brand for Scottish higher education within the Prime Minister's Initiative and the work of EducationUKScotland. We believe that closer co-operation could raise the profile of Scotland and strengthen the ability of Scottish institutions to attract students from other parts of the world, as well as making better use of resources available across the sector. The quality of the student experience is undoubtedly a major factor influencing student choice and

personal recommendation is a powerful marketing tool. We want to see institutions work together to explore the possible development of an international students' charter pledging a basic level of service and support which students can expect when studying in Scotland, to give Scotland a competitive edge when students make their choices.

EducationUKScotland has a pivotal role to play in working for the sector, reducing duplication of effort, facilitating collaboration and linking into UK-wide resources such as the British Council. The organisation should be supported and used as a Scotland-wide resource. We recognise that the value of a Scottish "brand" will vary between different countries and even within different subject areas, and therefore that the approach to overseas recruitment will have to become increasingly sophisticated, and sensitive to "niche markets". There will be a continuing value in individual institutions promoting themselves in certain contexts. But in those cases, it is critical that institutions recognise that their principal competitors are other English-medium providers around the world and not other Scottish institutions. As such, institutions must always take care to avoid any competitive behaviour which risks damaging the reputation of Scottish institutions or Scottish higher education as a whole in overseas markets.

Because higher education has a key role to play in bringing talented and skilled individuals to Scotland – a priority for the Executive – we will look to the sector to advise and support initiatives in this area.

To progress this we will:

- ▶ 4.34 Strengthen our relationship with EducationUKScotland by providing annual core funding for its operation for the next two years from 2003-04.

- ▷ 4.35 Monitor the collaborative efforts of institutions through their work with EducationUKScotland. Take into account that performance and the progress towards the specific targets being developed by EducationUKScotland in deciding on any future funding for this area of activity.
- ▷ 4.36 Expect all institutions to work with EducationUKScotland to support and inform the six areas of activity identified as priorities for its activities: partnerships, representation, market analysis, international promotion, web-based services and collaboration.
- ▷ 4.37 Invite NUS Scotland, EducationUKScotland, Universities Scotland and the Association of Scottish Colleges to consider the development of an “international students’ charter” to which all FE and HE institutions should be encouraged to subscribe. This will provide international students with a reference point indicating a minimum standard of help and support, including specialist advice, which they can expect in coming to any institution in Scotland.
- ▷ 4.38 Continue to work with Whitehall departments and other devolved administrations to progress the Prime Minister’s Initiative and achieve the targets set for increasing the numbers of overseas (non-EU) students who come here to study and consider ways in which the diversity of education across the UK can be fully reflected in these and related initiatives.
- ▷ 4.39 Continue to welcome students from the EU to Scotland and see the expansion of the EU as offering potential to attract to Scotland talented young people from across Europe. Encourage our own students to take up opportunities to study in other parts of the EU, for example through the ERASMUS programme.
- ▷ 4.40 Ask EducationUKScotland, working with HEIs and further education colleges, to explore how the availability of “2+2” and similar arrangements can give Scotland a competitive advantage in attracting overseas students.
- ▷ 4.41 Expect institutions to share best practice on developing and sustaining alumni networks and explore with Universities Scotland the scope for building connections between individual alumni networks and Globalscot.
- ▷ 4.42 Establish an implementation team within the Executive, with external advice as appropriate, to look at ways to attract more people to live and work in Scotland. Within this, we will consider ways in which more international students can be encouraged to stay in Scotland after they graduate.

Cross-border and cross-cultural collaboration

A triumvirate of business schools has launched an innovative MBA programme enabling students to immerse themselves in three different cultures while learning cutting edge business practice at the same time. The interMBA is a collaboration between the **University of Strathclyde** Graduate School of Business, **Universiteit Nyenrode**, the Netherlands, and **Euro-Méditerranée** Graduate School of Business, France.

With just over three months spent in each of the study locations of Glasgow, Amsterdam and Aix-en-Provence, workshops and career events in London and Brussels will make up the rest of the 12-month programme.


The aim of the programme is for a total immersion in European business culture within an international framework – the interMBA meets a demand in the market for a truly cross-border and cross-cultural business education. The first cohort is due to commence in September 2003.

Research and Knowledge Transfer

Main messages

Key challenges for research and knowledge transfer will be: continuing to compete successfully for the best people in an increasingly competitive world; and ensuring research plays an increasing part in Scotland's economic and social well-being, delivering the most gains possible for the Scottish economy and our quality of life. Research and scholarship should also feed directly into the provision of teaching. This will require:

- Strategic and selective investment in infrastructure to support our areas of strength;
- Using Executive funding effectively to bring in sustainable resources from other funders – such as the Research Councils, charitable funders and the European Union;
- The easier connection of people across the system to form networks and share facilities;
- More crossing of institution and discipline boundaries in pursuit of new research opportunities;
- The ability to recognise and support important new and emerging areas of research;
- A research culture and practice which is more outward looking and connected to the potential users of research;
- Making it easier for Scottish-based businesses, especially SMEs, to interact with the Scottish research base, and for the Scottish research base to respond to Scottish-based businesses;
- Sustaining Scotland's leading position in providing practical and financial support for higher education students and staff wanting to develop the commercial potential of their research.



Across the developed world, research, and in particular science, is rapidly becoming the key driver of economies, both in terms of creating wealth and in improving quality of life. It is clear that those countries which are most able to make connections between their academic research base and their industrial sectors are also best placed to capitalise successfully on discovery and innovation, to generate an entrepreneurial culture, and to raise their standards of living. Scotland cannot afford to be left behind in this increasingly fierce competition, and we must find ways to perform even better.

While there is rightly a focus on technology transfer into the wider economy, the exploitation of social science research too plays a vital role in helping to improve quality of life and improving social justice. Similarly, the commercialisation of research in creative disciplines, such as design and creative content for a whole range of media, brings cultural, social, and economic benefits and produces a highly visible international profile for Scotland. It is important too to recognise that a main output of research funding is skilled people – most postgraduates will not remain long-term in academic research but will take the high-level skills developed in higher education out into the wider economy and society.

The Scottish Executive's Science Strategy for Scotland, published in August 2001, sets out a framework and context for future development of scientific research, embracing the physical, life and social sciences. From 2004-05, we will be investing an additional £25 million a year in science and research in higher education, rising to £35 million in 2005-06.²⁶ This is in addition to an increase of £10 million a year provided from 2002-03 for research, recognising Scotland's strong performance in the 2001 Research Assessment Exercise. **Taken together these additional resources represent a total increase of around 20% in real terms in funds available for research by 2005-06 compared to 2001-02.** The additional Executive funding will position our HEIs to continue to compete strongly for funding from the UK Research Councils and the European Union. We estimate that Scotland stands to gain an additional £70 million a year from the Research Councils by 2005-06.

²⁶ Figures announced in the 2002 Spending Review as part of the overall settlement for SHEFC and included in *Building a Better Scotland*.

Investing wisely: Scotland is a small country with a strong research base. We cannot be world-class at everything, but we do already have world-class strengths which have to be sustained, and valuable research in a range of areas. As our Science Strategy has already set out, our investment needs to be targeted if we are to attract and retain the best researchers, including post-graduate students, especially in the most expensive areas. But it needs also to be flexible enough to shift emphasis as new opportunities develop, including enabling decisions to be taken by any individual institution about promising new areas. To underpin this, we will still need to maintain a broad basic research expertise within Scotland – but it will become increasingly important to make sure this is managed in a way which makes the most effective use of available resources. Because the Executive provides less than half of institutions' research funding, one of the key purposes of our funding is to produce a high-quality research base to leverage further investment from other funders.

Scotland has improved compared to its position a decade ago and can be rightly proud of its performance compared to the rest of the UK. The excellence of Scotland's higher education research base is widely acknowledged, and Scotland has departments and research groups of particular excellence which are recognised through their RAE scores and by the extent to which they attract funding from external sources. Scotland needs to nurture its leading-edge research institutions, so that they remain competitive, while also helping less research intensive institutions to focus their research effort on the individuals and departments best placed to make the greatest contribution – recognising that small pockets of strong research can have a powerful, positive effect on an institution as a whole.

There is already a huge amount of effort underway to make progress on strategic use of resources, both within Scotland and at a UK and EU level.

Edinburgh University's Department of Informatics is a world leader in computational linguistics, computational science and artificial intelligence and was the only Department to be awarded a 5* rating for Computer Science in the 2001 UK Research Assessment Exercise. This Department, in partnership with **Glasgow University**, was awarded £5.5 million by the EPSRC in 2002 to establish the National e-Science Centre which leads the development of e-science for the whole of the UK.

Dundee University, with its 5* rated Department in Biological Science, is home to the Wellcome Trust Biocentre, an internationally renowned centre for research into diseases such as cancer, malaria and AIDS.

Heriot Watt University's Petroleum Engineering Institute is one of only two 5* rated Mineral and Mining Research Departments in the UK. The Institute works on the exploitation of subsurface oil and gas resources, relevant to the needs of the international petroleum industry, particularly in the development of oil and gas resources in the North Sea.

Sports-related Studies at the **University of Glasgow** was awarded a 5* in the 2001 RAE. The Centre for Exercise and Science Medicine (CESAME) provides the interface for multi-disciplinary research in Health Promotion Policy; Biomedical and Life Sciences; and Clinical Medicine. Research conducted at CESAME underpins the University's long-term strategy to confront public health issues in Scotland.

In 2002-03, SHEFC introduced a restructured system of research grants, following the outcomes of the 2001 Research Assessment Exercise. Its **Main Quality Research Grant (MQRG)** is allocated selectively to support high quality research by reference to assessments of quality of research and measures of volume. **Research Development Foundation Grant** provides critical support to research in new, emerging and developing subject areas in those less research intensive institutions which do not have access to significant MQRG. The **Science Research Investment Fund (SRIF)**, funded jointly with OST, develops infrastructure in order to maintain international competitiveness of the research base. **Strategic Development Grant (SDG)** addresses research priorities such as those which may emerge from the Science Strategy for Scotland. **Knowledge Transfer Grant (KTG)** provides the sector with a flexible funding stream to support knowledge transfer activities in HEIs.

