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The Science and Technology Committee

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Contents

| | |
|---|-------------|
| Report | <i>Page</i> |
| Summary | 3 |
| 1 Introduction | 5 |
| Science and discovery centres | 5 |
| Impetus for the inquiry | 6 |
| Our inquiry | 6 |
| 2 Role & effectiveness of science centres | 8 |
| The role of science centres | 8 |
| Education | 8 |
| STEM | 8 |
| Public engagement | 9 |
| Regional development | 9 |
| Science centres and museums | 10 |
| Monitoring effectiveness | 11 |
| 3 Co-ordination | 13 |
| Science centres | 13 |
| Government | 14 |
| 4 Funding | 16 |
| Funding history | 16 |
| Funding options | 17 |
| Revenue funding | 17 |
| Capital funding | 18 |
| Tax breaks | 19 |
| Funding diversity | 20 |
| 5 Conclusion | 21 |
| Conclusions and recommendations | 22 |
| Annex A | 24 |
| Formal minutes | 44 |
| Witnesses | 45 |
| List of written evidence | 46 |
| List of Reports from the Committee during the current Parliament | 48 |

Summary

Science and discovery centres contribute to the education of young people about science and inspire them to take up careers in science, technology, engineering and mathematics. They also engage the public with scientific issues and play important roles in their local communities. However, there is widespread concern about the future of science centres.

Many science centres are struggling financially. We agree with the Government's stance that it should not fund failing science centres and note that there is a lack of robust evidence that demonstrates how effective science centres are in terms of their core goals. We recommend that the Government commission independent research to ascertain the effectiveness of science centres.

In the short term there are a number of science centres that risk closure and the Government should take steps to ensure that this does not happen. We recommend that the Government make available limited, competitively-awarded, short-term funding to support those science centres that are struggling financially. We also recommend that steps are taken to reduce the tax burden on science and other educational centres.

We found the level of co-ordination and collaboration between science centres and between science centres and other bodies to be variable. Ecsite-uk is well placed to assess models that exist in Scotland and internationally, with a view to implementing structural and best practice guidance that promotes co-ordination between science centres across the UK. In terms of Government co-ordination, there has been uncertainty about which department has responsibility for science centres. We welcome the Minister for Science and Innovation's offer, on behalf of the Department for Innovation, Universities and Skills, to take responsibility for science centres, and recommend that this responsibility be formally written into the Minister's portfolio.

1 Introduction

Science and discovery centres

1. Science and discovery centres provide informal education in all kinds of scientific and technological areas: astronomy, cellular biology, chemistry, climatology, ecology, energy generation, engineering, innovation, the history of science, marine biology, mathematics, medicine, physics and zoology, to name a few. Science centres, discovery centres, exploration centres and learning centres make up an extremely diverse group, with the common characteristic of the use of interactive exhibits to spark curiosity and to help people to understand scientific issues and phenomena.¹

2. The key goals of science centres are:

- a) to inspire young people to study and take up careers in science, technology, engineering and mathematics²;
- b) to educate and to enthuse children about science and innovation and contribute to the professional development of science teachers³; and
- c) to inform and to engage the public with scientific issues.⁴

3. Science centres share these aims with many museums, and indeed some museums come under the broad banner of ‘science and discovery centres’ (for example, ThinkTank in Birmingham) and some science centres are housed within museums (for example, Launch Pad at the Science Museum, London). However, science centres as institutions are typically differentiated from museums on the grounds that museums house collections and science centres do not.⁵

4. The concept of interactive exhibits to enthuse and engage young people is not new: there has been an interactive children’s gallery at the Science Museum in London since 1931. However, the current diversity and popularity is a relatively recent phenomenon. The Exploratory in Bristol opened in 1983 and others soon followed: George Green’s Mill & Science Centre, Nottingham, in 1985, and Techniquet, Cardiff, and Launch Pad, at the Science Museum, London, in 1986. Since then, the science centre concept has expanded and centres varying in size and specialism have opened across the United Kingdom. The diversity and location of these centres has, on the whole, evolved according to regional needs and opportunities, rather than by a centralised strategy. There are currently more than 100 science centres in the UK (see Annex A for a list). Their representative body is Ecsite-uk, the UK Network of Science Centres and Museums. Ecsite-uk’s purpose is “to

1 Q 1

2 Ev 28-29, 37, 72-73, 78-79, 89, 102, 115, 120-121, 131, 144-146, 149, 164-166, 175, 178, 179, 182, 186-187, 195, 200-202, 213

3 Ev 23, 25-26, 38-39, 41-43, 53-54, 67-69, 75-81, 83, 87, 89, 96, 98, 101-105, 109-110, 115, 120-121, 131, 137, 143-145, 149, 154, 156, 159, 164-166, 168, 176, 179-180, 187, 192-195, 199, 200-203, 207-208, 212-213

4 Ev 39, 41, 44, 53-54, 67, 73-75, 89-90, 96, 103, 105, 109-110, 115, 116-118, 120-121, 129, 131, 136-139, 143-144, 154, 157, 161-162, 164-166, 178, 180, 182, 186, 187, 195-196, 198, 200-203, 206-207, 213

5 Q 2

raise the profile of science centres, and to establish their role as a forum for dialogue between science specialists and the public and as an informal learning resource for learners of all ages”.⁶ It currently has more than 70 members.

Impetus for the inquiry

5. There is widespread concern about the funding of science centres. Of the 18 science centres that were given large capital grants by the Millennium Commission (known as the Millennium centres), two have already closed: The Earth Centre, Doncaster, and Big Idea, Ayrshire. Another, At-Bristol, has had to close two of its three attractions and it recently made 45 staff redundant.⁷ In October 2006, we raised the issue of science centres with Lord Sainsbury who told us that the Millennium science centres:

were funded simply with capital by the Millennium Commission, without any revenue streams being provided and on some projections for future revenues which were extremely optimistic, bordering on fantasy, I think, in many cases. As a result of that, there have been a number which simply could not survive. There are others which are on the borderline. Because we think that it would be a huge waste of public money if these centres were allowed to disappear, we have taken action to try and provide them with funding on a transitional basis to get them to a properly funded basis; but it is hard work, while they find other sources of finance.⁸

We did not find this reassuring and we considered that an inquiry into science centres might be helpful.

6. Another prompt for this inquiry was the Government’s stress on the importance of encouraging young people to study and pursue careers in science, technology, engineering and mathematics (STEM subjects)⁹ and of gaining public confidence and engagement in science and technology.¹⁰ We considered it important to ask whether science centres play a role in any of these Government objectives and to explore the implications of this for the funding of science centres.

Our inquiry

7. On 2 May 2007 we announced an inquiry into science and discovery centres. We invited evidence on two broad issues:

- a) the role of science centres in public engagement and attracting young people to science subjects and scientific careers; and
- b) the funding available to such centres from central Government, alternative sources of funding and ways of supporting the long-term future of science and discovery centres.

6 www.ecsite-uk.net

7 Ev 172, 197

8 Oral evidence taken before the Science and Technology Committee on 18 October 2006, HC (2006–07) 203, Q 243

9 *Science and Innovation Investment Framework 2004–2014*, HM Treasury, July 2004, p 81

10 *Ibid*, p 103

8. We received 79 memoranda in response to this call for evidence, and we thank all those who contributed to the inquiry in this way.

9. To explore further some of the issues raised in the written evidence, we held an oral evidence session on 11 July 2007. We heard from:

- directors of science centres: Colin Brown, Chief Executive of The Deep, Hull; Alec Coles, Director of the Tyne & Wear Museums; Linda Conlon, Chair of Ecsite-uk and Director of the Centre for Life, Newcastle; and Phil Winfield, Director of INTECH, Winchester;
- people involved in the funding and assessment of science centres: Dr Peter Anderson, a museum consultant; Richard Halkett, Executive Director of the Policy and Research Unit at NESTA; and Clare Matterson, Director of Medicine, Society and History at the Wellcome Trust; and
- Government ministers: The Rt Hon Margaret Hodge MBE MP, Minister of State, Department for Culture, Media and Sport; Jim Knight MP, Minister for Schools, Department for Children, Schools and Families; and Ian Pearson MP, Minister for Science and Innovation, Department for Innovation, Universities and Skills.

