

EAST AYRSHIRE COUNCIL

CABINET – 29 JUNE 2011

WIDENING ACCESS TO SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) IN EAST AYRSHIRE

Report by Executive Director of Educational and Social Services

1. PURPOSE

- 1.1 To inform Cabinet of the progress made in developing Science, Technology, Engineering and Mathematics (STEM) related activity in East Ayrshire in partnership with neighbouring authorities, further and higher education, scientific organisations and local business and industry and to seek approval for East Ayrshire's continued involvement in this initiative.

2. BACKGROUND

- 2.1 Science and other STEM related activities is an important part of Scotland's heritage and its applications are found every day in life at work, leisure and in the home. Science and the application of science are central to the nation's economic future and health and wellbeing of individuals and society. Scotland has a long tradition of scientific discovery, of innovation in the application of scientific discovery, and of the application of science in the protection and enhancement of the natural and built environment. Children and young people are fascinated by new discoveries and technologies and become increasingly aware of, and passionate about, the impact of science on their own health and wellbeing, the health of society and the health of the environment. Strong evidence for this is found in the success of East Ayrshire.
- 2.2 Through learning in the sciences, children and young people develop their interest in, and understanding of, the living, material and physical world. They engage in a wide range of collaborative investigative tasks, which allows them to develop important skills to become creative, inventive and enterprising adults in a world where the skills and knowledge of the sciences are needed across all sectors of the economy.
- 2.3 The sciences curriculum area within *Curriculum for Excellence* has to meet some significant challenges. While every child and young person needs to develop a secure understanding of important scientific concepts, their experience of the sciences in school must develop a lifelong interest in science and its applications.
- 2.4 The experiences and outcomes in science provide opportunities for children and young people to develop and practise a range of enquiry and investigative skills, scientific analytical thinking skills, and develop attitudes and attributes of a scientifically literate citizen; they also support the

development of a range of skills for life and skills for work, including literacy, numeracy and skills in information and communications technology (ICT).

3. WIDENING ACCESS TO SCIENCE IN AYRSHIRE

3.1 The aims of widening access to science in Ayrshire are to secure high levels of achievement by those specialising in science and to ensure that all learners acquire the capacity as citizens to deal with scientific issues in their everyday life.

3.2 In October 2010, after an approach by Willie Coffey, MSP for Kilmarnock and Irvine Valley and Councillor for Ward 2, Kilmarnock College, supported by East Ayrshire, hosted an Ayrshire Science Summit with representatives from the three Ayrshire Councils, further and higher education centres, the British Science Association, Glasgow Science Centre, Ayrshire Chamber of Commerce and Industry, Skills Development Scotland and local businesses and industries whose work is based on STEM activities (Science, Technology, Engineering and Mathematics).

3.3 A number of proposals for action arose from the Science Summit as follows:

- Key participants to be invited to join a short-life working group to put in place a cross-Ayrshire Action Plan to promote Access to Science for Ayrshire and to take forward proposals emerging from the event.
- The working group should consider developing proposals for a Science Development Officer for Ayrshire with a remit to co-ordinate Continuing Professional Development (CPD) opportunities for teachers; promote industry links; stimulate school clubs focussing on STEM agenda; highlight relevant events, and generate inter-school challenges.
- Initiate discussions with local STEM-based companies to secure their input to the development of greater access to science.
- Schools should provide opportunities, for example through hands-on activities or work experience, for pupils to experience alternative methods of learning about STEM subjects.
- Review the opportunities for greater joint working between schools and colleges to provide local access to the widest range of science and technology courses.
- Ensure that schools, colleges, and students have an awareness of and access to the wide range of external resources, including from the Glasgow Science Centre, Scottish Schools Equipment Resource Centre (SSERC), various science institutes, and the wide range of agencies working to promote the STEM agenda.
- Encourage parents to consider the part that science and wider STEM subjects can play in a broadly based education, which is of benefit in many careers, even when the subject itself is not the focus of the job.