The Executive's Science Strategy sets out the broad ways in which policy will be shaped in coming years, with the creation of the **Scottish Science Advisory Committee (SSAC)**. SSAC is charged with providing advice to the Executive on the identification of priority areas of science and on the achievement of optimum outputs for Scotland. SSAC's first set of recommendations is due in the middle of 2003.

www.scottishscience.org.uk

The Enterprise and Lifelong Learning Committee of the Scottish Parliament has produced a report on SHEFC's funding of research, which gathers together a valuable body of evidence on the challenges facing Scotland.

www.scottish-parliament.uk

Within the UK, following the UK Government's spending review, there is a renewed effort to modernise research funding – with reforms in the dual support mechanism for research, a renewal of SRIF and a review of research assessment.

The creation of a **European Research Area** is a further development offering significant opportunities to Scotland – because higher education institutions already perform well in competing for European funding under the existing Framework Programme, with a new programme, FP6 starting this year. Under the previous programme, FP5, Scotland was involved in 435 projects resulting in expenditure of around £40 million in Scotland.

The Executive supports the analysis in "Investing in Innovation"²⁷ – which highlights the need for a partnership between institutions and funders (government and non-government) to deliver a more sustainable system of research funding and behaviour. The Executive and SHEFC will continue to support UK-wide initiatives aimed at addressing past under-investment in the research base and improving the match between the volume of research institutions undertake and the resources available.

The training and development of postgraduate researchers is another critical area of investment where we will expect SHEFC to promote best practice.

²⁷ *Investing in Innovation: A strategy for science, engineering and technology*: Published July 2002 and available at www.hm-treasury.gov.uk

To progress this we will:

- ▷ 5.1 Continue to invest in science and research in higher education, to maintain a fully competitive research base and to support the UK-leading work SHEFC already has in hand using research grants both to support existing excellence and develop emerging areas. In doing this, ask SHEFC to give particular attention to the health of the basic science disciplines.
- ▷ 5.2 Expect all institutions to take a strategic approach to the use of resources for research and to focus these on the areas where they are most likely to produce work of value.
- ▷ 5.3 In the context of the current UK-wide review of research assessment, work with the other administrations to develop a system which encourages and supports strategic decision-making within institutions and provides wide-ranging data on the state of the Scottish research base, including enabling judgements to be made about its development over time.
- ▷ 5.4 Ask SHEFC to draw on the advice of the new Scottish Science Advisory Committee on science priorities in making future investment decisions and complete a detailed study of the results of the most recent Research Assessment Exercise by summer 2003, to identify strengths and weaknesses in the research base, sharing the results of this with SSAC.
- ▷ 5.5 Continue to participate in the UK-wide Foresight programme.²⁸
- ▷ 5.6 Maintain strong links with the Office of Science and Technology particularly in relation to the work of the Research Councils, and enable SHEFC to increase its contribution to the joint OST-Funding Council SRIF by 50% from 2004-05 as part of the overall additional funding announced for science and research in SR2002.²⁹
- ▷ 5.7 Work with SHEFC to identify strategic Scottish development needs and support the strengthening of the research base in these key areas.

Connectivity: Most research investment is concentrated in a minority of institutions. But all Scottish higher education institutions rightly have some involvement in research and there are talented researchers across the sector who need to be able to link into the wider research community – to share ideas and facilities. At the same time, some of the most exciting breakthroughs in research in the next decade are expected to be at the boundaries between disciplines, across the sciences, arts and humanities. The funding system needs to encourage exploration at these boundaries.

Glasgow and Aberdeen Universities are, with the benefit of SHEFC grant, establishing a new Scottish Centre for Research on Social Justice. The research programme will aim to reveal patterns of injustice, explore the processes involved in its emergence and persistence and inform policies which can alleviate inequalities and exclusion.

The Scottish Executive Education Department and SHEFC are jointly providing funding to develop capability in applied educational research in Scotland. This will re-invigorate and strengthen applied educational research and its relevance to practice and policy in Scotland. The objective of the scheme is to develop a high quality educational research capacity in Scotland that can stimulate practice and policy.

²⁸ The OST's UK-wide Foresight programme was reviewed in 2001 and as a result the existing 11 Foresight panels were replaced with a programme of 4-5 rolling technology-oriented projects, each lasting 9-15 months. 2 projects are underway and consultation has been undertaken on further projects.

²⁹ The Scottish Executive announced in February 2003 that Scotland's HEIs will receive SRIF2 grants totalling £98 million over two years starting in April 2004. SHEFC's contribution rose from £20 million in SRIF1 to £30 million in SRIF2, with the remainder provided by the OST.

We need to ensure that where Scotland has strategic needs for research, the system is flexible enough to create the necessary networks and collaborations to support it. Connecting researchers in less research intensive institutions to the wider research community is an important part of this – both at the level of connecting people and sharing resources. This network building – both between institutions in Scotland at all levels and with those outside them – is already a key part of the system, but often it lags behind what could be achieved because institutions are sometimes too narrowly focused on the demands of their own self-interest. In critical areas of activity therefore Scotland needs to find ways of bringing individuals together which cut through institutional barriers. This needs to include international connections. A fund of £12 million has already been made available to the sector through SEn, focused on supporting new transatlantic links in the area of e-science. The first project supported under this scheme is a collaboration between the University of Edinburgh and Stanford University in California. We also must find mechanisms that stimulate and support greater cross-fertilisation between disciplines, as these are increasingly where new breakthroughs occur. We need to foster a climate of collaboration without simply encouraging collaboration for its own sake.

To progress this we will:

- ▷ 5.8 Expect all institutions to encourage their staff to seek out beneficial research collaborations, in Scotland and beyond, with HEIs and other organisations.
- ▷ 5.9 Expect all institutions to actively promote and support the sharing of research facilities.
- ▷ 5.10 Ask SHEFC to use an element of the science and research funding announced in SR2002 to help talented individuals in non-research intensive institutions strengthen their links with other institutions.
- ▷ 5.11 Ask SHEFC for detailed advice on the potential for securing in Scotland a new inter-disciplinary, inter-institutional research at the boundary between the sciences and the arts and humanities.
- ▷ 5.12 Introduce the necessary legislation to support the creation of the new Arts and Humanities Research Council as a full UK-wide research council, encouraging closer links between the arts and humanities and other disciplines, all of which are already funded within the Research Council UK structure.
- ▷ 5.13 Recommend that the new research assessment system being developed at UK level does not discourage research which crosses disciplines and institutions.
- ▷ 5.14 Ask SHEFC to ensure that teaching in all institutions benefits from advances in research, including through facilitating research-intensive institutions working with non-research intensive HEIs.

Centre for Advanced Textiles

Established by **Glasgow School of Art** in 2000 with funding from the SHEFC, CAT's remit is to investigate the commercial and educational potential of digital textile printing technology.

One strand of research being undertaken by the Centre for Advanced Textiles involves the digital printing of leather, cashmere and other experimental substrates and the use of 3D software packages not usually employed in the textile industry.

Other current projects include an investigation into the potential of textiles for acoustic absorption in public spaces;

an investigation into the production methods and social issues surrounding the manufacture of Turkey Red textiles, drawing on an unknown Scottish archive of major international significance; and a cross-cultural investigation into the history of the banner, including ritual, ecclesiastical, political and commercial functions.

The commercial activity of the CAT Centre is growing rapidly with a variety of work being undertaken for large and small manufacturers, interior, product and fashion designers, artists and museums.

Knowledge transfer: Our Science Strategy already makes it clear that we want researchers to engage with the potential users of their research as a matter of routine, particularly in the areas which are closest to application, to create the greatest chance of exploitation. Scottish institutions have a relatively strong track record of commercialising research – but the strongest links often appear to be with companies outside Scotland. The Executive’s priority must be to strengthen the links between higher education research and businesses and investors **in Scotland**, to create a high technology, knowledge-based economy. Researchers should be encouraged to communicate the results of research to the wider community and to involve potential users in the design and development of research. We believe there is scope to do more in particular to improve the engagement between researchers in the social sciences and local and national policy makers and service deliverers, so that our capacity in the social sciences is fully exploited to help improve social justice and the quality of life.

While free to shape their own research agendas, those in higher education need to retain a focus on the value and relevance of the research undertaken to the economy and society more generally. We want individual researchers to be motivated to communicate with potential users, and to recognise the satisfaction they can gain from seeing their work have an impact on the wider world.

The Executive recognises that research is speculative – we cannot know in advance what research has the most potential to be used to change the way we live. We know too that research activity may contribute indirectly to overall aims without being rigidly targeted on a particular economic or social aim within Scotland. So research should not become too narrowly focussed

on present or uniquely Scottish needs. Research must be viewed in a global context; the contribution made by Scottish researchers to the solution of problems in other countries is also important. There is also a long history of invention and discovery for which practical uses were only later found. None of this should however prevent us from working to make research funding more efficient and effective in delivering those outputs which the economy needs and society wants, both today and in the longer term.

Knowledge Transfer covers the whole process of distilling research and expertise from one sector for the benefit of another. The commercialisation of research is central to the Executive’s strategy for a smart, successful Scotland. This review found some continued questioning of the value of this activity by institutions and still some reluctance to regard it as a fundamental role for higher education – although the most recent HE-BI survey (see below) provides strong evidence that attitudes are more positive in Scotland than elsewhere in the UK towards knowledge transfer. There is still tension between the higher education and business sectors, including venture capitalists, in Scotland, with persistent concern on both sides that each fails to properly understand and respond to the needs of the other. One particular difficulty faced by institutions and businesses which undertake commercialisation infrequently is the challenge of developing complex agreements, particularly in the difficult and contested area of Intellectual Property rights. There appears to be relatively little experience of sharing expertise in this area between larger and smaller institutions. It remains unclear whether the position is more difficult in Scotland than in the rest of the UK – but Scotland’s scale should make it easier to bridge these gaps in understanding and experience.

The promise of additional commercial

income is not in itself enough to motivate HEIs to step-up participation and invest in the commercialisation process. The main lesson from the US, where even the most active universities gain only a small percentage of their income from this activity, is that commercialisation has thrived because of a culture of entrepreneurship, and strong programmes of R&D activity in business. Indeed the evidence suggests that the bulk of commercialisation in the US is the result of the activity of graduates in start-up activity, rather than that of researchers within the institution. We already have a range of programmes and initiatives which are aimed at fostering this activity, and in creating a more entrepreneurial culture.

The Scottish Executive funds a pipeline of support to help bring ideas out of labs and into production. Over £80 million of additional funding has been committed since 1999 through a variety of initiatives to support commercialisation of research and to overcome barriers to this process. This includes the £33 million Proof of Concept Fund, RSE fellowships, SMART and SPUR schemes, the Teaching Company Scheme (TCS), and Invest for Growth schemes.