10. The following chapters of this short Report will cover the role and effectiveness of science centres, how science centres are co-ordinated and organised, and how they are funded.

2 Role & effectiveness of science centres

The role of science centres

11. There are four connected sectors to which most science centres aim to contribute: education, the STEM agenda, public engagement and regional development.

Education

12. Science centres are an important part of the informal education sector. Children make up a significant part of science centres' audience and many science centres work very closely with schools to make sure that school visits maximise the children's experience by complementing their formal education.¹¹ Science centres provide an opportunity to enhance children's learning by helping them to see that science is not "simply about learning a fixed body of known facts ... [but] that it is also about the processes and skills necessary to discover these facts".¹²

13. Science centres also nurture a wealth of science communication expertise that can be of use to the formal education system in other ways. For example, the National Space Centre reaches some 40,000 children every year through workshops in schools that are given either by a visiting presenter or via videoconference.¹³ Some science centres (for example, Thackray Museum, At-Bristol and Glasgow Science Centre) offer professional development opportunities for teachers, by helping them to further their knowledge of science and learn new ways to communicate scientific ideas.¹⁴

14. Many centres (for example Norfolk Museums and York Museums Trust) also offer placements for school and university students to learn about science communication and how museums are run.¹⁵ Others may provide subject-specific opportunities for graduate and postgraduate study; for example, zoos or museums that house historical collections.¹⁶

STEM

15. The Roberts Review, published in 2002, highlighted the potential problems of having a shortfall of people educated in science, technology, engineering and mathematics (the STEM subjects).¹⁷ It outlined how the UK's innovation sector depends on STEM-trained employees and concluded that promoting STEM subjects to young people was important for the future of the UK economy. Science centres are one of a number of institutions that can play a role in showcasing science to young people. As Dr Peter Anderson put it in his

11 For example, Ev 25-26, 37-39, 42, 112-113, 160-161

12 Ev 148

13 Ev 78

14 Ev 166-167, 172; *Review of the contribution of the Scottish Science Centres Network to formal and informal science education*, HM Inspectorate of Education, Scottish Government, March 2007, p 6-7

15 Ev 57, 96

16 Ev 155-156, 201

17 HM Treasury, *SET for success: The supply of people with science, technology, engineering and mathematical skills*. (Report of Sir Gareth Roberts' Review), April 2002

submission, science centres have the skills and ability “to develop the full, rich programming that would best support the formal education sector and inspire the new generation of scientists”.¹⁸

Public engagement

16. There is a well documented disconnection between the benefits that science can bring to society and the public’s perception of science and scientists.¹⁹ Although most people are supportive of science,²⁰ there is a significant undercurrent of concern about the potential or hypothetical dangers that scientific progress poses. Controversy surrounds a number of scientific issues, from global warming and renewable energy, to genetic modification and stem cell research. The Government is keen to promote public engagement with these issues.²¹ Science centres provide an excellent resource for public engagement, as was outlined by the National Marine Aquarium:

Science Centres are able to react very quickly to scientific issues of public interest or concern. As interpreters of science they are able to provide an accessible and palatable approach to some very difficult subjects. Stem Cells, GM crops, MMR vaccine question and as far as the NMA is concerned climate change, renewable energies, fisheries and pollution are amongst the many topics dealt with on a day-to-day basis. The ability to provide up-to-date, reliable and unbiased information on such topics is an increasing requirement from the public, the press, media and indeed amongst politicians; honesty is paramount as an output for science centres—they are places of trust.²²

Regional development

17. Science centres can additionally play a role in local regeneration and economic development. Several of the Millennium centres have been engaged with housing and regeneration schemes.²³ The extent to which science centres can contribute to regeneration and the local environment is well illustrated by ThinkTank in Birmingham:

In the context of Birmingham’s Eastside economic and social regeneration, Thinktank has generated a real and substantial market in a relatively short period of time against many odds. It was effectively an island site in a sea of demolition and construction during the first 3 years of operation in a part of the city outside the public’s perception. The presence of Thinktank as a family visitor destination has contributed profoundly to the changing perception of Eastside as part of the City of Birmingham, as an investment opportunity, as a place to reside and to changing land values. Together with the commitment now to City Park and other projects, the

18 Ev 98

19 House of Lords, Report of the Select Committee on Science and Technology, Session 1999-2000, *Science and Society*, HL Paper 38

20 Office of Science and Technology, Department of Trade and Industry, *Science in Society: Findings from Qualitative and Quantitative Research*, March 2005

21 HM Treasury, *Science and Innovation Investment Framework 2004–2014*, July 2004, p 103

22 Ev 186

23 Ev 131, 135, 199

City's vision for Eastside will be of enormous and lasting public benefit. It is crucial to ensure the interests of the family market continue to be properly served through an integrated approach to specific projects in the area.²⁴

Science centres and museums

18. In terms of their focus on education and the benefit they bring to the local economy, science centres share common features with museums. However, museums are different from science centres in that they house collections. The Museums Association defines museums thus:

Museums enable people to explore collections for inspiration, learning and enjoyment. They are institutions that collect, safeguard and make accessible artefacts and specimens, which they hold in trust for society.²⁵

If an institution meets this definition, it can apply for Accreditation with the MLA (Museums, Libraries and Archives), a Non-Departmental Public Body sponsored by the Department for Culture, Media and Sport (DCMS).²⁶ The Museum Accreditation Scheme is well established and sets nationally agreed standards for UK museums. It places collections and the management of collections at the centre of everything that museums do, but also stresses the importance of providing the means for visitors to enjoy and learn from the collections. Only accredited museums can receive DCMS funding.

19. Alec Coles, Director of the Tyne and Wear Museums, has suggested that an equivalent accreditation scheme for science centres would be beneficial.²⁷ Given the diversity of science centres, and the fact that some are already accredited museums, it is difficult to see how such a scheme could be structured and calibrated. A more practical solution would be to alter the existing Accreditation scheme.

20. We believe that the Museum Accreditation Scheme should be adapted by separating out the dual roles that museums play in terms of maintaining collections and in terms of the educational and public engagement services that they provide. The funding streams could then be separated to match so that museums would receive funding from one stream to manage and store collections and receive funding from another for the educational and public engagement programmes that they run. A regime of this kind would have two key benefits. First it would focus attention on the importance of the educational and public engagement roles that museums play. Second, it would open up funding streams for those institutions, like science centres, that play a important educational and public engagement role in society but do not receive Government support because they do not house collections.

21. We recommend that the Government review the Museum Accreditation Scheme with a view to creating a funding stream for educational and public engagement programmes to which science centres could apply.

24 Ev 59

25 www.museumsassociation.org/faq

26 *Accreditation Standard*, MLA, September 2004

27 Ev 123, Q 41 [Alec Coles]

Monitoring effectiveness

22. Science centres claim to play an important role in society, but have not, to date, convincingly demonstrated that they achieve their goals.²⁸ Cardiff University, in its submission, outlined the current body of evidence and commented that “[there] are very few studies of the effect that science [centres] have on students’ career choice”. It went on to say that “although science [centres] have put many programs in place that benefit society, on the whole, they have not developed the methodology to measure the impact that they have at a societal level”.²⁹

23. What evidence there is appears to be positive. Cardiff University summarised the evidence, which indicates that extracurricular science activities do encourage students to study science at school and to pursue careers in science and science teaching. Other evidence for effectiveness comes from a review carried out on behalf of the Wellcome Trust. The review, published in July 2006, assessed the impact of five Millennium science centres that Wellcome had funded and found that the centres “provide considerable resources for their local regions—contributing to local regeneration, supporting formal education and acting as regional ‘hubs’ for science based activities”, and that they “offer a wealth of knowledge and expertise relating to the wide aspects of public engagement with science and science education”.³⁰ Another source of evidence is the reviews of science centres carried out by the Scottish Government’s Inspectorate of Education in 2002 and 2006. The 2006 report outlines the strengths and weaknesses of each of the Scottish science centres and outlines areas of best practice across the sector. It is very positive about the role that science centres play in terms of enthusing young people and adults about science and in terms of linking with schools to provide professional development for teachers and outreach programmes.³¹

24. The Government has recently funded Ecsite-uk, the body that represents science centres, to conduct a review of the financial viability of science centres. It is expected to report its findings by March 2008. The Government’s submission outlines that the scope of the review is to:

- a) demonstrate the impact of science centres and the added-value they deliver;
- b) encourage science centres to work more effectively together, and collaboratively with museums, SETNET, Science Learning Centres and Science Cities; and
- c) maximise science centres’ future financial viability.