- Investigate the use of GLOW (Scotland's education intranet) to support greater co-operation between schools in Ayrshire.
- Consider the development of an Ayrshire Science Festival.

4. PROGRESS TO DATE

4.1 In response to the proposals set out in the Science Summit Report an Ayrshire Access to Science Reference Group (AASRG) has been set up under the chairmanship of Emeritus Professor Daniel Gorman. The Group includes representatives of the three Ayrshire Education Services and science practitioners; Kilmarnock, Ayr and James Watt Colleges; the Scottish Agricultural College, Auchincruive; Glasgow and Strathclyde Universities; the British Science Association; Glasgow Science Centre and the Ayrshire Chamber of Commerce. The first meeting of the group took place on 26 May 2011. The Background, description of activities and timelines of the AASRG are set out in Appendix 1)

4.2 The business plan of AASRG reflects the work streams set out in the Scottish Government's document "Science and Engineering 21 (S&E 21) – Action Plan for the 21st Century published in 2010 which follows on from "Science for Scotland" November 2008. The AASRG priorities are:

- **Public Engagement -**
To consider the current status of public engagement with science, technology, engineering and mathematics (STEM) in Ayrshire and subsequently investigate initiatives which would lead to improvement. (S&E21 work streams 3 and 5)
- **Learning and Teaching -**
To consider aspects of the teaching, provision, transition and articulation with respect to STEM in schools, colleges and university presently in Ayrshire and subsequently investigate initiatives which would lead to improvement. (S&E21 work streams 1, 2 and 4)

In addition, it is proposed to consider

- **Widening Access -**
To consider the impact of the GOALS programme (Greater Opportunity of Access and Learning with Schools, 2000-2008) in Ayrshire and what actions may be taken to identify and nurture extraordinary talent in a young person from a background or disposition not normally associated with STEM activities
- **Input from the Private Sector -**
To consider hosting a science and engineering event for Ayrshire instigated and driven by the private sector through the Ayrshire Chamber of Commerce and Industry and to provide science/ engineering work placements for young people in Ayrshire.

4.3 Following the development phase it is proposed that the AASRG hold a second Science Summit to further engage the science community in Ayrshire in December 2001 with a final report being produced by March 2012.

5. FINANCIAL IMPLICATIONS

5.1 There are no additional financial implications. All of the agencies involved will contribute time and resources already at their disposal.

6. POLICY/LEGAL IMPLICATIONS

6.1 NIL

7. COMMUNITY PLANNING IMPLICATIONS

7.1 The establishment of an Ayrshire Access to Science Reference Group and the activities which such a group will support and develop will contribute to all of the key themes and priorities of the Community Plan: Promoting Lifelong Learning.

8. RISK IMPLICATIONS

8.1 Nil

9. RECOMMENDATIONS

9.1 It is recommended that Cabinet:

- (i) note the actions being taken to develop the sciences across the three Ayrshire Councils in partnership with other learning and skills agencies and science organisations;
- (ii) approve Appendix 1 as the Ayrshire Access to Science Reference Group business plan;
- (iii) invite the Executive Director to provide progress reports, as appropriate; and
- (iv) otherwise note the contents of this report.

Graham R Short
Executive Director of Educational and Social Services

June 2011

LIST OF BACKGROUND PAPERS

Nil

Members requiring further information should contact Andrew Sutherland, Head of Service: Schools Tel: (01563) 576126.