Better ways still need to be found of encouraging and incentivising commercialisation, and rewarding those institutions and individuals which are engaged in it, and we need to support the range of models for this – spin-outs, start-ups and engagement with existing business.

The creation of three Intermediary Technology Institutes by Scottish Enterprise over the next few years, where exploiting commercial opportunities will require commissioning research from a range of disciplines, offers a new focus for cross-fertilisation unique in the UK. It is hoped that the ITIs will fulfil the role presently lacking in Scotland, of a thriving business R&D sector engaging strongly with the HE sector, providing HEIs with a new stimulus to carry out research that has potential for exploitable outcomes.

Information on the commercialisation of university research is available from the annual **UK Higher Education-Business Interaction (HE-BI) survey**, which is based on activities reported by universities. The Executive publishes key Scottish results, based on the UK survey. The most recent UK report and Scottish analysis, covering the academic session 2000/2001, were both published in March 2003 and are available at www.scotland.gov.uk/about/ELLD/EI/00016585/summary.aspx

The Scottish returns for the UK survey showed Scotland performing well in comparison with the rest of the UK. Two-thirds of Scottish Universities reported that they regarded technology transfer as one of their three key contributions to economic development, a proportion twice as high as in the UK as a whole. Scottish institutions also contributed 11 per cent of new university patents filed, 15 per cent of UK licences granted and 14 per cent of spin-off companies formed in 2000/2001.

Tayside has established itself as a leading exponent of commercialisation best practice, particularly in the biosciences. Stakeholders in the area have a widely shared appreciation of the critical importance of original research in driving the economic value generated by universities. This attracts to Tayside both research funding and highly skilled people, who generate intellectual property and spinout companies. There are over

350 externally funded postdoctoral staff, mostly in the Life and Medical Sciences. Additional benefits accrue from the improvements to infrastructure required to support this research activity, which may be available also to the commercial sector. The quality of facilities and expertise also makes the universities in the area more attractive to undergraduates.

To progress this we will:

- ▷ 5.15 As part of the overall additional funding for science and research announced in SR2002, enable SHEFC by 2005-06 to increase resources by at least 100% (from the current baseline of £6 million) for investment in knowledge transfer grant (KTG), providing incentives for much more intensive interactions between HE and business. KTG is being reviewed by SHEFC with the aim of incorporating a range of suitable metrics to help drive and share best practice in commercialisation. As part of this review, we will also ask SHEFC to consider how KTG might be used to help stimulate human resource practices which better support knowledge transfer activities.
- ▷ 5.16 Ask Scottish Enterprise³⁰ and SHEFC to examine together the feasibility of establishing a Scottish centre of expertise in commercialisation. This would help Scottish-based businesses and HEIs to interact more effectively, for example through making specialist advice more readily available. The centre, possibly based in a local enterprise company, would target businesses with limited experience of exploiting research and working with HEIs, and also HEIs with limited in-house commercialisation expertise. Scottish Enterprise and SHEFC should provide an initial report to Ministers on how this could be taken forward by the end of September 2003.³¹
- ▷ 5.17 Ask SHEFC and Scottish Enterprise to develop further their close working relationship so that commercialisation and knowledge transfer activity can be enhanced and incentivised.
- ▷ 5.18 Support Scottish Enterprise to invest £450 million over 10 years in Intermediary Technology Institutes in life sciences, communications technology and energy, and encourage and incentivise the higher education sector to engage with the ITI initiative by making available £10 million for investment in higher education institutions by 2005-06 to assist their involvement with ITIs, as part of the overall additional funding for science and research in higher education announced in SR2002.
- ▷ 5.19 Examine and promulgate the lessons from existing best practice in HE-business interaction in Scotland.
- ▷ 5.20 Publish regular measures of commercialisation activity by HEIs in Scotland in order to monitor trends in activity and to compare against UK and other country benchmarks.
- ▷ 5.21 Expect all institutions to contribute to strengthening the sharing of existing commercialisation expertise within the sector, including expertise in Intellectual Property.

The Scottish Research Information System (SRIS)

SRIS is a web-based system (scottishresearch.com) providing a starting point for finding out about Scotland's research, development, consultancy and innovation resources. SRIS helps to bring together the capabilities of universities and institutes in Scotland, with organisations around the world that can make good use of these resources.

www.scottishresearch.com

With the help of SRIS, users of the site can:

- Stay in touch with the directions of Scotland's research.
- Use this to help define strategic directions and decide policies.
- Pinpoint funding sources.
- Locate partners and form transnational consortia to exploit the research findings.
- License and transfer technology.

³⁰ Highlands and Islands Enterprise will also be invited to take part in these activities.

³¹ In examining this proposal SHEFC and Scottish Enterprise should take into account the proposals in the report of the Joint Task Group on Research and Knowledge Transfer in Scotland (published in March 2002).

- ▷ 5.22 Encourage the development of education programmes to help the higher education and business sectors, including venture capitalists, better understand each other's perspectives on commercialisation.
- ▷ 5.23 Ask SHEFC to work with Scottish Enterprise to promote entrepreneurialism by providing opportunities for students and researchers to obtain necessary management and business skills through initiatives such as the Scottish Institute for Enterprise.
- ▷ 5.24 Recommend that the revised research assessment method being developed at a UK level does not discourage more outward-looking behaviour by researchers.
- ▷ 5.25 Expect SHEFC to continue to develop the Scottish Research Information System.
- ▷ 5.26 Showcase and promote the best of Scottish research to an international audience, working closely with bodies such as the Royal Society of Edinburgh.
- ▷ 5.27 Act on any recommendations as appropriate from the current review of the Interaction of Higher Education and Business in the UK (The Lambert Review), which will provide a further input to this issue.

Design and Knowledge Transfer

The **Glasgow School of Art** has entered into a licensing agreement with Lomax Mobility, wheelchair manufacturers based in Dundee, for the production of the Duplex Ultrasound Examination Chair, which will make routing varicose vein operations easier and faster for the patient and the clinician.

Lomax has employed the two graduate inventors (from the GSA Product Design Department) to work on the development of the design. The School is now applying for an international patent, which will allow the manufacturer to enter the lucrative US market with the appliance.

Work is currently in progress to prototype and commercialise other products designed by 2001/02 graduates of the Product Design Engineering Department. These include a revolutionary premature baby incubator, an army field cooker and a rescue respirator.

SURE Student Enterprise Incubator

Stirling University Research & Enterprise (SURE) celebrated the launch of the SURE Student Enterprise Incubator in September 2002. This facility is open to Stirling University students who have a good business idea coupled with entrepreneurial flair.

Benefiting from a partnership between SURE and Scottish Enterprise Forth Valley, students can start their businesses in a SURE Incubator unit, which includes serviced office space, computing equipment, internet access, telephone, fax, and

secretarial support. The facility enables students to take their first steps into self-employment and learn business management skills as they develop their idea, supported through advice and training from SURE and Small Business Gateway. Located within Stirling University Innovation Park, the environment of the Incubator offers ample networking opportunities with other young companies whilst being close to the University.

In October 2002, the **Scottish Executive** held a highly successful programme of events in Sweden to promote Scottish arts, culture, science and tourism, and commissioned the **Royal Society of Edinburgh** (RSE) to organise the science part of the programme. During 2003, the Scottish


Executive and **Scottish Parliament's** annual Tartan Day in the USA includes an e-science conference organised by the RSE. The Executive has increased funding to the RSE to allow it to increase its international activity.

Governance and Management

Main messages

To achieve our vision for higher education, institutions will need to be well-managed and well-governed organisations which motivate, value and reward their staff. Leadership skills will be required at all levels and good management and business systems must be in place, while governing bodies have a key role in helping institutions develop their strengths, remain relevant and strategic in their thinking and planning, and be responsive to the needs of learners, employers, staff and wider society. This will require:

- strong leadership and effective management at the top of institutions;
- effective intervention and scrutiny by governing bodies;
- improving understanding of the role of professional administrators and managers in higher education, and ensuring they have the right developmental support;
- clear articulation of institutional strategy and its contribution to national priorities;
- improving leadership and management skills at department and faculty levels, enhancing the development and delivery of staff training and development for all staff;
- maximising the effective use of assets within and across institutions;
- more sharing of specialist non-academic expertise to ensure available resources are used to provide the best possible quality of support;
- appropriate accountability.



Governing bodies: Effective governing bodies are crucial to the development and delivery of relevant, robust and strategic aims in institutions, for protecting their long-term financial health, for monitoring the quality of their management, and for assuring that institutions are contributing to the Executive’s overall goals for the sector. Governing bodies are also critical to ensuring that HEIs are properly accountable to a range of funders and other stakeholders.

It is important that governors are representative of the wide range of communities that institutions serve and actively question and shape institutional mission and ethos, ensuring responsiveness to the needs of learners, employers and communities. Increasingly for some their community may have a large international element and therefore being able to tap into an international perspective may be important. It is equally important that a governing body has, collectively, a broad range of experience and expertise which it can bring to bear to the institution’s advantage – providing the constructive criticism and challenge which institutional managers value from their governing bodies. It is crucial that institutions can attract governors of the right calibre for the task.

Governors – other than governors serving

by virtue of office – serve in a voluntary capacity. In order to attract talented people to serve as governors, institutions need to have sufficient freedom to shape their own direction within the wider strategic framework so that governing bodies have genuinely rewarding work to do.

The right of rectors³² of the four “ancient” universities to chair meetings of the governing bodies was raised during the course of the review. The Executive notes that the Enterprise and Lifelong Learning Committee has suggested that the Committee may conduct a review of higher education governance in the next Parliament. The Executive believes if any changes are to be considered to this uniquely Scottish arrangement, then including this in any Parliamentary Committee inquiry would provide the most appropriate forum for that debate. The Executive does not have a view on whether the current arrangements need to change and recognises that there is a strength of feeling on both sides.

³² Elected by the student body to represent their interests on the governing body.

To progress this we will:

- ▷ 6.1 Ask SHEFC to continue to review regularly the guidance and training provided for governors to ensure that they are prepared for and effective in their roles. Also ask SHEFC to update regularly the “Guide for Members of Governing Bodies of Scottish Higher Education Institutions and Good Practice Benchmarks” and to make it clear that all institutions should draw on this in providing support for the members of governing bodies.
- ▷ 6.2 Encourage SHEFC to continue to develop and extend its Strategic Dialogue process, as a unique forum which brings together the Chairs of governing bodies as well as the Principals of all HEIs.