25. We endorse the Government’s decision to assess the effectiveness of science centres. However, the choice of Ecsite-uk to conduct the review is problematic. While we share the Minister for Science and Innovation’s expectation that Ecsite-uk will do a professional job,³² the review will, irrespective of how well researched and presented it is, run the risk of

28 Qq 3-14; Ev 71-72, 115, 127, 178, 181-182

29 Ev 127

30 Impact Assessment of Trust-funded Millennium Science Centres, Final Report, CRG Research Ltd, July 2006

31 HM Inspectorate of Education, Scottish Government, *Review of the contribution of the Scottish Science Centres Network to formal and informal science education*, March 2007

32 Q 92 [Ian Pearson]

eliciting a sceptical response from some quarters due to the obvious competing interests which exist.³³ **We recommend that Ecsite-uk work with independent researchers to develop methodologies that ensure that performance indices for science centres are measured and collected uniformly and rigorously across the UK, to reduce the risk of bias.**

26. Reticence in commissioning research in this area is understandable. Science centres are just one of a range of factors that may influence young people to pursue careers in science and technology. To assess properly the role that science centres play will require multivariable longitudinal studies, which take a long time and can be costly. However, difficulty should not be an excuse for inaction. Both the British Association for the Advancement of Science and the Royal Society of Edinburgh have argued that independent research is needed.³⁴ **We urge the Government to take a lead and commission independent research to assess what role science centres and other factors play in encouraging young people to pursue STEM careers and how effectively science centres influence public discussion and perception of scientific issues. A number of institutions with interests in the promotion of STEM subjects and public engagement might be willing to co-fund such a project and we recommend that the Government identify and approach likely parties to initiate joint commissioning of research into science centres.**

33 Qq 13-14, 92-93

34 Ev 72 and 182-182 respectively

3 Co-ordination

Science centres

27. Co-ordination and collaboration are key in the strategies of science centres. But we found evidence that the level of co-ordination between science centres and between science centres and other organisations varies by sector and geographically.

28. Many science centres are co-ordinating particularly well with the education sector. We were impressed by the many submissions that outlined the extensive and productive relationships that exist between science centres and schools, local authorities, STEMNET (a network organisation promoting STEM subjects and careers) and Science Learning Centres (which provides continuing professional development opportunities for science teachers across the UK). For example, the Eden Project in Cornwall has a well established programme of professional development for teachers, and Magna Science Adventure Centre in Rotherham provides workshops for the different key stages of the national curriculum and follows these up by working with the local education authorities, colleges, engineering associations and secondary schools to run design competitions and science projects that help to retain the interest of the students that was gained during the workshops.³⁵ These kinds of close relationships are vital to enable science centres to produce programmes that maximise the visit experience and educational benefit for children by complementing what is being taught in the classroom, as well as helping science teachers to achieve their potential.

29. Many science centres also maintain close collaborations with scientists and universities. It is clear from the work of centres across the sector, from the National Space Centre to the Centre for Life,³⁶ that science centres have well established and creative relationships with experts across all areas of science and technology. We were also pleased to see that these relationships work both ways since universities are working with science centres as part of their strategies for increased public engagement. Examples include Cardiff University, which works particularly closely with Techniquist, and Durham University, which works with a number of science centres including the Centre for Life in Newcastle and also with the Science Learning Centre North East.³⁷

30. We also received evidence of collaboration between science centres although some science centres seem more actively engaged in inter-science centre collaborative projects than others. Good examples include a collaboration between At-Bristol, Ecsite-uk, Glasgow Science Centre, Inspire (Norwich), Magna (Rotherham), National Museums Liverpool, Satrosphere (Aberdeen) and W5 (Belfast) that developed and delivered a series of touring exhibitions that continue to be hired out to science centres across Europe; and Investigate UK, which is a project to develop a set of portable exhibits to tour local schools, run between At-Bristol, INTECH, the Porthcurno Telegraph Museum and the Science Learning Centres South West and South East. The co-ordinating role that Ecsite-uk plays,

³⁵ Ev 89

³⁶ See Ev 198 for examples of collaboration between science centres and scientists.

³⁷ Ev 161-164 and Ev 53 respectively

brokering relationships between centres and providing a network of experienced staff, is extremely valuable.³⁸

31. However, both the Wellcome Trust and NESTA called for greater collaboration between science centres and between science centres and the formal education sector.³⁹ These kinds of collaborations, along with other examples of best practice, like sharing staff between science centres, are commonplace in Scotland,⁴⁰ where the science centres are co-ordinated by the Scottish Science Centres Network, which exists to maximise the benefits of the funding that Scottish science centres receive from the Scottish Government. By setting a four year strategic plan, co-ordinating joint bids for funding, encouraging collaboration between the science centres and conducting quality assessment, the Scottish Science Centres Network has enabled Glasgow Science Centre, Our Dynamic Earth (Edinburgh), Satrosphere Science Centre (Aberdeen) and Sensation (Dundee) to become key parts of the Scottish Science Strategy.

32. There is widespread support for the Scottish model of co-ordination.⁴¹ Science centres could particularly benefit from touring exhibitions which would refresh the content of science centres and give visitors a reason to visit more than once. We also note that there could be more collaboration with the Research Councils, which can provide an additional layer of expertise and which may be able to sponsor new exhibitions and programmes.⁴² Additionally, industry and commerce, which is a sector that relies on a supply of STEM skilled people, is a potential resource that remains underused—and we should look at the USA to identify how best to work with that sector.⁴³ Finally, the regional benefits, both in terms of tourism and education, should not be overlooked, with opportunities to work with local authorities and Regional Development Agencies.⁴⁴

33. We urge Ecsite-uk, on behalf of the science centre community, to examine co-ordination and collaboration mechanisms that exist in Scotland and internationally, with a view to implementing structural and best practice guidance that promotes co-ordination between science centres across the UK. Practices such as sharing exhibitions nationally (according to specialism base) or staff regionally (across a range of centre types) would be extremely beneficial. Formal regional co-ordinating bodies, modelled on the Scottish Science Centres Network, may be the best way to facilitate this.

Government

34. Prior to July 2007, the three Government departments that held responsibility for science centres were:

38 Ev 136-137, 204, 206

39 Q 45, Ev 114-115, 149

40 Ev 144-145, see also Ev 54, 106, 116-117, 182

41 Q 41 [Phil Winfield], Q 58; Ev 53-55, 101, 116, 117, 182

42 Ev 100 provides a list of recent collaborations between science centres and Research Councils.

43 Q 47-50

44 Q 51

- the Office of Science and Innovation, which sat within the Department of Trade and Industry (DTI);
- the Department for Education and Skills (DfES); and
- the Department for Culture, Media and Sport (DCMS), which was responsible for museums.

It was under this departmental organisation that our call for evidence went out. We received submissions that expressed concern that science centres were falling between the inter-departmental cracks and that called for a clarification of how departmental responsibility was organised with respect of science centres.⁴⁵ We were concerned by the perception that “no one government department is prepared to take responsibility for them”.⁴⁶

35. On 28 June 2007, the Prime Minister announced a new departmental arrangement. The Office of Science and Innovation was taken out of the DTI (which became the Department for Business, Enterprise and Regulatory Reform), and its responsibilities subsumed by a new department, the Department for Innovation, Universities and Skills (DIUS), which also took over the DfES universities and skills portfolio. DfES became the Department for Children, Schools and Families (DCSF). DCMS remains as it was.