IMPLEMENTATION OFFICER

Kenneth McKinlay, Principal, Quality Improvement Tel: (01563) 555650

Ayrshire Access to Science Reference Group (AASRG)

Inaugural meeting: Thursday 26th May 2011

1. AASRG Background.

An Access to Science for Ayrshire summit was hosted by Kilmarnock College on the 19th of October 2010 at the instigation of Willie Coffey MSP*. The aim of the summit was to initiate actions which would stimulate the level of science related activity in Ayrshire, in particular within education. Accordingly, the specific objectives for that day were;

- a. To raise the profile of the STEM agenda (Science, Technology, Engineering and Mathematics) with elected members and agencies in Ayrshire.
- b. To foster co-operation between agencies and individuals in Ayrshire with an interest in access to science.
- c. To raise an awareness of Ayrshire's needs among external agencies with a role in delivering the STEM agenda.
- d. Next steps to improve Ayrshire's capacity to deliver awareness of, and engagement with, STEM.

With particular reference to (d) above, two key recommendations arising from the summit were:

- i. To make an application to the Scottish Government for a Science Engagement Grant to cover the cost of employing an Access to Science engagement officer. This application was made by the Ayrshire Chamber of Commerce and Industry.
- ii. The setting up of an access to science action group. **This is now being initiated by East Ayrshire Council's Department of Educational and Social Service through the creation of this AASRG.**

2. Description and Activities of the AASRG.

The AASRG will be a group of people selected from across Ayrshire who have an interest and responsibility for (a) raising the awareness for STEM and (b) the education and encouragement of young people for a career in STEM. As such, the group will comprise personnel from all levels of education, chambers of commerce and industry and other bodies which are devoted to the promotion of STEM. As the appointed chairman of this group I have consulted widely with respect to the most appropriate format of approach that this group should take. Accordingly I recommend that the group start from the Government document "Science and Engineering 21 (S&E21) – Action Plan for the 21st century" (<http://www.scotland.gov.uk/Resource/Doc/91982/0095734.doc>) which incidentally was published in 2010 and is a follow on from "Science for Scotland", Nov

* The feedback and proposed further actions from that summit are attached separately.

2008. The centrepiece of S&E21 is 5 Workstreams which describe action/improvements with respect to education and public awareness of science, technology, engineering and mathematics. These 5 Workstreams are detailed in Appendix 1. **The group will concentrate on two distinct, albeit related, headings which are;**

- i. *To consider the current status of public engagement with science, technology, engineering and mathematics (STEM) in Ayrshire and subsequently investigate initiatives which would lead to improvement. (S&E21 Workstreams 3 and 5). This will include;*
 - a. Science in the home. What steps, if any, can be taken to promote, stimulate and alleviate the fear of science amongst adults and parents?
 - b. Engagements with schools under the umbrella of STEMNET which attempts to create opportunities to inspire young people in Science, Technology, Engineering and Mathematics (STEM). This enables young people to develop their creativity, problem-solving and employability skills, widens their choices and supports the UK's future competitiveness. STEMNET helps to encourage young people to be well informed about STEM, able to engage fully in debate, and make decisions about STEM related issues. STEMNET receives funding from the Department for Business, Innovation, and Skills (BIS) and the Department for Education.
<http://staging.stemnet.org.uk/content/about-us>.
 - c. More promotion (and possibly setting up) of science/industrial heritage centres
<http://arpg.org.uk/wp/> (Ayrshire Railway Preservation Society)
<http://www.scottishmaritimemuseum.org/>
<http://www.leadminingmuseum.co.uk/home.shtml> (Wanlockhead)
<http://www.scottishminingmuseum.com/museum/content.asp?ID=40>
<http://www.sih.co.uk/> (Scottish Industrial Heritage Society)
 - d. More promotion of existing (and perhaps setting up new) interest groups, e.g., (<http://www.lses.org.uk/index.php>)
 - e. Liaison with relevant bodies such as
Glasgow Science Centre (<http://www.glasgowsciencecentre.org/>)
Whitelee Wind Farm, (<http://www.whiteleewindfarm.co.uk/>)
Glasgow City of Science initiative.
<http://www.glasgowcityofscience.com/>
British Science
Association <http://www.britishscienceassociation.org/web/>
 - f. Creation of an Enterprise Zone, around Prestwick Airport, to include educational provision relating to aerospace engineering and energy utilisation.
 - g. A science and engineering "event" for Ayrshire instigated and driven by the private sector through the Ayrshire Chamber of Commerce and Industry, perhaps to coincide with Ayrshire Chamber Business Week (October)
 - h. <http://www.ayrshire-chamber.org/>