Leadership and Management:

The key to delivering the high quality teaching and research that Scotland needs is having well-managed, valued and motivated staff in our institutions, and sound business practices. For institutions to be able to recognise and prepare effectively for future challenges, to develop and successfully plan and implement change while empowering and developing staff, strong and purposeful leadership is essential. High quality management should be pervasive.

While good governance – setting strategic direction and the financial framework – falls to the governing body, the day-to-day management of the institution is a matter for the Principal and his or her team.

There is a need for strong and purposeful leadership at the top of every institution. Institutions need actively to plan succession and develop the skills of those who are going to be future institutional leaders. While the Principal is most often the public face of an institution, institutional leaders need to be supported by highly motivated and professional academic and administrative staff who themselves should have access to good developmental support and career development. For example, this review has brought out that the role of the Secretary in many of our HEIs is pivotal, involving a delicate balance between their duties to the governing body and their duties to the Principal. Secretaries form the bridge between the two and tend to remain in post for longer periods than either Principals or Chairs of governing bodies. If HEIs are to be adaptable and flexible organisations managing institutional and cultural change effectively, then Secretaries will play an important role, both in terms of their significant direct areas of responsibility as managers, and in supporting a positive relationship between governors and Principals.

And across institutions as a whole, training and development of staff – especially those in managerial roles – is critical to good human resource management and the effective use of resources. Good, structured management training and development for those taking on managerial roles for the first time has not always been as available as it should be. Providing good quality training and support for those taking on responsibilities at departmental head level, and equivalent, should be recognised as a core responsibility of all institutions.

The Higher Education Staff Development Agency is a membership-based UK-wide organisation. As the current lead body for developing the skills, training and qualifications of people working in higher education, HESDA is committed to the promotion of strategically planned staff development and training provision across universities and colleges and other strategic human resource initiatives across the UK. HESDA has recently worked to develop programmes aimed specifically at heads of departments and schools. There are currently proposals to merge HESDA into a larger “Leadership Foundation” for higher education. www.hesda.org.uk

As the key resource, staff themselves have to be well-managed, valued and motivated. While overall pay levels and the fair implementation of pay systems are part of the picture, a whole range of non-pay related issues including: the quality of day to day management, job structures, feedback on performance, opportunities for development and progression and job satisfaction should all be recognised as key issues. We recognise that as part of this the quality of the research and teaching

environment and overall levels of funding generally are important – but the core responsibility for creating a positive working environment rests with institutional managers.

Non-academic staff in specialist, technical, clerical and manual roles are as important to the good running of an institution and the delivery of its mission as are academic staff. It is vital that the contribution made by them is equally valued and that they too benefit from good management, opportunities for progression, training and appropriate development.

To progress this we will:

- ▷ 6.3 Expect all institutions to recognise that good management and leadership across institutions is fundamental and to demonstrate their commitment to good practice in the management of human resources.
- ▷ 6.4 Expect all institutions to meet their legal obligations for equal opportunities in the management of people.
- ▷ 6.5 Ask SHEFC to continue to provide support to the sector through management development programmes; to consider the implications of the Leadership Foundation proposed in the DfES White Paper and what relationship Scotland should have with that body; and to consider how Scotland can benefit further from programmes developed UK-wide, such as HESDA's Personal Development Programme for Leaders of Schools and Departments.

- ▷ 6.6 Encourage HEIs to reduce as far as possible the use of short-term contracts and actively to manage that group of staff, taking account of the implications of the EC Fixed Term Workers Directive and the Fixed Term Employees (Prevention of Less Favourable Treatment) Regulations 2002.
- ▷ 6.7 Continue to use our guidance to SHEFC to reinforce the need to embed good human resource management throughout the sector.
- ▷ 6.8 Expect all institutions to recognise that good business systems, including good management information systems, are an essential element of good management.
- ▷ 6.9 Expect all institutions to foster constructive relations with employee representatives, adopting best practice in dealing with trades unions.

Collaboration and maximising the effective use of resources: Institutions need to work well individually and collectively if they are to make best use of the resources – human and physical – available to them. This will sometimes include international-level collaboration.

We firmly believe that successful and effective collaboration is most likely to happen where institutions themselves are free to choose how and when to initiate and take forward issues or developments collaboratively. The role of the Executive and the Funding Council is to create an environment in which institutions feel confident and supported in examining options for closer working, to ensure that there is some scope for assisting financially with exploring and pursuing such initiatives, and to work with institutions to develop a strategic framework for the sector which can help structure institutional choices about which initiatives to pursue. Where the Funding Council sees opportunities for effective collaboration, or where exploration of the potential for collaboration may be being hindered by narrow institutional interests, then it should be prepared to play a role in helping to move the process forward.

Student Complaints

Scotland's higher education institutions, through their representative body Universities Scotland, have established a new system of independent review for student complaints. Once a student has exhausted all of the internal complaints procedures of their institutions they now have the right to take their complaint to an Independent Reviewer. To ensure

independence, the Reviewer is selected by the Faculty of Advocates. The scheme is paid for by the institutions. The Universities Scotland scheme is the first of its kind in the UK, and only students at Scottish universities presently have an independent route of complaint. This is part of an ongoing drive by Scotland's institutions to embed openness and accountability.

There are already many examples of co-operation and collaboration at various levels, formally and informally, across and within sectors. We recognise that collaboration is not an end in itself and will only be sustainable where there are clear reasons to do so and benefits to be gained. It is important that HEIs look for opportunities for beneficial collaboration across all aspects of their business. For example, there are many areas – and they are growing in number – where institutions need to be able to draw on specialist expertise in order to meet legal obligations, or compete effectively in global markets, and where it does not make sense for every institution to set up its own mechanism or employ its own specialists to achieve this. Smaller institutions in particular need to be able to tap into resources elsewhere in the sector. International collaboration will need to continue to be an important feature of the sector also.

Using the existing physical infrastructure well presents a further challenge. Part of the solution will be a willingness to look again at traditional patterns of using space, and finding new ways to share facilities, not only across the education sector but with other organisations such as local authorities or businesses.

To progress this we will:

- ▷ 6.10 Require SHEFC always to retain an element of funds for the purpose of supporting valuable proposals for collaboration which are driven by institutions themselves.
- ▷ 6.11 Continue to consider positively proposals for mergers between institutions where these have come from a shared agreement and commitment to the benefit of such a move from the institutions themselves, are endorsed by SHEFC, are welcomed by the wider community and stakeholders and benefit the overall provision of higher education in Scotland.
- ▷ 6.12 Ask SHEFC to explore with HEIs the potential for further opportunities for inter-institutional collaborations where there are strategic, financial or other benefits to be gained.
- ▷ 6.13 Expect institutions to look for opportunities for collaboration which will achieve quality and best value across all aspects of their business.
- ▷ 6.14 Explore with Universities Scotland how Scotland can derive even more value from international links.

Sharing Resources Internationally

Glasgow Caledonian University is taking part in a £1.5 million project as part of the wider Digital Library in the Classroom initiative. GCU has been tasked with the “spoken word” dimension in collaboration with BBC Archives and two

US Universities, Michigan State and North West. Glasgow Caledonian's share of the funding is £710,000 over the next three years. The Glasgow Caledonian Library already houses a unique collection of audio material in its Centre for Political Song.

Funding

This review has not examined the overall level of funding available to the higher education sector in Scotland. Its focus has been on how government, the Funding Council and institutions can work together to make the most effective use of the resources already provided to the sector, to make sure that Scottish higher education responds to the needs of learners and succeeds in the future.

Funding levels: The Executive will continue to monitor carefully the level of its funding of higher education as part of our wider commitment to lifelong learning – as the Enterprise and Lifelong Learning Committee of the Scottish Parliament has recommended.

By 2005-06 the total funding available to HEIs from the Executive is projected to be around £900 million³³ – or around 5% of the Scottish block, even before taking into account the support made available directly to individual learners in HE. That compares with a figure of over £600 million in 1998-99. This represents a 50% increase in cash terms, or over 26% in real terms³⁴ over the period of the first 7 years of devolution. The Scottish Executive has

increased its commitment to higher education institutions in real terms every year since devolution, on top of extra investment in student support. Institutions themselves acknowledge that they start from a higher funding baseline than their counterparts elsewhere in the UK³⁵ – indeed, Scottish funding levels for higher education are seen as a target in other parts of the UK.³⁶

But with increased funding have come new demands – including 2,800 fully funded student places, supporting new developments such as UHI Millennium Institute, improving access and retention. Meantime, the external environment within which our institutions operate is becoming more demanding and competitive.

We recognise that we will need to assess what impact new fee regimes being proposed elsewhere in the UK³⁷ may have on the Scottish higher education sector. Any changes to the fee regime in England will require legislation and will not come into effect before 2006 and will not effect students in England who start their course before 2006 – there is time to do this in a thoughtful way.

³³ Funding for SHEFC and funding provided to institutions through the Students Awards Agency for Scotland.

³⁴ Calculated on 2001-02 terms using GDP deflators.

³⁵ For example, Universities Scotland has recently suggested that, in terms of the average unit of teaching resource, HE funding in Scotland is 4% higher in real terms than in England.

³⁶ The Welsh review of HE *Reaching Higher, Higher Education and the Learning Country – A Strategy for the Higher Education Sector in Wales*, published in March 2002 and available at www.wales.gov.uk

³⁷ As contained in DfES paper *The future of higher education*.

To progress this we will:

- ▷ 7.1 Take forward the commitments in this report in partnership with the Funding Councils and institutions, in order to make the most effective use of existing resources.
- ▷ 7.2 Commission a third phase of this review to examine in depth the specific long-term issues for the Scottish higher education sector which may arise from developments in funding elsewhere in the UK. We will ensure that that exercise is fully embedded in the overall implementation of the Lifelong Learning Strategy.
- ▷ 7.3 Introduce legislation to merge SHEFC and SFEFC. This merger will make possible greater comparability and transparency in the way different types of institution and level of course are funded in tertiary education.³⁸

- ▷ 7.4 Work with Universities Scotland and SHEFC to deepen the understanding of trends in recruitment and retention in Scotland, including the implications of the age structure of the current higher education workforce.

Funding sources: For its size, Scotland has a large higher education sector. It is a net importer of students from elsewhere in the UK, it attracts growing numbers of students from overseas and it competes well for research funding from the UK Research Councils, major charities and others. Drawing on diverse sources of income will continue to be important for institutions.