36. The June 2007 departmental reorganisation presents an opportunity for defining clear lines of responsibility for science centres. We welcome the Minister for Science and Innovation’s offer, on behalf of DIUS, to take responsibility for science centres.⁴⁷ We recommend that responsibility for science centres be formally written into the Minister’s portfolio. However, we recognise that input from DCSF and DCMS is necessary and the Minister for Science and Innovation should ensure that decisions and assessments are co-ordinated between all three departments.

45 Ev 64, 72, 105

46 Ev 121

47 Q 88

4 Funding

Funding history

37. Science centres have been around for 20 years, and for the majority of this time they have not received Government support. The single biggest injection of capital to UK science centres came when the Millennium Commission awarded over £450 million to 18 science centres across the UK.⁴⁸ This injection of capital has been followed by three phases of further capital funding:

- a) ReDiscover, May 2003: a £33 million fund provided by the Millennium Commission, the Wellcome Trust and the Wolfson Foundation. Museums were also able to compete for this fund.
- b) Stabilisation Fund, March 2004: £2 million provided over three years to those Millennium centres that were suffering from revenue shortfalls.
- c) SCEAG (Science Centre Enrichment Activities Grant scheme), December 2006: £1 million provided by the then Office of Science and Innovation and the then Department for Education and Skills to support science outreach activities in 2007/08.

These top-up funds are small compared with the £320 million of revenue funding that DCMS provides to museums annually.⁴⁹ While some science centres benefit from this museum payment, because they reside within museums or fall under the definition of museums, most do not.

38. We have been told that science centres are rarely able to generate more than 70–80% of their operating costs through commercial activity, namely ticket sales, café and canteen revenue, gift shop income, renting of space for functions and various kinds of sponsorship.⁵⁰ Science centres have had to be entrepreneurial and imaginative to secure funding and stay afloat—their continued existence is a testament to the hard work and ingenuity of the people who work in the sector. Lack of revenue is particularly problematic for those centres that have large overheads. The Millennium centres are mostly big and impressive buildings, which accordingly carry significant energy and maintenance costs.⁵¹ Linda Conlon, Chair of Ecsite-uk and Director of the Centre for Life in Newcastle, told us that many of these centres were built upon unrealistic business plans,⁵² and, in particular, expectations of improbably high numbers of visitors.⁵³ This led Lord Sainsbury to

48 *Science Centres*, POSTnote 143, Parliamentary Office of Science and Technology, July 2000, Box 1. The 18 centres were: The Big Idea, Ayrshire; At-Bristol; The Deep, Hull; The Earth Centre, Doncaster; The Eden Project, Cornwall; Glasgow Science Centre; INTECH 2000, Hampshire; The International Centre for Life, Newcastle; Island 2000, Isle of Wight; Magna, Rotherham; Making It!, Mansfield; Millennium Point, Birmingham; Millennium Seed Bank, Sussex; National Botanic Garden of Wales; National Space Science Centre, Leicester; The Odyssey, Belfast; Our Dynamic Earth, Edinburgh; and Sensation, Dundee.

49 Ev 197

50 Q 27-29; Ev 72, 98

51 Q 29

52 Q 27; Ev 26

53 Q 27

characterise revenue projections of the Millennium centres as “fantasy”;⁵⁴ and his concern appears to have been borne out by the financial position of the majority of the Millennium centres today.⁵⁵ The Eden Project is the exception to the rule.

Funding options

39. There are a number of funding options available that could assist the continued existence and excellence of science centres across the UK. These are, broadly, revenue funding, capital funding and tax breaks.

Revenue funding

40. The most common appeal in evidence to us was for long-term revenue funding. There are two reasons for this. First, revenue short-fall is the most common problem for science centres.⁵⁶ Plugging the revenue gap would engender a stability that would also enable science centres to plan further ahead, and allow them to refresh their exhibits periodically. Second, according to Colin Johnson, the founding Chair of Ecsite-uk, within the UK it is the norm that science centres receive some Government support—England is the exception.⁵⁷ The Scottish Government supports its science centres with a variety of revenue assistance and capital funds; the ‘Techniquet group’ of centres receive annual revenue funding from the National Assembly for Wales, against agreed criteria and performance reviews; and W5 receives ‘deficit funding’ from the Northern Ireland Assembly.⁵⁸ Further afield, in Europe the Flemish and Portuguese governments have committed to the long-term future of science centres; China has embarked on a major science centre building programme; and India and the USA have well-developed science centre networks that are supported in part by public funds.⁵⁹

41. The Government’s position on the long-term funding of science centres is very clear: “the Government has always been of the view that it is not going to provide continuing subsidies for unviable science centres”.⁶⁰ On the Millennium centres, it explained that “funding for these science centres was provided on the understanding that the science centres would be self-financing within three years”.⁶¹ Finally, it concluded that “it is for the science and discovery centres themselves to establish whether and how they can be commercially viable”.⁶² The Minister for Science and Innovation told us that “Science centres are clearly commercial organisations. They took the decision to establish themselves. They do not exist as a matter of Government strategy and policy.”⁶³ He did not

54 Oral evidence taken before the Science and Technology Committee on 18 October 2006, HC (2006–07) 203, Q 243

55 Q 27-29

56 Ev 23-24, 37, 40-41, 48, 54, 59, 68, 81-82, 89, 105, 108-109, 115, 120-122, 133, 167-168, 171-174, 180-181, 196-197, 202, 211

57 Ev 53-54, 105

58 Ev 105

59 Ev 56

60 Ev 19

61 Ev 20

62 Ev 21

63 Q 90

accept that science centres will never be self-sustaining “because some of them are already very successful ventures”.⁶⁴ However, he also suggested that “they are independent organisations, but they need to be part of the picture about how we promote UK science”.⁶⁵

42. We agree with the Government’s assessment that continued support of unviable science centres would not be sensible. However, we disagree with the assertion that because some science centres are commercially successful that they all can be commercially successful. The sheer diversity of science centres, in terms of size, subject and location, makes such a generalisation unviable, and goes against expert opinion, for example from Dr Peter Anderson, that most science centres can never be successful commercial ventures.⁶⁶ In Chapter 2 we laid out the likely importance of the role that science centres play in society, but noted that there is a lack of evidence that science centres deliver on their potential. **We agree that a Government commitment to long-term revenue support for science centres should not be made unless independent evidence of effectiveness is obtained. If independent research, which we hope the Government will commission as a matter of priority, does confirm that science centres make a positive contribution to science education, the promotion of STEM careers and public engagement, then we expect the Government to review its policy on long-term funding for science centres along similar lines to museums and galleries. We recognise that there may be an issue in whether the differential admission prices between museums and science centres act against Government policy of encouraging early engagement of pupils in STEM subjects and we recommend that this be part of the review.**

Capital funding

43. The next most common appeal was for capital funding to enable science centres to refresh their exhibits and attractions.⁶⁷ This would open up increased audience numbers because new exhibits bring in repeat customers. Another suggestion we received was for medium-term (3–5 years) funding for targeted programmes.⁶⁸ There are precedents for both kinds of capital funding. The Scottish Government offers its science centres a mix of capital and revenue funding. In the USA a range of funding types are available through city or state funds, and there are numerous funds for specific programmes from many federal government offices, like the National Science Foundation, the National Institute for Health and the Department of Education.⁶⁹

44. **It is vital that existing science centres do not disappear before the results of research on their effectiveness is forthcoming. Therefore, we recommend that the Government make available limited, competitively-awarded, short-term funding to support those science centres that are struggling financially. Criteria for selection should be devised in consultation with the science centre community, including funders and other partners, and should be clearly set out by the Government.**

64 Q 91

65 Q 90

66 Q 27-29; Ev 72, 98

67 Ev 40-41, 45, 72, 122, 124, 146, 172, 199-200

68 Ev 41, 45, 142, 178, 211

69 Q 53

Tax breaks

45. We heard from Colin Brown, Chief Executive of The Deep, Hull's Millennium science centre, who, rather than capital or revenue funding, "would like the Government to stop taking as much money as it does away".⁷⁰ There are a number of ways that the Government can offer tax breaks that would improve the financial situation for science centres across the UK.