- II. *To consider aspects of the teaching, provision, transition and articulation with respect to STEM in schools, colleges and university presently in Ayrshire and subsequently investigate initiatives which would lead to improvement. (S&E21 Workstreams 1, 2 and 4). This will include;*
- a. Collaboration between secondary schools and Further Education colleges for the provision of SVQ/NQ and transition between secondary school and college.
<http://www.hmie.gov.uk/documents/publication/wtcsp.html>
 - b. The provision of science/engineering work placements.
<http://ayrshire-chamber.org/edlinks.asp>
 - c. Collaboration/articulation between Further and Higher Education institutions in the provision of degrees and HN qualifications.
http://www.sfc.ac.uk/web/FILES/ReportsandPublications/subject_articulation_qualifications.pdf
<http://www.scottishcorpus.ac.uk/corpus/search/document.php?documentid=1262>
<http://www.scotland.gov.uk/Publications/2005/06/13112946/29559>
<http://www.scottish.parliament.uk/business/committees/historic/enterprise/inquiries-03/SSI/elc03-01-04.htm>
 - d. Transition between secondary school and university and the role/importance of Advanced Higher qualifications.
<http://www.sqa.org.uk/sqa/35600.1900.html>
 - e. Transition between primary and secondary education and the role/advantages of a "science transitional" teacher.
<http://nationalstrategies.standards.dcsf.gov.uk/node/269135>
<http://www.leeds.ac.uk/educol/documents/160934.doc>
 - f. The impact and implementation of CfE.
<http://www.ltscotland.org.uk/understandingthecurriculum/whatiscurriculumforexcellence/index.asp>
 - g. Need for a database which records numbers (percentages) of school leavers pursuing science/engineering careers.
 - h. How can schools better manage and avail of the resources and opportunities offered by professional institutions and other interested bodies?
<http://www.rsc.org/Education/index.asp> (Royal Society of Chemistry)
<http://www.iop.org/education/index.html> (Institute of Physics)
<http://www.ima.org.uk/students.cfm> (Inst of Mathematics ---)
 - i. Academic/vocational streaming.
<http://www.heraldscotland.com/the-howie-report-was-ahead-of-its-time-1.846360#>
 - j. With respect to greater transition of students to HE from schools not noted for this, is the GOALS programme (Greater Opportunity of Access and Learning with Schools) effective in Ayrshire or is more needed?
<http://www.goals.ac.uk/Home.aspx>
<http://www.scotland-northforum.ac.uk/documents/schools-liaison-activities.pdf>
 - k. What actions may be taken to identify and nurture extraordinary talent in a young person from a background or disposition not normally associated with this?
 - l. Review the factors influencing young people's choice of University.

- m. A science and engineering “event” for Ayrshire instigated and driven by the private sector through the Ayrshire Chamber of Commerce and Industry, perhaps to coincide with Ayrshire Chamber Business Week.

<http://www.ayrshire-chamber.org/>

- n. Creation of an Enterprise Zone around Prestwick Airport to include educational provision relating to aerospace engineering and energy utilisation.

Issues listed under Ia to Ig and IIa to IIm above encapsulate the points listed under Section 4 (Proposals for Action) of the report of the 2010 Access to Science for Ayrshire.

3. Progression of AASRG.

Having accepted/modified/extended the sub headings under I and II above, two working parties are proposed, one of which will focus on I and the other on II above. The two working parties shall see this as an opportunity for strategic, lateral and “outside of the box” thinking towards “making the box bigger”. Furthermore, it is possible that some members of the group will be part of both working parties and this is welcomed. Each working party should consider each of the individual sub headings listed under I and II above. For each sub heading it is recommended that a comprehensive Strength, Weaknesses, Opportunities and Threats (SWOT) type analysis be performed resulting in appropriate recommendations. I recommend that each working party regularly consult the business of the Science and Engineering Education Advisory Group (SEEAG) set up by S&E21 in 2010.