We expect the Executive to remain the single largest funder of Scottish HEIs. But it is critical that institutions also continue to seek new funding sources, as they have done very successfully in recent years.

³⁸ Commitment in *Life Through Learning; Learning Through Life*. More detail on this proposal is contained in that document at page 60.

The abolition of fees was a major achievement, reflecting strongly-held views in Scotland about the way in which higher education should be funded – and for the same reason, the Executive does not intend to follow the move to higher fee contributions being explored in England.

Diversifying the sources of income will be an important theme over the next decade – institutions will need to look hard at the possibilities of increasing income from self- or employer-funded students, from business and industry, from charitable research funders and other partners.

Events since devolution have shown that higher education is highly valued in Scotland. Individuals and employers who have already benefited from higher education in Scotland should be made more aware of the ways in which they can contribute to keeping our higher education base strong and successful. The Executive welcomes the UK government's initiative to highlight and strengthen the incentives which already exist for private giving from individuals and organisations to educational institutions. We want to do more, and encourage institutions to do more, to stimulate fund-raising – which is particularly valuable for one-off projects. To reach US levels of private giving would be an ambitious aspiration – but our institutions have already proved that far more is possible than we might expect.

To progress this we will:

- ▷ 7.5 Play a full part in the Task Force proposed in the DfES White Paper on private donation, and take action on any recommendations.
- ▷ 7.6 Use the third phase of this review to look at ways of developing the range and value of non-public sources of funding available to higher education.
- ▷ 7.7 Encourage institutions to develop their student base, to reach out successfully to individuals who are willing and able to fund themselves, or find employer funding, in order to extend their experience of higher education.
- ▷ 7.8 Continue to use the funding available through SHEFC for research to attract sustainable resources from other funders.

Funding systems: while the Executive sets the overall settlement, SHEFC determines the funding systems and methodology for distribution. It is important that systems are robust and responsive, able to adapt to cope with innovation and change.

As well as overall funding levels, and types of income, the funding systems used to distribute resources have a powerful impact on behaviours and decision-making in institutions.

There is huge variation in the quality of the teaching estate and evidence that, over a number of years, institutions have tended to prioritise immediate recurrent funding commitments over capital investment. Understandably there is a tendency to highlight the issue of overall funding – but we believe there may also be an issue about the behavioural incentives in the current funding system, where little specific funding is ear-marked by the Funding Council for capital – and none for teaching capital. SHEFC already collects and analyses data on the condition of the higher education estate and institutions' investment plans, and we would like to see further use made of this information to inform future funding models.

The overall grant allocation to individual institutions is issued on a year-by-year basis. Indicative forward allocations are now used for a number of major public services in Scotland, including local government. With a well-established pattern of 3 year rolling spending reviews, we think it is timely to look again at the system of annual allocations.

In order to progress this we will:

- ▷ 7.9 Ask SHEFC to ensure that in making any changes to funding systems the potential impacts on institutional and individual behaviour are properly assessed, to minimise unexpected and unintended consequences.
- ▷ 7.10 Ask SHEFC to examine whether the current approach of providing teaching funding in a single block with no separate identification of capital is sustainable, in terms of the incentives it provides, or does not provide, for longer term investment in the teaching estate.
- ▷ 7.11 Ask SHEFC to examine the scope for providing institutions with more information on future year allocations than at present, to aid planning.

Conclusions and Implementation

We will work with SHEFC, higher education institutions and others to deliver our national priorities as summarised below:

In teaching and learning

Making best use of capacity: 50% of young Scots now participate in higher education. The Executive does not plan any significant further expansion of government-funded places in higher education institutions. We need instead to work with institutions to make the best use of the existing capacity of the Scottish higher education sector.

Enhancing Quality: As institutions develop and change their teaching provision it will be essential that quality enhancement is embedded in all teaching activity.

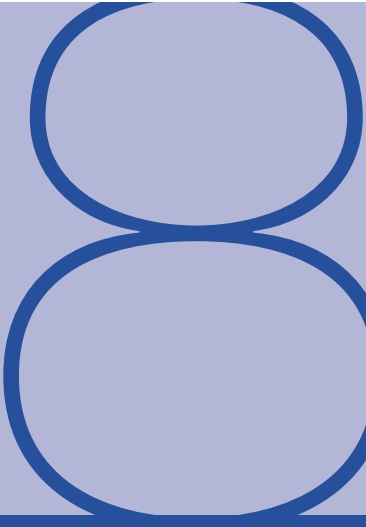
Relating supply to demand: The capacity of institutions to anticipate, lead and respond to the range of external drivers for changing demand will be critical to future success.

Flexibility: Institutions will need to offer learners a greater degree of flexibility of provision and modes of delivery. They will have to recognise and respond to the changing needs of different types of learner and SHEFC's own systems need to be able to recognise and support more flexible and innovative provision.

Access and Participation: We need to see real improvement in the proportions of students from the most economically disadvantaged groups benefiting from provision in our HEIs and to improve retention rates across students from all backgrounds.

Articulation and routeways: Increasing the opportunities for articulation – for example through the development of “2+2” opportunities will help us meet our ambitions for access and participation, flexibility and best use of capacity. Potential and current students must have better information, advice and guidance to inform choices; relevant learning and experience should be taken into account by institutions in admitting individuals into degree courses, and institutions have to be flexible on appropriate entry points. The full accreditation of prior learning should be addressed as much as an issue for students entering with traditional qualifications as for non-traditional students.

Graduate skills and employability: It is a strength of the Scottish system that HE provides a generalist broad-based education to nurture critical reflective thinking and a breadth of knowledge and understanding, as well as vocational qualifications to provide specific knowledge and skills. Institutions must have robust systems in place to ensure that courses



are, and continue to be, relevant to the needs of learners and to the wider needs of the economy and society. In addition to proficiency in specific skills, the development and recognition of the need for 'soft skills' is also important and should be seen as a core element of the learning experience which institutions should provide.

International markets: The presence of international students enhances the environment for all students – both academically and culturally. Retention of highly skilled graduates from overseas also has the potential to make an important contribution to the future economic and social well-being of Scotland. There is scope for greater collaboration amongst stakeholders and more strategic marketing of Scottish higher education overseas – both in encouraging students to come here and in the provision of distance learning opportunities. Making the best of the distinctiveness and reputation of Scottish education to attract greater numbers of international students is an important goal. We must work together effectively to achieve it. Because Scotland has a relatively compact sector, we believe that collaboration rather than competition will maximise the benefits to the sector, and indeed Scotland, as a whole. Closer collaboration is compatible with maintaining the existing profile of particular courses and institutions in overseas

markets while raising the overall profile of Scotland to the benefit of all.

In research and knowledge transfer

Investing wisely: Scotland is a small country with a strong research base. We cannot be world-class at everything, but we do already have world-class strengths which have to be sustained, and valuable research in a range of areas. As our Science Strategy has already set out, our investment needs to be targeted if we are to attract and retain the best researchers, including post-graduate students, especially in the most expensive areas. It needs to be flexible enough to shift emphasis as new opportunities develop, including enabling decisions to be taken by any individual institution about promising new areas. To underpin this, we will still also need to maintain a broad basic research expertise within Scotland – but it will become increasingly important to make sure this is managed in a way which makes the most effective use of available resources. Because the Executive provides less than half of institutions' research funding, one of the key purposes of our funding is to produce a high-quality research base to leverage further investment from other funders.

Connectivity: Most research investment is concentrated in a minority of institutions. But all Scottish higher education institutions rightly have some involvement in research and there are talented researchers across the sector who need to be able to link into the wider research community – to share ideas and facilities. At the same time, some of the most exciting breakthroughs in research in the next decade are expected to be at the boundaries between disciplines, across the sciences, arts and humanities. The funding system needs to encourage exploration at these boundaries.

Knowledge transfer: Our Science Strategy already makes it clear that we want researchers to engage with the potential users of their research as a matter of routine, particularly in the areas which are closest to application, to create the greatest chance of exploitation. Scottish institutions have a relatively strong track record of commercialising research – but the strongest links often appear to be with companies outside Scotland. The Executive's priority must be to strengthen the links between higher education research and businesses and investors **in Scotland**, to create a high technology, knowledge-based economy. Researchers should be encouraged to communicate the results of research to the wider community and to involve potential users in the design and development of research. We believe there is scope to do more in particular to improve the engagement between researchers in the social sciences and local and national policy makers and service deliverers, so that our capacity in the social sciences is fully exploited to help improve social justice and the quality of life.

In governance and management

Governing bodies: Effective governing bodies are crucial to the development and delivery of relevant, robust and strategic aims in institutions, for protecting their long-term financial health, for monitoring the quality of their management, and for assuring that institutions are contributing to the Executive's overall goals for the sector. Governing bodies are also critical to ensuring that HEIs are properly accountable to a range of funders and other stakeholders.

Leadership and Management: The key to delivering high quality teaching and research that Scotland needs is having well-managed, valued and motivated staff in our institutions, and sound business practices. For institutions to be able to recognise and prepare effectively for future challenges, to develop and successfully plan and implement change while empowering and developing staff, strong and purposeful leadership is essential. High quality management should be pervasive.

Collaboration and maximising the effective use of resources: Institutions need to work well individually and collectively if they are to make best use of the resources – human and physical – available to them. This will sometimes include international collaboration.



In funding

Funding levels: The Executive will continue to monitor carefully the level of its funding of higher education as part of our wider commitment to lifelong learning – as the Enterprise and Lifelong Learning Committee of the Scottish Parliament has recommended.

Funding sources: For its size, Scotland has a large higher education sector. It is a net importer of students from elsewhere in the UK, it attracts growing numbers of students from overseas and competes well for research funding from the UK Research Councils, major charities and others. Drawing on diverse sources of income will continue to be important for institutions.

Funding systems: While the Executive sets the overall settlement, SHEFC determines the funding systems and methodology for distribution. It is important that systems are robust and responsive, able to adapt to cope with innovation and change.