VAT

46. The Millennium centres were built using considerable capital funds. In such a situation, VAT rules demand that institutions either pay VAT on the construction or on the lifetime of the operations. Centres like The Deep, for example, which would have had a construction VAT bill of around £10 million, elected not to pay VAT on construction and instead pay VAT on operations. They pay 17.5% VAT on admissions fees, for example, and the net annual VAT bill is around £350,000 per year.⁷¹

47. VAT rates are set nationally, but must adhere to the EU's common system of VAT, which is stipulated in Directive 2006/112/EC.⁷² We note that Article 98 of the directive allows for Member States to apply a reduced rate of tax, no lower than 5%, on supplies of goods or services in the categories set out in Annex III, which includes museums and similar cultural facilities. Therefore, one option would be for the Government to reduce the rate of VAT on admission fees to science centres. This would provide valuable financial assistance while maintaining and encouraging the kind of entrepreneurship that is associated with UK science centres.

48. We recommend that the Government give serious consideration to a reduced rate of VAT of 5% on admission fees to science and other educational centres, as permitted under Article 98 of the EU Council Directive 2006/112/EC, subject to independent research verifying the effectiveness of science centres in achieving Government policy objectives (see paragraph 42 above).

Gift Aid

49. The current Gift Aid regulations are beneficial to science centres. However, the reduction in the basic rate of income tax from 6 April 2008 will be costly. The Deep, for example, will lose approximately £50,000 a year in Gift Aid benefit.⁷³ We understand that this issue has been raised with HM Treasury by representatives of the charity sector and trust that their views have been considered fully.

70 Q 39

71 Ev 27

72 Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax, Annex III, item 7

73 Ev 28

Business Rates

50. Charities get a mandatory 80% relief on business rates, which comes out of the central Government budget, but this can be topped up to 100% at the discretion of the billing authority and at the expense of the local tax payers.⁷⁴ Non-profit making institutions that are not charities can also receive business rates relief of up to 100%, although the proportion borne by the local tax payer is slightly higher at 25%.

51. There is a case to be made that science centres contribute considerably to the local community, not only economically, but also in terms of providing educational services.⁷⁵ It is therefore reasonable to expect the local community to contribute to tax relief for science centres. However, not all local authorities top up the business rates relief.⁷⁶ **We urge all local authorities to offer 100% business rates relief to science centres.**

Funding diversity

52. It would be argued that society would benefit from increased financial security for science centres. The science centre community needs resources to be able to continue innovating, so that school children and the general public can benefit from exciting, engaging and informative experiences.⁷⁷ During oral evidence, we discussed the financial insecurity of science centres and a range of funding options.⁷⁸ We have concluded that the surest way to promote financial security for science centres is to ensure that their funding base is diverse.

53. Science centres should continue to focus on securing their financial stability through diverse income streams. These should include local income (ticket and shop sales), local support (local councils and RDAs), corporate sponsorship (including industry involvement), charitable donations (through Wellcome, NESTA etc.), grants (from the EU), and central Government support. Ecsite-uk has a key role to play in identifying best practice and helping to ensure that individual science centres do not have to reinvent the wheel.

74 www.local.communities.gov.uk

75 Ev 43-45, 53-56, 134-35

76 Ev 27

77 Ev 105, 118-119

78 Q 27-59

5 Conclusion

54. During this short inquiry, we have been impressed by the range of subjects tackled by science centres, their commitment to education and public engagement and the role that they play in their local communities. The financial struggles that science centres have faced and continue to face are equalled only by the unrelenting enthusiasm of the members of the science centre community. We believe that they deserve continued support from the Government, Local Authorities, Regional Development Agencies, the education sector, the charity sector and the business sector. We hope that the Government will take a lead in developing further these close ties with the science centre community so that the science centre sector can continue to evolve and develop in the future.

Conclusions and recommendations

Science centres and museums

1. We believe that the Museum Accreditation Scheme should be adapted by separating out the dual roles that museums play in terms of maintaining collections and in terms of the educational and public engagement services that they provide. The funding streams could then be separated to match so that museums would receive funding from one stream to manage and store collections and receive funding from another for the educational and public engagement programmes that they run. A regime of this kind would have two key benefits. First it would focus attention on the importance of the educational and public engagement roles that museums play. Second, it would open up funding streams for those institutions, like science centres, that play an important educational and public engagement role in society but do not receive Government support because they do not house collections. (Paragraph 20)
2. We recommend that the Government review the Museum Accreditation Scheme with a view to creating a funding stream for educational and public engagement programmes to which science centres could apply. (Paragraph 21)

Monitoring effectiveness

3. We recommend that Ecsite-uk work with independent researchers to develop methodologies that ensure that performance indices for science centres are measured and collected uniformly and rigorously across the UK, to reduce the risk of bias. (Paragraph 25)
4. We urge the Government to take a lead and commission independent research to assess what role science centres and other factors play in encouraging young people to pursue STEM careers and how effectively science centres influence public discussion and perception of scientific issues. A number of institutions with interests in the promotion of STEM subjects and public engagement might be willing to co-fund such a project and we recommend that the Government identify and approach likely parties to initiate joint commissioning of research into science centres. (Paragraph 26)

Co-ordination

5. We urge Ecsite-uk, on behalf of the science centre community, to examine co-ordination and collaboration mechanisms that exist in Scotland and internationally, with a view to implementing structural and best practice guidance that promotes co-ordination between science centres across the UK. Practices such as sharing exhibitions nationally (according to specialism base) or staff regionally (across a range of centre types) would be extremely beneficial. Formal regional co-ordinating bodies, modelled on the Scottish Science Centres Network, may be the best way to facilitate this. (Paragraph 33)

6. The June 2007 departmental reorganisation presents an opportunity for defining clear lines of responsibility for science centres. We welcome the Minister for Science and Innovation's offer, on behalf of DIUS, to take responsibility for science centres.
7. We recommend that responsibility for science centres be formally written into the Minister's portfolio. However, we recognise that input from DCSF and DCMS is necessary and the Minister for Science and Innovation should ensure that decisions and assessments are co-ordinated between all three departments. (Paragraph 36)

Funding options

8. We agree that a Government commitment to long-term revenue support for science centres should not be made unless independent evidence of effectiveness is obtained. If independent research, which we hope the Government will commission as a matter of priority, does confirm that science centres make a positive contribution to science education, the promotion of STEM careers and public engagement, then we expect the Government to review its policy on long-term funding for science centres along similar lines to museums and galleries. We recognise that there may be an issue in whether the differential admission prices between museums and science centres act against Government policy of encouraging early engagement of pupils in STEM subjects and we recommend that this be part of the review. (Paragraph 42)
9. It is vital that existing science centres do not disappear before the results of research on their effectiveness is forthcoming. Therefore, we recommend that the Government make available limited, competitively-awarded, short-term funding to support those science centres that are struggling financially. Criteria for selection should be devised in consultation with the science centre community, including funders and other partners, and should be clearly set out by the Government. (Paragraph 44)
10. We recommend that the Government give serious consideration to a reduced rate of VAT of 5% on admission fees to science and other educational centres, as permitted under Article 98 of the EU Council Directive 2006/112/EC, subject to independent research verifying the effectiveness of science centres in achieving Government policy objectives (see paragraph 42 above). (Paragraph 48)
11. We urge all local authorities to offer 100% business rates relief to science centres. (Paragraph 51)

Funding diversity

12. Science centres should continue to focus on securing their financial stability through diverse income streams. These should include local income (ticket and shop sales), local support (local councils and RDAs), corporate sponsorship (including industry involvement), charitable donations (through Wellcome, NESTA etc.), grants (from the EU), and central Government support. Ecsite-uk has a key role to play in identifying best practice and helping to ensure that individual science centres do not have to reinvent the wheel. (Paragraph 53)

Annex A

The following table contains a list of science centres, with summaries of what they do, the themes that they cover, some basic information about them, including their size, when they opened and their web addresses, and whether they received Millennium Commission funding and whether they are a members of Ecsite-uk. The information was taken mainly from Ecsite-uk's website: www.ecsite-uk.net.