<http://www.scotland.gov.uk/Topics/Education/Schools/curriculum/ACE/Science/SEEAG>

It is proposed that an AASRG final summit be held in late 2011 whence the findings/recommendations of the AASRG be presented to an invited audience of appropriate people. After this summit a full and formal report, detailing the Group’s activities and recommendations, will be presented by March 2012 to:

- i. The respective Directors of Education of North, South and East Ayrshire.
- ii. The Principals of Kilmarnock College, James Watt College, Ayr College, SAC (Auchincruive) and all universities in the West of Scotland (Strathclyde, Glasgow, Caledonian and UWS).
- iii. Appropriate local and national politicians.

Accordingly, each working party will be required to agree its own chairperson. The chairperson of each working party should;

- Arrange the best method of communication appropriate to that working party.
- Gather input from other members of the working group.
- Arrange meetings as appropriate.
- Extract the final findings /recommendations from the working group’s deliberations and prepare this (with the assistance of the chairman of the AASRG) for presentation at the AASRG final summit.
- Assist the chairman of AASRG in the preparation of the final report.

Professor Daniel G Gorman May 2011 (Chairman)

Appendix 1 SCIENCE & ENGINEERING 21 - ACTION PLAN FOR EDUCATION

Work stream 1: Building capacity and expertise of teachers
Lead partner: Learning Directorate, Scottish Government
Remit: To provide teachers in all sectors with professional support and development opportunities, as appropriate to their needs, to enable them to become more confident and effective in delivering science and technology curricula (and the mathematical skills necessary to support these)
<p>Main tasks:</p> <ul style="list-style-type: none"> • In consultation with the network of local authority CPD co-ordinators, key providers and teachers, develop a range of actions needed to support teaching in the sciences in the context of CfE including content knowledge, understanding, methodology (pedagogy), transition and progression in learning. • Building on the work by the RSE and the Association of Science Education (ASE) and others develop sustainable models of CPD for science including school and college cluster-based approaches and opportunities for teachers to update their skills within a range of settings. • To develop opportunities for professional development aligned to assessment • To ensure support and guidance is provided to schools and colleges implementing the Science Baccalaureate • To align the work on professional support with cognate work led by the National Numeracy Network
<p>Planned developments by 31 July 2010</p> <ul style="list-style-type: none"> • Produce a map of current CPD provision and professional support. • Prepare a submission on the sciences to the Donaldson Review of Teacher Education. • Organise a series of opportunities for teachers to exemplify the professional support model advocated by the Action Plan. • Inform and influence the meeting in March 2010 to shape the international Eurydice Survey on Science 2010/11* <p><i>*Survey will collect information on inquiry-based education; the translation of pedagogy into curricula, teaching materials, assessment and training; school partnerships with companies, universities etc; gender issues to encourage more girls into science & engineering</i></p>
<p>Ongoing work/future developments</p> <ul style="list-style-type: none"> • Create an online framework of development opportunities for practitioners to include <ul style="list-style-type: none"> -learning from peers and the range of professional bodies who support science education in its broadest sense; - post training opportunities provided by TEIs, and HEIs. • Promote programmes for teachers to gain experience of the application of science, engineering and technology in the workplace. • Work with professional bodies and subject associations e.g. ASE to promote the benefits of membership • SQA to continue to provide support to practitioners on Science Baccalaureate through national support events, ongoing visits to individual centres and through the production of case studies on emerging practice • Publication of the Eurydice Survey on Science • Promote and develop the DtS/LTS online CPD resource which exemplifies employers and teachers working together in a science/technology setting. • DtS will work with STEMNET contract holders to raise the profile of STEM with B.Ed and PGDE students