We will **measure achievement** by continuing to work to existing targets to:

- Increase the number of graduates as a proportion of the workforce³⁹
- Support 150 joint academic and industry ventures by 2006⁴⁰
- Increase support to 16-19 years olds from low income families to stay on at school and/or FE college, thereby raising the participation and retention of this group by at least 5% by 2007-8⁴¹
- Increase the proportion of students from disadvantaged groups in higher education.⁴²

And by **developing new measures and targets** on:

- Improvement in access from the most economically disadvantaged groups
- Improvement in retention of students from all backgrounds
- The numbers of students successfully completing a qualification relative to the funded places allocated
- The recruitment of overseas students

As a key means of taking forward the priorities for higher education in Scotland for the next 10 years, we will expect SHEFC to ensure that its funding systems put in place the incentives and disincentives required to deliver the outcomes that the Executive is seeking from higher education.

We will also expect **all institutions** to use the priorities set out in this document to inform their own planning and to play an active part in the Strategic Dialogue process initiated by SHEFC.

³⁹ Target included in *Building a Better Scotland – Spending Proposals 2003-06: What the Money Buys* available at www.scotland.gov.uk/library5/government/babs-00asp

⁴⁰ Target included in *Building a Better Scotland – Spending Proposals 2003-06: What the Money Buys* available at www.scotland.gov.uk/library5/government/babs-00asp

⁴¹ Target included in *Building a Better Scotland – Spending Proposals 2003-06: What the Money Buys* available at www.scotland.gov.uk/library5/government/babs-00asp

⁴² Target included in *Scotland's Budget Document 2003-04* Budget (Scotland) (No. 4) Bill for year ending 31 March 2004. Laid before the Scottish Parliament January 2003: reference SE/2003/02.

Implementation Plan

The summary below provides the basis of an action plan for implementing the strategy identifying roles and responsibilities.

The Scottish Executive will:	Timescale
Take forward the commitments in this report in partnership with the Funding Councils and institutions, including the development of measures and targets to monitor progress, in order to make the most effective use of existing resources. (7.1)	•••
1. Introduce legislation to merge SHEFC and SFEFC. (4.24) (7.3)	•
2. With SHEFC, develop a measure for the number of students successfully completing a qualification relative to funded places allocated, and set a Scotland-wide target for an increase in that figure to which all institutions will be expected to make a contribution. (4.2)	•
3. Take receipt of proposals in the summer from the Funding Councils on how we can use the outcome of the FE/HE articulation exercise undertaken by the Scottish Advisory Committee on Credit and Access (SACCA), in collaboration with the Wider Access Regional Forums. This will cover mapping, student tracking and bridging arrangements to maximise the benefits to learners and extend good practice in this area. (4.25)	•
4. Encourage HEIs, FE colleges and the SQA to collaborate when qualifications are being developed, so as to maximise the potential for articulation and transition across sectors, and to improve information to students on courses where specific arrangements are available. (4.27)	•••
5. Review the current arrangements within the Executive for communicating future workforce requirements in key public sector areas, including arrangements for the funding of health-related education and development, and with SHEFC put in place better mechanisms for addressing these requirements. (4.8)	•
6. Work with Careers Scotland and Universities Scotland to develop a 'question card' which helps prospective students ask the right questions about the employment prospects of those courses which have an explicit vocational purpose. (4.31)	•
7. Work with the representative bodies in the sector and the Funding Council to set new sector-wide targets for improvement in access from the most economically disadvantaged groups and for the retention of students of all backgrounds, and monitor performance against these. (4.15)	•

• early action (by 2004) •• longer term (by 2006) ••• ongoing



The Scottish Executive will:	Timescale
8. Stimulate more disadvantaged young people to remain in education by increasing support to 16-19 years olds from low income families to stay on at school and/or FE college. (4.23)	••
9. Develop an entitlement programme for those leaving care whose schooling has been interrupted. (4.23)	•••
10. Pursue our aim of better results for all pupils leaving school but with clear and specific action to improve results for those currently underperforming. (4.23)	•••
11. Strengthen our relationship with EducationUKScotland by providing annual core funding for its operation for the next 2 years from 2003-04. (4.34)	•
12. Invite NUS Scotland, EducationUKScotland, Universities Scotland and the Association of Scottish Colleges to consider the development, and adoption by institutions, of an ‘international students’ charter’ to which all FE and HE institutions should be encouraged to subscribe. This will provide international students with a reference point indicating a minimum standard of help and support, including specialist advice, they can expect in coming to any institution in Scotland. (4.37)	•
13. Monitor the collaborative efforts of institutions through their work with EducationUKScotland. Take into account their performance and the progress towards the specific targets being developed by EducationUKScotland in deciding on any future funding for this area of activity. (4.35)	••
14. Ask EducationUKScotland, working with HEIs and further education colleges, to examine how the availability of “2+2” and similar arrangements can give Scotland an advantage in attracting overseas students. (4.40)	•
15. Establish an implementation team within the Executive, with external advice as appropriate, to look at ways to attract more people to live and work in Scotland. Within this, we will consider ways in which more international students can be encouraged to stay in Scotland after they graduate. (4.42)	•

The Scottish Executive will:	Timescale
<p>16. Enable SHEFC by 2005-06 to increase by at least 100% (from the current baseline of £6 million) resources for investment in knowledge transfer grant (KTG), providing incentives for much more intensive interactions between HE and business. KTG is being reviewed by SHEFC with the aim of incorporating a range of suitable metrics to help drive and share best practice in commercialisation. As part of this review, we will also ask SHEFC to consider how KTG might be used to stimulate human resource practice which better supports Knowledge Transfer activities. (5.15)</p>	<p>••</p>
<p>17. Examine and promulgate the lessons from existing best practice in HE-business interaction in Scotland. (5.19)</p>	<p>••</p>
<p>18. Encourage the development of education programmes to help the higher education and business sectors, including venture capitalists, better understand each other's perspectives on commercialisation. (5.22)</p>	<p>•</p>
<p>19. Act on any recommendations as appropriate from the current review of the Interaction of Higher Education and Business in the UK (The Lambert Review). (5.27)</p>	<p>••</p>
<p>20. Support Scottish Enterprise to invest £450 million over 10 years in Intermediary Technology Institutes in life sciences, communications technology and energy, and encourage and incentivise the higher education sector to engage with the ITI initiative by earmarking £10 million for investment in higher education institutions by 2005-06 to assist their involvement with ITIs, as part of the overall additional funding for science and research announced in SR2002. (5.18)</p>	<p>••</p>
<p>21. In the context of the current UK-wide review of research assessment, work with the other administrations to develop a system which encourages and supports strategic decision-making within institutions and provides wide-ranging data on the state of the Scottish research base, including enabling judgements to be made about its development over time. (5.3)</p>	<p>•</p>
<p>22. Recommend that the new research assessment system being developed at UK level does not discourage research which crosses disciplines and institutions. (5.13)</p>	<p>•</p>
<p>23. Recommend that the revised research assessment method being developed at UK level does not discourage more outward-looking behaviour by researchers. (5.24)</p>	<p>•</p>

• early action (by 2004) •• longer term (by 2006) ••• ongoing



The Scottish Executive will:	Timescale
<p>24. Introduce the necessary legislation to support the creation of the new Arts and Humanities Research Council as a full UK-wide research council, encouraging closer links between the arts and humanities and other disciplines, all of which are already funded within the Research Council UK structure. (5.12)</p>	•
<p>25. Showcase and promote the best of Scottish research to an international audience, working closely with bodies such as the Royal Society of Edinburgh. (5.26)</p>	•••
<p>26. Explore with Universities Scotland how Scotland can derive even more value from international links and the scope for building connections between alumni networks and Globalscot. (6.14) (4.41)</p>	•
<p>27. Commission a third phase of this review to examine in depth the specific long-term issues for the Scottish higher education sector which may arise from developments elsewhere in the UK. We will ensure that that exercise is fully embedded in the overall implementation of the Lifelong Learning Strategy. (7.2)</p>	•
<p>28. Use the third phase of this review to look at ways of developing the range and value of non-public sources of funding available to higher education. (7.6)</p>	•
<p>29. Play a full part in the Task Force on private donation proposed in the DfES White Paper, and take action on any recommendations. (7.5)</p>	•
<p>30. Work with Universities Scotland and SHEFC to deepen the understanding of trends in recruitment and retention of staff in Scotland, including the implications of the age structure of the current higher education workforce. (7.4)</p>	•
<p>The Scottish Executive will continue to:</p>	
<p>31. Provide data via Futureskills Scotland and other sources to inform learning providers, employers and learners about future supply and demand. (4.10)</p>	•••
<p>32. Improve the quality and consistency of information for all learners through <i>learn direct scotland</i>, working with Careers Scotland and Futureskills Scotland and others to ensure that learners have a seamless service incorporating the provision of information and guidance. (4.7)</p>	•••
<p>33. Support investment in ICT in HEIs whether through SHEFC or the Enterprise bodies. (4.14)</p>	•••
<p>34. Welcome innovative admissions strategies by individual institutions which seek to recognise talent and potential. (4.18)</p>	•••

The Scottish Executive will continue to:	Timescale
35. Monitor progress through the Performance Indicators published annually by the Funding Council, and monitor the mix of entrants through the UCAS process. (4.16)	•••
36. Work with Whitehall departments and other devolved administrations to progress the Prime Minister's Initiative and achieve the targets set for increasing the numbers on overseas (non-EU) students who come here to study and consider ways in which the diversity of education across the UK can be fully reflected in these and related activities. (4.38)	•••
37. Welcome students from the EU to Scotland and see the expansion of the EU as offering potential to attract to Scotland talented young people from across Europe. Encourage our own students to take up opportunities to study in other parts of the EU, for example through the ERASMUS programme. (4.39)	•••
38. Invest in science and research in higher education, to maintain a fully competitive research base and to support the UK-leading work SHEFC already has in hand using research grants both to support existing excellence and develop emerging areas. In doing this, ask SHEFC to give particular attention to the health of the basic science disciplines. (5.1)	•••
39. Work with SHEFC to identify strategic Scottish development needs and support the strengthening of the research base in these key areas. (5.7)	•••
40. Participate in the UK-wide Foresight programme. (5.5)	•••
41. Maintain strong links with the Office of Science and Technology particularly in relation to the work of the Research Councils, and enable SHEFC to increase its contribution to the joint OST-Funding Council SRIF by 50% from 2004-05. (5.6)	•••
42. Publish regular measures of commercialisation activity by HEIs in Scotland in order to monitor trends in activity and to compare against UK and other country benchmarks. (5.20)	•••
43. Use our guidance to SHEFC to reinforce the need to embed good human resource management throughout the sector. (6.7)	•••
44. Consider positively proposals for mergers between institutions wherever these have come from a shared agreement and commitment to the benefit of such a move from the institutions themselves, are endorsed by SHEFC, are welcomed by the wider community and stakeholders and benefit overall provision of HE in Scotland. (6.11)	•••