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|--|--|---|---|------------------|-------------------|--------------------------|
| All Hands and The Bridge Interactive Galleries | Home of the Prime Meridian of the World, The National Maritime Museum tells the story of Britain and the sea, and the importance of the oceans in our lives. The interactive galleries are themed around the lives of seafarers and the skills and technologies they used. | All Hands Gallery: life at sea The Bridge: skills and technologies used at sea | Museum 16 galleries/exhibits Exhibition area: 1600 m ² Size: M Opened: 1995 and 2005 | ✓ | | www.nmm.ac.uk |
| Almond Valley Heritage Centre | An independent museum on a 16-acre site including the Scottish shale oil museum, Livingston Mill Farm, the Almond Valley Light Railway and other attractions. | Industrial heritage Farming Ecology | Size: M | | | www.almondvalley.co.uk |
| Armagh Planetarium | Re-opens July 31st 2006. Planetarium and Ireland's leading centre for astronomy and space science education. They provide a wealth of fun astronomy related activities such as rocket launching and the portable 'Stardome Planetarium'. | Space | Science Centre 10 exhibits Size: S Opened: 1968 | ✓ | | www.armaghplanet.com |
| B.U.G.S. at London Zoo | B.U.G.S. (Biodiversity Underpinning Global Survival) is a museum-style exhibition that displays live animals to tell the story of biodiversity, its origins, the threats to its survival and its conservation. | Biodiversity Conservation Invertebrates | Discovery Centre Over 140 exhibits Size: M Opened: 2000 | | ✓ | www.londonzoo.co.uk |
| Benjamin Franklin House | Museum based in conserved house once occupied by Benjamin Franklin includes a hands-on student science centre. | | Other centre Size: S Opened: Jan 2005 | | | www.thersa.org/franklin |
| Bletchley Park | Bletchley Park was home to the famous WW2 codebreakers and the birthplace of modern computing. It is now open for school and public visits and runs special science, | Maths Science Technology Computing | Museum 1000+ exhibits Exhibition area: 4,000 m ² | | | www.bletchleypark.org.uk |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|---|--|---|---|------------------|-------------------|--------------------------------|
| | technology and maths education events. | Communications Code Breaking | Size: M | | | |
| Bolton TIC | The UK's first junior incubator. Young people innovate in a purpose-designed centre using equipment and expertise beyond the reach of schools. | Space and rocketry Science and art Innovation and engineering | Other centre | Recently applied | | www.uktic.org |
| Brocks Hill Environment Centre and Country Park | Building constructed to demonstrate sustainable construction, being autonomous in energy and water use. Also exhibition hall, cafe, play area and walks in parkland. | Energy Energy conservation | Other centre Variable number of exhibits Size: S Opened: 2001 | | ✓ | www.brocks hill.co.uk |
| The Building Exploratory | The Building Exploratory is an interactive centre which explains building, construction, design, planning, housing history and management. | Building | Other centre Exhibition area: 250 m ² Size: S Opened: 1997 | | | www.buildingexploratory.org.uk |
| Catalyst | Catalyst looks at chemistry and industry in 3 interactive galleries. Scientific—chemicals and their uses. Birth of an Industry—history of the chemical industry. EcoQuest—the environment. Catalyst also has a public interactive science theatre and a school science laboratory. | Chemistry Industry | Science Centre 100 exhibits Exhibition area: 1000 m ² Size: M Opened: 1989 | ✓ | ✓ | www.catalyst.org.uk |
| Centre for Alternative Technology | CAT aims to inspire, inform and enable people to explore more sustainable ways of living. CAT also runs practical residential courses all year round, hosts school visits and provides a free information service. | Sustainable living Alternative technology Organic gardening | Other centre Size: M | ✓ | ✓ | www.cat.org.uk |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|------------------------|--|-----------------------------------|--|------------------|-------------------|-------------------------|
| Centre For Life | The Centre for Life is a vibrant and exciting place where science is explored and debated. From exciting hands-on exhibits, family activities to lively lectures and serious debates on contemporary science issues, Life offers something for all ages and interests. As a regional focus for science communication, the Centre encourages curiosity about science by questioning and uncovering new things about life and the world around us. | Life sciences | Science Centre 50+ exhibits Size: L Opened: 2000 | ✓ | ✓ | www.life.org.uk |
| The Centre of the Cell | Opens March 2008, website launched March 2007. Centre of the Cell is a unique interactive multimedia experience embedded within a working research laboratory. The central themes are cell biology, disease and biomedical research. | Cells Biology | Discovery Centre Size: S Opened: 2008 | ✓ | | www.centreofthecell.org |
| Ceramica | Ceramica is an exploration and a celebration of the World-famous pottery industry of Stoke-on-Trent; a chance to learn about its past, discover the present and get a glimpse of its future. | Pottery | Other centre Size: S | | ✓ | www.ceramicauk.com |
| Chester Zoo | Chester Zoo has a mission to save wildlife and habitats from extinction. This crucial goal is pursued through programmes in conservation, education and scientific study. | Animals Plants Conservation | Animals/Plants. Over 7,000 animals and 300 species exhibits. Exhibition area: 110 acres m2. Size: L. Opened: 1930. | | | www.chestertzoo.org |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|-------------------------------------|--|--|---|------------------|-------------------|--|
| Clare Natural History Centre at WML | One of the attractions at World Museum Liverpool. Touch a hippopotamus skull, examine an exotic tropical butterfly or hold a mammoth tooth. The centre is packed full of mounted and preserved specimens of all types of animals from around the globe. There are also rocks, minerals, fossils and plants to see. | Natural History | Discovery Centre 20,000+ exhibits Exhibition area: 120 m ² Size: M Opened: 1989 | ✓ | | www.liverpoolmuseum.org.uk/world/naturalworld/nhc |
| Conkers | A 120-acre attraction in The National Forest. Indoor exhibits and outdoor experiences, assault course and playpark, Artscape sculpture trail, water play area and Forest Garden. Woodland and wetland walks, tree canopy walkway and bird hide. | National Forest British wildlife | Animals/Plants 100+ exhibits Size: L Opened: Apr-01 | | ✓ | www.visitconkers.com |
| The Deep Millennium Project | Taking the theme of the world's oceans, The Deep tells the story of the oceans from the beginning of time to present day and into the future. | Oceans | Other centre Size: L Opened: Mar 2002 | ✓ | ✓ | www.thedeep.co.uk |
| DIG | DIG is a new interactive archaeology attraction. Visitors will have the chance to dig for real objects from four of York's most important historical sites. DIG is about people having a go at archaeology themselves. | Archaeology | Other centre Size: S Opened: ARC 1989; DIG 2006 | | | www.digyork.co.uk |
| Discover | At Discover visitors can climb aboard the Lollipopper, cross a sparkly river over a rickety-rackety bridge, explore the Secret Cave, dress up, go to a party, and make puppets. | Stories & story-building Words Language Imagination | Children's Museum 18 exhibits Exhibition area: 500 m ² Size: S Opened: Jun 2003 | | | www.discover.org.uk |
| Discovery | Discovery is a hands-on science centre for all | Science | Science Centre | | | www.discovery.org.uk |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|--|--|---|---|------------------|-------------------|--------------------------------|
| | ages. | | 60+ exhibits Exhibition area: 220 m ² Size: M | | | erdiscovery.co.uk |
| Discovery Centre, Brooklands Museum | Hands-on Science Centre for children. | Science | Discovery Centre Size: S | | | www.brooklandsmuseum.com |
| Discovery Museum | Discovery is the largest free museum experience in the North East. Full of displays and interactives that bring science, technology and history to life. | Science History Fashion Military Maritime | Museum 60+ exhibits Size: L | ✓ | ✓ | www.twmuseums.org.uk/discovery |
| ECOS—Millennium Environmental Centre | The ECOS centre is set in a developing country park. Discover what the key issues are, how problems can be tackled and experience wildlife at first hand in their natural habitat. | Energy Environment | Other centre Size: S Opened: Aug 2000 | | ✓ | www.ecoscentre.com |