Work stream 2: Practical support for teachers and learners
Lead partner: Learning and Teaching Scotland
Remit: To create a toolkit for teaching and learning that will exemplify CfE; provide practical guidance and support for teachers and learners including support for assessment and national qualifications; and improve coherence and accessibility of high quality support materials from partner organisations
<p>Main tasks:</p> <ul style="list-style-type: none"> • To co-ordinate the development of support for staff materials to take account of the University of Glasgow report (which highlighted the need to: develop key scientific concepts and skills, increase the range of pedagogy used, illustrate role of interdisciplinary learning, support and build teachers' confidence with some areas of science, e.g. electricity/forces and support for recent developments, especially in terms of Topical Science). To include <ul style="list-style-type: none"> - working in partnership with universities, colleges, employers, learned bodies, associations, professional institutes, research establishments etc - effective support for all stages of learning transition. - effective support for science teaching around the National Assessment Resource • To enhance the role of new media (including Glow and other virtual environments) in supporting effective and innovative teaching and learning in science • To contribute to the work of the SQA on developing new science qualifications, feeding into the Curriculum Area Review Group for the sciences, Qualification Design Teams for the revised science Highers and supporting implementation of the Science Baccalaureate • To take forward the outcomes of the <i>Engineering the Future</i> project.
<p>Planned developments by 31 July 2010.</p> <ul style="list-style-type: none"> • Publication of support for staff materials to cover topical science and examples of emerging practice in primary science. • LTS will film the joint ASE/SSERC conference in March as a support for staff piece • Production of visual resources on science-related themes. • Publication of support for staff materials which illustrate principles underpinning interdisciplinary learning including engineering. • Publication of support for staff materials to illustrate engineering as a context for learning through the use of resources produced by <i>Engineering the Future</i> and others • A Glow meet will take place on 22 April involving ASE
<p>Ongoing work/ future developments</p> <ul style="list-style-type: none"> • Launch of a national Science, Engineering and Technology online resource • Preparations for implementation of Glow Futures in September 2012 • New qualifications reflecting the aims, principles and practices of CfE

Work stream 3: Increasing children and young people's engagement with, and understanding of real life science, engineering and technology

Lead partner: Office of the Chief Scientific Adviser, Scottish Government

Remit: To establish new/ strengthen existing links between schools and external partners to increase children and young people's engagement with and understanding of 'real life' science, engineering and technology.

Main tasks:

- To map current engagement of science community, colleges, universities, business and industry in the teaching and learning of science, including through the Science Baccalaureate
- To devise ways of supplementing classroom-based learning using a diverse range of outreach and inreach activities.
- To develop proposals for showcasing real life science and science role models.
- To promote the importance of the STEM sector to the Scottish economy and quality of life.

Planned developments by 31 July 2010

- LTS to produce illustrations of
 - the application of science in the world of work
 - contributions from the range of informal science engagement providers to learning and teaching in the sciences
- LTS will arrange a Glow meet linked to the Scottish Government science campaign featuring practical activities
- STEMNET Scotland will host a STEM Ambassadors showcasing event on 23 March
- Scottish Government will support the Scottish finals of the 'Big Bang', in June 2010 which rewards school project work done in science clubs etc (CREST awards)
- STEMNET Scotland will provide illustrations for LTS website on role models/ science heroes
- LTS/Higher Education collaboration on 'Too Hot to Handle' project which will highlight current scientific research

Ongoing work/future developments

- Publish a framework for engagement of children and young people with science, engineering and technology in a variety of settings including, for example, establishing pilot schemes for HE institutions to make facilities and equipment available for schools' use
- Ongoing activity under the auspices of the 'Do something creative. Do science' marketing campaign that highlights real life applications of science learning
- Create links within the national science, engineering & technology online resource to a wide range of science engagement activities
- Support increased participation by Scottish schools in UK science and engineering award schemes for young people.