• early action (by 2004) •• longer term (by 2006) ••• ongoing



The Scottish Higher Education Funding Council should:	Timescale
Use funding levers effectively, working with the Executive and higher education institutions to make best use of existing resources and progress the implementation of the commitments in this report.	• • •
1. Develop and extend its Strategic Dialogue Process, as a unique forum which brings together the Chairs of governing bodies as well as the Principals of all HEIs. (6.2)	• • •
2. Target any further expansion on those institutions which can demonstrate that, by a variety of strategies, they are seeking to use existing places more effectively. (4.1)	• •
3. Examine whether the current approach of providing teaching funding in a single block with no separate identification of capital is sustainable, in terms of the incentives it provides, or does not provide, for longer term investment in the teaching estate. (7.10)	•
4. Examine the scope for providing institutions with more information on future year allocations than at present, to aid planning. (7.11)	•
5. Ensure that in making any changes to funding systems the potential impacts on institutional and individual behaviour are properly assessed, to minimise unexpected and unintended consequences. (7.9)	• • •
6. Look at future labour market requirements and types of learner and use this analysis to help institutions to develop their provision so that it meets future demand. (4.6)	• • •
7. Build on the work being done on careers education, information and guidance and its potential to contribute to the employability of learners. (4.30)	• •
8. Examine what more specific work could be done, or incentives put in place, to stimulate the further development of more flexible provision. (4.11)	• •
9. Work with the Enterprise Networks to plan the most effective use of resources to meet demand for learning and training, agreeing joint targeting and funding where appropriate. (4.5)	• • •
10. Monitor closely the implementation of the new Quality assurance arrangements, to ensure that these deliver real benefits to students, reduces low value-added bureaucracy and continues to provide a sufficient level of assurance and accountability. (4.3)	• • •

The Scottish Higher Education Funding Council should:	Timescale
11. Ensure that the revised quality assurance arrangements encourage all institutions to work closely with employer representatives and professional bodies wherever they are developing and delivering specifically vocational courses. (4.29)	•••
12. Have the QAA/SHEFC/US/NUS Quality Working Group examine the proposals in the DfES White Paper which relate to quality, to identify if any proposals in it which are not already covered in the new Scottish arrangements should be considered for adoption here. (4.4)	•
13. Play its part in helping to achieve the full implementation of the SCQF. (4.28)	•••
14. Examine access and retention strategies in its consideration of individual HEIs' strategic plans, to discuss with individual institutions any further action that may be required, and to share good practice. (4.21)	•••
15. Monitor the use of its widening access premium, which is aimed at improving retention, assess its added value and advise the Executive by the Autumn 2003 on its impact. Expect the sharing of good practice on retention to be built into any future initiatives. (4.22)	•
16. Support and encourage the sustainable development of e-learning in Scotland in partnership with the sector and other stakeholders including through consideration of the recommendations made by SHEFC's e-learning group in its forthcoming report. (4.13)	•••
17. Draw on the advice of the new Scottish Science Advisory Committee on science priorities in making future investment decisions and complete a detailed study of the results of the most Research Assessment Exercise by summer 2003, to identify strengths and weaknesses in the research base, sharing the results of this with SSAC. (5.4)	•••
18. Ensure that teaching in all institutions benefits from advances in research, including through facilitating research-intensive institutions working with non research-intensive HEIs. (5.14)	•••
19. Use the funding available for research to attract sustainable resources from other funders. (7.8)	•••
20. Continue to develop the Scottish Research Information System. (5.25)	•••
21. Use an element of the science and research funding announced in SR2002 to help talented individuals in non-research intensive institutions strengthen their links with other institutions. (5.10)	••

• early action (by 2004) •• longer term (by 2006) ••• ongoing



The Scottish Higher Education Funding Council should:	Timescale
<p>22. Provide detailed advice to the Executive on the potential for securing in Scotland new inter-disciplinary, inter-institutional research at the boundary between the sciences and the arts and humanities. (5.11)</p>	•
<p>23. Ask Scottish Enterprise and SHEFC to examine together the feasibility of establishing a Scottish centre of expertise in commercialisation. This would help Scottish-based businesses and HEIs to interact more effectively, for example through making specialist advice more readily available. The centre, possibly based in a local enterprise company, would target businesses with limited experience of exploiting research and working with HEIs, and also HEIs with limited in-house commercialisation expertise. Scottish Enterprise and SHEFC should provide an initial report to Ministers on how this could be taken forward by the end of September 2003. (5.16)</p>	•
<p>24. Work with Scottish Enterprise to further develop their close working relationship so that commercialisation and knowledge transfer activity can be enhanced and incentivised. (5.17)</p>	• • •
<p>25. Work with Scottish Enterprise to promote entrepreneurialism by providing opportunities for students and researchers to obtain necessary management and business skills through initiatives such as the Scottish Institute for Enterprise. (5.23)</p>	• • •
<p>26. Continue to regularly review the guidance and training provided for governors to ensure they are prepared for and effective in their roles and update the “Guide for Members of Governing Bodies in Scottish Higher Education Institutions and Good Practice Benchmarks” and make it clear that all institutions should draw on this in providing support for the members of governing bodies. (6.1)</p>	• • •
<p>27. Provide support to the sector through management development programmes, consider the implications of the Leadership Foundation proposed in the DfES White Paper and what relationship Scotland should have with that body, and consider how Scotland can benefit further from programmes developed UK-wide, such as HESDA’s Personal Development Programme for Leaders of Schools and Departments. (6.5)</p>	• • •
<p>28. Explore with HEIs the potential for further opportunities for inter-institutional collaborations where there are strategic, financial or other benefits to be gained. (6.12)</p>	• • •
<p>29. Retain an element of funds for the purpose of supporting valuable proposals for collaboration which are driven by institutions themselves. (6.10)</p>	• • •

Higher education institutions are expected to:	Timescale
Take account of the priorities set out in this report in determining their institutional direction and ethos and in the development of their strategic plans, and work with the Executive and SHEFC in taking these priorities forward.	• • •
1. Have mechanisms in place for regularly reviewing their provision and realigning their portfolios in response to demand. (4.9)	• • •
2. Draw on the information available from Futureskills Scotland and the Sector Skills Councils in reviewing and developing their provision. (4.32)	• • •
3. Develop their student base, to reach out successfully to individuals who are willing and able to fund themselves, or find employer funding, to extend their experience of higher education. (7.7)	• • •
4. Help to raise aspirations and break down barriers to learning for different types of learners – including lone parents, disabled people, women returners, those from family backgrounds who have not traditionally continued in education, or those living in remote locations – by recognising and responding to their diverse needs – being creative and flexible in the design and delivery of provision. (4.12)	• • •
5. Use the outcome of the SACCA exercise to examine the scope for extending their own involvement in providing progression and articulation opportunities. (4.26)	•
6. Actively examine the possibilities for the development of more opportunities for progression to degree-level study from SCQF level 7 and 8 courses provided by further education colleges. (4.20)	• • •
7. Work with EducationUKScotland to support and inform the six areas of activity identified as priorities for its activities: partnerships, representation, market analysis, international promotion, web-based services and collaboration. (4.36)	• • •
8. Ensure that, in reviewing and developing course content, transferable and ‘soft’ skills will be developed and recorded. (4.33)	• • •
9. Contribute to closing the opportunity gap between those who achieve their full potential and those who do not, recognising that different strategies will work for different institutions, and that there needs to be flexibility to allow institutions to choose how they will make their contribution. Access and equality of opportunity regardless of factors such as gender, ethnicity, disability or background must be the goal. (4.17)	• • •

• early action (by 2004) • • longer term (by 2006) • • • ongoing



Higher education institutions are expected to:	Timescale
10. Build links with schools and further education colleges, in particular by playing a full part in the Wider Access Regional Forums, and supporting the work of initiatives such as Greater Opportunities of Access and Learning for Schools (GOALS) and Lothian Equal Access Programme for Schools (LEAPS). (4.19)	...
11. Take a strategic approach to the use of resources for research and to focus these on the areas where they are most likely to produce work of value. (5.21)	...
12. Encourage their staff to seek out beneficial research collaborations, in Scotland and beyond, with HEIs and other organisations. (5.8)	...
13. Actively promote and support the sharing of research facilities. (5.9)	...
14. Contribute to strengthening the sharing of existing commercialisation expertise within the sector, including expertise in Intellectual Property. (5.21)	...
15. Recognise that good management and leadership across institutions is fundamental and demonstrate their commitment to good practice in the management of human resources. (6.3)	...
16. Meet their legal obligations for equal opportunities in the management of people. (6.4)	...
17. Recognise that good business systems, including good management information systems, are an essential element of good management. (6.8)	...
18. Foster constructive relations with employee representatives, adopting best practice in dealing with trades unions. (6.9)	...
19. Reduce as far as possible the use of short-term contracts and actively manage that group of staff, taking account of the implications of the EC Fixed Term Workers Directive and the Fixed Term Employees (Prevention of Less Favourable Treatment) Regulations 2002. (6.6)	...
20. Look for opportunities for collaboration which will achieve quality and best value across all aspects of their business. (6.13)	...
21. Share best practice on developing and sustaining alumni networks. (4.41)	...

Conclusion

At the heart of this review has been an open dialogue with the Funding Council, institutions and organisations representing those with an interest in higher education. We want this process to continue as we move forward, guided by a shared commitment to **responsiveness, relevance, quality and coherence**.

Annex A

Terms of Reference

To identify how the Scottish Executive Enterprise and Lifelong Learning Department's investment in the delivery of higher education can most effectively maximise the personal, social and economic benefits of teaching and research over the medium to long term, and support a culture of challenge, innovation and partnership in and beyond Higher Education Institutions.

The review should have particular regard to:

- the framework for relations between the Executive, the Scottish Higher Education Funding Council and Higher Education Institutions – as well as other relevant bodies in the field of lifelong learning;
- SHEFC's performance and how that should be developed.

Recognising:

- the contribution of higher education to the Scottish Executive's objectives for economic, social, cultural and personal development – with specific attention to changing demands for knowledge and skills; and the need to extend the opportunity to benefit from higher education to those groups who have been relatively excluded;
- the need to constantly seek opportunities to develop and improve performance in teaching and research, to stimulate the transmission of knowledge to the wider community, and to be responsive to change;
- the contribution which well managed and well motivated staff make to the provision of higher education; and
- the need to make best use of the resources already being made available to the sector.