| The Eden Project | Eden explores the relationship between people, plants and natural resources. In a worked-out china clay pit up to 55 metre high covered biomes have been built exhibiting plants from two climates: the rainforest and the warm temperate/Mediterranean together with outdoor displays from the cool temperate zones including UK. | Plants Experiential learning | Animals/Plants Exhibition area: 125,000 m ² Size: L Opened: Mar 2001 | ✓ | ✓ | www.edenproject.com |
| Edinburgh International Science Festival | The Edinburgh International Science Festival is Europe's largest public celebration of science and technology with around 180 workshops, shows, exhibitions, tours, talks | Science and technology | Travelling or Festival Approx. 180 exhibits | ✓ | | www.sciencefestival.co.uk |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|---------------------------------|--|--|---|------------------|-------------------|----------------------------------|
| | and hands-on activities for young and old. It attracts around 120,000 visits over 11 days at Easter-time. | | Size: L Opened: 1989 | | | |
| Elsecar Heritage Centre | The Elsecar Heritage Centre is an Antique, History & Craft Centre. The Living History Centre is a hand-on history based exhibition. | Heritage Crafts Antiques | Other Centre 20 exhibits Exhibition area: 1440 m ² Size: L Opened: 1994 | | | www.barnsley.gov.uk |
| The Engine House Project | The Engine House Project runs a variety of half day science sessions at Sandford Mill for Key Stage 1 and 2. Sessions include forces, materials, sound, light and electricity. Outreach to schools in winter. | Forces Materials Sound Light Electricity | Museum Size: S | ✓ | | www.chelmsfordbc.gov.uk/enginehs |
| Enginuity | Enginuity's aim is to interpret how design and technology are combined to produce useful things. This is achieved through an exciting combination of interactive exhibits, real objects and design, and making activities. | Design and technology | 23 exhibits | ✓ | | www.ironbridge.org.uk |
| Eureka! The Museum for Children | Interactive centre for young children. | Science Music The body The environment | Children's Museum 200+ exhibits Exhibition area: 4,500 m ² Size: L Opened: 1992 | ✓ | ✓ | www.eureka.org.uk |
| Explore-At-Bristol | Explore-At-Bristol is one of the UK's most exciting hands-on science centres! Discover interactive exhibits and special exhibitions, take in a Planetarium show or join our Live | Science Natural history | Science Centre 150+ exhibits Exhibition area: 1500+ m ² | ✓ | ✓ | www.at-bristol.org.uk |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|--|--|--|---|------------------|-------------------|-----------------------------------|
| | Science team for fun experiments and activities. | | Size: L Opened: Jun-00 | | | |
| Exploris—the Northern Ireland Aquarium | A marine life exhibition which is part of Northern Ireland's aquarium—Exploris. | Marine Life | Other centre. 8 exhibits. Size: S. Opened: 1994 | | | www.exploris.org.uk |
| Extra Ordinary Gallery | Snibston is Leicestershire's all-weather science and industry museum, where visitors can get their hands on over 90 interactives indoors and outdoors. | Biology Energy Weather Light Forces Engineering Mining Textiles | Science Centre 70+ exhibits Size: M Opened: 1992 | ✓ | | www.leics.gov.uk/museums/snibston |
| Foredown Tower | Interactive displays and exhibitions on countryside research. It is home to one of only two operational camera obscuras in South East England. Run by Brighton & Hove Council. | Environmental Camera obscura Astronomy | Other centre 5 exhibits Size: S Opened: 1991 | | | www.foredown.virtualmuseum.info |
| Glasgow Science Centre | Scotland's biggest science centre. Includes 4 floors of hands-on exhibits, IMAX and Space Theatre. | Science | Science Centre Size: L Opened: Mar 2001 | ✓ | ✓ | www.glasgowsciencecentre.org |
| Go Experimental at Sellafield Visitor Centre | With interactive exhibits, exciting science workshops, plenty of hands—on fun and Europe's first Immersion Cinema, Sellafield Visitors is the educational and entertaining day out for budding scientists of all ages. | Energy production Nuclear power The environment Science | Other centre 30+ exhibits Size: S Opened: 1989 | ✓ | | www.go-experimental.com |
| Green's Mill and Science Centre | Restored working tower windmill once owned and operated by mathematical | Maths Environment | Other centre 15 exhibits | | | www.green-smill.org.uk |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|--------------------------------|--|---|---|------------------|-------------------|--|
| | physicist George Green (1793-1841). Adjacent science centre tells the story of the windmill and of Green's scientific achievements with hands on exhibits e.g. magnetism, light, electricity. | | Exhibition area: 100 m ² Size: S Opened: 1985 | | | |
| Hands-On | A hands-on science centre for all ages. Run by the Oxford Trust who also provide shows, workshops and a number of other resources to enhance the teaching of science, technology and engineering in the area. | Light and Sound Forces and Motion | Science Centre 40+ exhibits Exhibition area: 100 m ² Size: S Opened: 1990 | ✓ | | www.oxtrust.org.uk/hands-on |
| Harewood House and Bird Garden | Exquisite House, Royal family memorabilia, art exhibitions, fascinating Below Stairs displays, stunning gardens, premier Bird Garden and Adventure Playground. Openminds workshops for schools covering English, Art, Science, History and more. | Scientists Maths Conservation | Museum 1,000s exhibits Size: M | | | www.harewood.org |
| Horniman Museum & Gardens | As well as being home to the most comprehensive musical instrument collection in Britain, the museum has an internationally renowned anthropological collection and a popular Natural History Gallery. | Natural History Music Africa | Museum 5,000+ exhibits Exhibition area: 1500 m ² Size: M | ✓ | | www.horniman.ac.uk |
| The Hunterian Museum | Interactive permanent displays include those on Lord Kelvin and Medicine in Glasgow. | Archaeology Weapons and War Natural Sciences Decorative & Applied Art World Cultures Medicine Music Coins and Medals | Museum Size: M | | | www.gla.ac.uk/Museum |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|-----------------------------|---|---|--|------------------|-------------------|--------------------------------|
| | | Personalities Science and Technology Social History | | | | |
| Inspire Discovery Centre | Norwich's hands-on science centre. | Science | Science Centre 40 exhibits Exhibition area: 300 m ² Size: S Opened: 1995 | ✓ | | www.inspirediscoverycentre.com |
| INTECH | INTECH is an interactive hands on science and technology centre. 100 exhibits all designed and built in house to support the National Curriculum. | Science and technology | Science Centre 100 exhibits Exhibition area: 2275 m ² Size: M | ✓ | ✓ | www.intech-uk.com |
| Jodrell Bank Visitor Centre | Arboretum, Environmental Discovery Centre, 3D Theatre, small exhibition area, Observational Pathway, Space Cafe and Shop. Please note we no longer have the Planetarium and extensive exhibitions. | National Collections Radio Astronomy | Discovery Centre Exhibition area: 1100 m ² Size: S Opened: 1967 | ✓ | | www.jb.man.ac.uk/science |
| Livesey Museum for Children | The Livesey is a fully interactive museum aimed at the under-12's, with an all-new exhibition every year. | | Children's Museum Size: S Opened: 1974 | | | www.liveseymuseum.org.uk |
| The Living Rainforest | The Living Rainforest promotes a sustainable future through education and research on humanity and the world's rainforests. The charity runs a rainforest-inspired visitor centre in Berkshire, featuring plants and animals from this threatened tropical ecosystem. | Plants and animals Ecosystems Economics Cultures | Animals/Plants Exhibition area: 20000 m ² Size: M Opened: 2000 | ✓ | ✓ | www.livingrainforest.org |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|---------------------------------------|--|--------------------|--|------------------|-------------------|--|
| London Wetland Centre | Exhibition areas include a Discovery Centre, with touchscreens and interactives, glass viewing Observatory and World Wetlands with examples of endangered birds from around the world. | Wildlife Birds | Animals/Plants Size: S Opened: 2000 | | | www.wwt.org.uk |