Work stream 4: Further learning, training and employment in STEM
Lead partner: Determined To Succeed
Remit: To provide children and young people with opportunities to experience STEM careers through activities and learning experiences within and outside the classroom that promote science education as a pathway to further learning, training and employment.
<p>Main Tasks:</p> <ul style="list-style-type: none"> • To work with the Alliance of Sector Skills Councils and other business partners develop a blueprint of skills needed to succeed in STEM related careers • To work with Skills Development Scotland (SDS) and CfE partners to <ul style="list-style-type: none"> - develop career management skills for STEM-related careers. - ensure careers management skills reflects current and future labour market conditions including opportunities for further learning, self-employment and enterprise - explore ways to create stronger pathways between school and apprenticeships in key STEM sectors -raise the profile of science education, training and employment in STEM careers at conferences and events • To develop a plan for engagement of colleges, universities and STEM employers in providing academic and workplace learning opportunities for young people e.g. through involvement in the Science Baccalaureate • To build on partnership work with the entrepreneurial bodies and the Social Enterprise Academy to support the development of enterprising young people and promote business start up as a career option.
<p>Planned developments by 31 July 2010</p> <ul style="list-style-type: none"> • In partnership with Strathclyde University SDS will support the Space School Summer School (June 2010) • In partnership with Grays School of Art, Robert Gordon's University and Torry Academy (Aberdeen) SDS will develop/pilot a sustainable model for Schools of Excellence compatible with <i>Curriculum for Excellence</i>. • SDS will launch <i>My Learning Space</i> as its main channel of delivery of careers management skills – to include video content on STEM careers • LTS website will be updated to include further Enterprise in Education studies/video clips and support for staff materials around STEM careers • DtS will link up with business organisations in the STEM sector to promote careers at Enterprise Scotland, the Gathering and SCDI events in February/March 2010

Ongoing work/future developments

- In collaboration with the Scottish Enterprise Academy SDS will establish topical science online communities e.g on stem cells to provoke discussion and highlight STEM careers.
- Further development of *My Learning Space* to provide transactional functionality allowing users to trace the career paths of those employed in STEM (a training journey)
- Further development of *The Path is Green*
- Publish the blueprint of skills for STEM related careers
- DtS will link up with business organisations in the STEM sector to promote careers at The Scottish Learning Festival (September 2010) and the Institute of Directors Conference (October 2010)
- Dts /LTS will develop World of Work online resource in STEM-related careers accessible from the national online resource
- DtS will work with local authorities on local plans for Enterprise Education post March 2011.

Work stream 5: Improving the public knowledge, understanding and perception of science

Lead partner: Office of the Chief Scientific Adviser, Scottish Government

Remit: To foster a culture of science in Scotland and to raise awareness of Scotland's science base at home and internationally.

Main Tasks:

- Create the conditions for increased public confidence, participation and debate in the big science issues of the day.
- To raise the profile of science and the Scottish science base
- Improve awareness of the range of engagement options available through www.stemscotland.com and other platforms
- Increase extent of public science communication and engagement by scientists in academia, business and industry
- Ensure diversity and inclusion in science engagement according to ethnicity, geography, age, gender and socio-economic parameters

Planned developments by 31 July 2010:

1. Announcement of Science Engagement Grant Awards 2010-11 with a focus on supporting public engagement activities

2. Support growth of science festivals across Scotland through facilitating best practice events for festival organisers

3. Government support for a range of events and activities during National Science and Engineering Week 2010 including

- International Year of Biodiversity-linked events at the Royal Botanic Gardens, Edinburgh and the Caithness Science Festival

- Further events in schools and communities across Scotland

Ongoing work/future developments

- Publish a strategic framework for science engagement which will identify opportunities for collaboration, partnership, alignment of activity and sharing of resources.
- Publish a media and communications plan to celebrate success in science and articulate linkages between science education, employment, economic wealth and health and wellbeing