Annex B

Higher Education Institutions in Scotland funded by the Scottish Higher Education Funding Council

University of Aberdeen
University of Abertay Dundee
Bell College
University of Dundee
Edinburgh College of Art
University of Edinburgh
Glasgow Caledonian University
Glasgow School of Art
University of Glasgow
Heriot-Watt University
Napier University
The Open University in Scotland
University of Paisley
Queen Margaret University College
Robert Gordon University
Royal Scottish Academy of Music & Drama
University of St Andrews
University of Stirling
University of Strathclyde
UHI Millennium Institute

Annex C

Review of Higher Education in Scotland: the review process

The review of higher education in Scotland was launched October 2001 by the Minister for Enterprise, Transport and Lifelong Learning. The key themes of the review have been teaching and learning, research and knowledge transfer and management and governance.

Two public consultation papers issued, in October 2001 and April 2002. There were 62 responses received to the first paper and 83 to the second. Responses are available at: www.scotland.gov/who/eld/herereview.asp

The October paper focused on the performance of the Scottish Higher Education Funding Council. The resulting report on SHEFC is available at www.scotland.gov/who/eld/herereview.asp

The April paper, *Shaping our Future*, considered the external pressures for change, including demographic, economic and international pressures, and questioned what the priorities for Scotland should be for the next 5-10 years.

Work was also undertaken with a panel of experts. Five full day meetings of the Higher Education Review Advisory Panel were held during 2002, with each focusing on a key theme. A final half day meeting was held to agree the content of the Panel's report to the Minister.

Meetings:

- 5 March – Governance and Management
- 27 March – Teaching and Learning
- 24 April – Research and Knowledge Transfer
- 29 May – International Markets
- 25 July – Governance and Government/HEI Relationships
- 24 September – Panel's Report to the Minister

Each of the full day meetings also involved contributions from a variety of key stakeholders. The Panel's recommendations are listed at Annex D. The full report of the Advisory Panel can be found at www.scotland.gov.uk/who/eld/herereview.asp

In addition:

- Officials met individually with all HE Principals, and with the Principals of those FE colleges which provide significant amounts of HE.
- The Minister hosted discussions with HE Principals, FE Principals and individuals active in commercialisation.
- Two workshops were held with school teachers involved with widening access.
- A seminar on commercialisation was held in May 2002 followed up with meetings with HE commercialisation officers.

The Review also drew on evidence provided to and reports of the Enterprise and Lifelong Learning Committee in relation to higher education and lifelong learning more broadly.

Scottish Higher Education Review Advisory Panel Members

Mr George Borthwick CBE, *Chair of Scottish Business in the Community and Former President of Ethicon Europe*

Professor Vicki Bruce OBE, *Vice Principal Research and Head of College (Humanities and Social Sciences), University of Edinburgh*

Professor Duncan Maclennan CBE, *Expert advisor to the review*

Mr Roger McClure, *Chief Executive, Scottish Funding Councils*

Mr Ian Ritchie, *Coppertop and Scottish Institute for Enterprise*

Professor Peter Scott, *Vice-Chancellor, Kingston University*

Dr John Taylor OBE, *Director General of Research Councils, Office of Science and Technology*

Professor Mike Thorne, *Vice-Chancellor, University of East London*

Mr Charlie Woods, *Senior Director of Knowledge Management, Scottish Enterprise*

Ed Weeple, *Head of Lifelong Learning Group, Scottish Executive (Chair)*

Lucy Hunter, *Head of Higher Education and Science Division, Scottish Executive*

Representatives from the following organisations met with the Advisory Panel

- National Union of Students, Scotland
- Association of University Teachers (Scotland)
- The Educational Institute of Scotland, University Lecturers' Association
- The Committee of Chairs of University Courts
- Universities Scotland
- The Secretaries Group of Universities Scotland
- Professor Michael Shattock
- Scottish Education and Training (SE+T) (now EducationUKScotland)
- Scottish Universities Research Policy Consortium
- Quality Assurance Agency
- Scottish Higher Education Funding Council
- Scottish Science Advisory Committee

Annex D

Recommendations of the Higher Education Review Advisory Panel

External Drivers	Recommendations	System Drivers
Competition (local and global)	<p>1. The Panel strongly supports the process of dialogue now begun between the institutions and the Funding Council on working towards strategic coherence in the sector. The Panel believes that the sector can draw strength from diversity and that institutions should be encouraged to innovate and to develop their strengths and missions, but that diversity amongst institutions need not and should not be an obstacle to working towards achieving agreed national priorities. across the sector as a whole.</p>	Strategic aims of SE, SHEFC and HEIs
Economic/ skills needs	<p>2. Institutions' capacity to anticipate, lead and respond effectively to external drivers for change will be critical to future success. The Funding Council should support institutions to develop that capacity. For example, the Panel particularly recognises the need to offer learners a greater degree of flexibility of provision in modes of delivery, use of IT including e-learning developments, short targeted courses and courses designed to meet the needs of employers and in-work learners, by offering continuous professional development and other lifelong learning opportunities.</p>	Prices
Markets (local and global)	<p>3. For systems to be effective there must be an understanding of the motivations for behavioural change. Institutions should enhance the development and delivery of staff training and development particularly to increase leadership capacity at all levels. It may be sensible for institutions to collaborate more in this area.</p>	Level of public funding
Demand for lifelong learning	<p>4. The Executive and the Funding Council should investigate the sustainability of teaching infrastructure in the sector.</p>	Funding mechanisms
	<p>5. Institutions should, where there are clear reasons to do so such as scale, cost, quality enhancement, etc, collaborate and the Funding Council and institutions should consider the potential for this as a key issue within their strategic dialogue.</p>	Planning horizons and cycles/ decision making
Impacts of policies (local, national and international)	<p>6. The Executive, Funding Council and institutions should work together to minimise any unintentional impacts of change that would adversely affect the operation of the sector.</p>	New technologies and pedagogical developments
		Quality

External Drivers	Recommendations	System Drivers
Competition (local and global)	<p>7. The Executive, Funding Council and institutions must continue to work together to increase the proportion of learners accessing HE from under-represented groups. This will require all elements of the ‘supply chain’ to be understood and stimulated, in addition to input from providers in HE; e.g. pupils, parents, teachers, other potential learners and employers; and for the Executive to give careful consideration to setting appropriate targets.</p>	Strategic aims of SE, SHEFC and HEIs
Economic/ skills needs	<p>8. Systems must encourage articulation between courses both between sectors and institutions, and HEIs and FECs should work together to identify and streamline routes between providers. Information must be provided on entry and exit points, transportable credits and qualifications, the accreditation of prior learning, fast tracking options and employment opportunities. To enhance the transparency of articulation routes, qualifications and routeways should be mapped onto the SCQF. The Funding Council should facilitate and support these developments.</p>	Prices Level of public funding
Markets (local and global)	<p>9. Institutions must have robust systems in place to ensure that courses are, and continue to be, relevant to the needs of learners and to the wider needs of the economy and society.</p>	Funding mechanisms
Demand for lifelong learning	<p>10. There is a need for more strategic branding and marketing of Scottish higher education in international markets – both in encouraging students to come here and in the provision of distance learning. The development of an <i>international students’ charter</i> would highlight the distinctiveness of the Scottish sector and pledge a basic level of service and support students could expect when studying with a Scottish HEI which could provide a competitive edge when students make their choices. The sector should fully support the work of SE+T.</p>	Planning horizons and cycles/ decision making New technologies and pedagogical developments
Impacts of policies (local, national and international)	<p>11. The Scottish Executive and Funding Council should encourage institutions to promote the knowledge transfer and commercialisation of their research to realise its full potential for society and the economy.</p>	Quality

Annex E

Papers received by the Higher Education Review Advisory Panel

Work commission from:

Professor M Shattock: Institutional Governance and Management; and The Roles of Chairs and Secretaries of Court

Osborne, M; Gallacher, J and Murphy, M: A Research Review of FE/HE Links

Papers received:

National Union of Students, Scotland: *Submission to the Scottish Executive Review of Higher Education*

National Union of Students, Scotland: *Submission to the Enterprise and Lifelong Learning Committee of the Scottish Parliament Inquiry into Lifelong Learning*

National Union of Students, Scotland: *Submission to the Scottish Higher Education Funding Council; Strategic Issues in Higher Education*

National Union of Students, Scotland: *Funding for the Future; Funding Teaching in Higher Education*

Association of University Teachers (Scotland): *Initial Submission to the Strategic Review of Scottish higher education*

Association of University Teachers (Scotland): *Paper for review panel meeting of 5 March 2002*

The Educational Institute of Scotland, University Lecturers' Association: *Submission to the Scottish Executive Review of Higher Education*

The Educational Institute of Scotland, University Lecturers' Association: Report compiled by Bathie, D; Burns, A & Burns, P. Department of Management and Marketing, University of Paisley: *Electronic Technology in Higher Education May 2000*

Committee of Chairmen of Scottish Higher Education Institutions: *Review of Higher Education*

Universities Scotland: *Response to First Consultation Paper*

Universities Scotland: *Review of Scottish higher education: an overview*

Secretaries of Scottish Higher Education Institutions: *Scottish Higher Education Review: Response to the First Consultation Paper*

Secretaries of Scottish Higher Education Institutions: *additional submission to the Higher Education Review Panel*

Brenda Morgan-Klein, Institute of Education, University of Stirling: *Social Inclusion and Higher Education: Widening the Debate*, (October 2000)

Andrew Hannan, Faculty of Arts & Education, University of Plymouth: *Changing Higher Education: teaching learning and institutional cultures* (October 2000)

Scottish Universities Research Policy Consortium: *Strategic Decision-Making on Investment in Research Infrastructure – Project Overview* (July 2002)

Scottish Higher Education Funding Council: *RAE outcomes: trends over time*

Scottish Executive: *Background Paper on Participation* (March 2002)

Scottish Executive: *Background Paper on International Students* (March 2002)

Scottish Executive: *Science Expenditure in Scotland* (April 2002)

Scottish Executive: *Intellectual Property and Commercialisation* (August 2001)

Scottish Executive: *Scottish Science Advisory Committee* (April 2002)

Scottish Enterprise/Scottish Higher Education Funding Council: *Report on Research and Knowledge Transfer* (March 2002)

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