| The Look Out Discovery Centre | The Look Out Discovery Centre has over 80 hands-on science exhibits. Launch a hot air balloon, climb through our giant mole hole or play a tune on our stringless harp! | Science and nature | Other centre Over 80 exhibits Exhibition area: 730 m ² Size: M | ✓ | | www.bracknell-forest.gov.uk/be |
| The Magic Mathworks Travelling Circus | A touring maths lab that demonstrates and explores a multisensory approach to learning maths. On the road since 1989. Tours nationally and internationally. 3 supervised exhibitions. | Maths | Travelling or Festival 30, 60 or 120 exhibits Exhibition area: 100+ m ² | ✓ | | www.magicmathworks.org |
| Magna Science Adventure Centre | Magna is set in Templeborough Steelworks in Rotherham. Inside you can explore the four elements of fire, air, earth and water and have fun firing giant water canons, launching rockets, spinning in a gyroscopic chair, learning to fly, exploding rock faces and working real JCB's. | | Science Centre 120+ exhibits Size: L Opened: Apr 2001 | ✓ | ✓ | www.visitmagna.co.uk |
| Making It! Discovery Centre | Making it! is based around the process of making things, the history, invention, design, manufacture, testing, packaging, advertising and marketing of the products of British industry, and especially those of Midlands area. | | Discovery Centre Size: M Opened: Apr 2002 | | ✓ | www.makingit.org.uk |
| The Manchester | University Museum includes 'Science for Life', | Natural history | Museum | | | www.muse |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|--|---|--|--|------------------|-------------------|--|
| Museum | interactive exhibition about the human body (previously at Wellcome, London); Discovery Centre; Fossils Gallery; Meteorites and minerals; Vivarium and Aquarium. | Science Archaeology Ethnography | Size: L Opened: 1885 | | | um.man.ac.uk |
| MatheMagic | Organises maths-related activities in the UK. | Mathematics General Science Computers | Travelling or Festival | | | www.mathe-magic.org |
| Millennium Seed Bank | The Millennium Seed Bank Exhibition allows the public an inside view into the processes involved in biodiversity conservation and seed banking. | Plants Biodiversity | Animals/Plants Size: M Opened: Nov 2000 | ✓ | ✓ | www.kew.org/msbp |
| Museum of Childhood at Bethnal Green | | Childhood | Children's Museum Size: M Opened: 1872 | | | www.museumofchildhood.org.uk |
| The Museum of Lancashire | The Museum of Lancashire traces the history of the county and its people, from the turbulent middle ages through to recent times. It has a large collection of military objects and memorabilia including material from the three Lancashire regiments. | Archaeology Coins and Medals Decorative & Applied Art Fine Art Medicine Natural Sciences Social History Weapons and War | Museum Size: M | | | www.lancashire.gov.uk/education/museums/lancashire |
| The Museum of Science and Industry in Manchester | Based in the buildings of the world's oldest passenger railway station, thirteen action-packed galleries bring the past to life with working industrial machinery, scientific achievement, live demonstrations and hands-on exhibits. | Industrial heritage Scientific achievement | Museum 60+ Galleries 33 exhibits Exhibition area: 600 m ² Size: L Opened: 1988 | ✓ | | www.msimg.org.uk |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|---|---|--|--|------------------|-------------------|-----------------------------|
| The National Botanic Garden of Wales | Plants and Water Discovery centre. Independent centre. | Plants | Animals/Plants Size: L | | ✓ | www.gardenofwales.org.uk |
| The National Marine Aquarium | The National Marine Aquarium is a charity dedicated to increasing awareness and understanding of the oceans, the life they contain and the way that humans affect them. It is Britain's largest aquarium containing Europe's deepest tank. | Aquatic Life Human Interactions with the Oceans | Discovery Centre 52 exhibits Exhibition area: 5500 m ² Size: L Opened: Jul 2002 | ✓ | ✓ | www.national-aquarium.co.uk |
| National Museum of Photography, Film and Television | Experience the past, present and future of photography, film and television with amazing interactive displays and exhibits. Don't forget to take in the amazing 2D and 3D action on the spectacular giant IMAX cinema screen. | Photography Film Television Digital media | Museum Size: L Opened: 1983 | ✓ | | www.nmpft.org.uk |
| National Museum of Wales | Comprises: National Museum Cardiff St Fagans; National History Museum Big Pit; National Coal Museum; National Roman Legion Museum; National Slate Museum; National Waterfront Museum; and National Wool Museum. | | Museum Size: L | ✓ | | www.museumwales.ac.uk |
| National Museums Liverpool | National Museums Liverpool is a group of eight museums and galleries dedicated to the promotion and enjoyment of art, history and science. The venues are The Conservation Centre, Lady Lever Art Gallery, Sudley House, Museum of Liverpool Life, HM Customs & Excise Museum and The Walker. | Natural History Centre Planetarium Space Gallery | Museum Size: L | ✓ | | www.liverpoolmuseums.org.uk |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|----------------------------|--|---|---|------------------|-------------------|--------------------------------|
| National Railway Museum | Discover the story of the train at the world's largest Railway Museum and have a great day out for all the family. | Railways Technology | Museum Size: L | ✓ | | www.nrm.org.uk |
| National Space Centre | The National Space Centre is dedicated to space science and astronomy. Includes Space Theatre and a Challenger Learning Centre. | Space science Astronomy | Science Centre Size: L Opened: Jun 2001 | ✓ | ✓ | www.spacecentre.co.uk |
| National Stone Centre | Tells the Story of Stone—history, science, technology, art, environment—in the heart of the Derbyshire Dales. | Extractive industry Earth science | Other centre Size: S Opened: 1990 | ✓ | | www.nationalstonecentre.org.uk |
| The Natural History Museum | Dedicated to our planet's life story, the Museum takes visitors on an unforgettable journey into Earth's past, present and future. Discover more about the Museum's world leading scientific research in free daily events and behind the scenes tours in the Darwin Centre. | Life and Earth Galleries Dinosaurs Mammals Creepy Crawlies Earth's Treasury | Museum Size: L Opened: The Darwin Centre opened in 2002 | ✓ | | www.nhm.ac.uk |
| Natural Science Centre | The centre has a planetarium, observatory, alternative energy displays and a large conservation area. The themes and their relationship to each other provide a memorable experience for visitors. | Space science Weather Alternative energy Ecology Dinosaurs | Science Centre. Size: S | | | www.naturalsciences.co.uk |
| Nature's World | Nature's World demonstrates practical ways to improve our quality of life and the environment. We illustrate the steps towards sustainability finishing with our futuristic eco-structure and hydroponicum (Future World). | Sustainability | Other centre Size: S Opened: Easter 2002 | | ✓ | www.naturesworld.org.uk |
| Norwich Castle | Now the County's principal museum, the | Archaeology | Museum | | | www.muse |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|---------------------------------|---|---|--|------------------|-------------------|--|
| Museum and Art Gallery | Castle is packed with treasures to inspire and intrigue visitors of all ages. | Natural history Fine art | Size: M | | | ums.norfolk.gov.uk/default.asp?Document=200.21 |
| The Observatory Science Centre | Hands-on science centre set amongst the domes of the former Royal Observatory. | Science Space Astronomy | Science Centre 100+ exhibits Size: M Opened: 1995 | ✓ | | www.the-observatory.org |
| Our Dynamic Earth | A fantastic journey of discovery through the story of our planet. Face boiling lava, fly over glaciers and dive deep beneath the ocean in the experience of a lifetime. | The physical and biological processes that formed and continue to shape our dynamic planet. | Other centre 12 galleries/exhibits Size: L Opened: Jul 1999 | ✓ | ✓ | www.dynamicearth.co.uk |
| Paignton Zoo Environmental Park | Home to some of the world's most endangered plants and animals. | Animals Conservation | Animals/Plants Size: L | | | www.paigntonzoo.org.uk |
| The Palms Tropical Oasis | Set in a one acre glasshouse and featuring exotic plants and wildlife, gardens and aquaria. | Animals Plants Conservation Environment | Animals/Plants Size: M | | | www.stapleywg.com/palms.asp |
| River & Rowing Museum | The Museum has three main galleries devoted to the River Thames, the international sport of rowing and the town of Henley. | River Thames Rowing Henley on Thames | Museum Size: M Opened: 1998 | | | www.rrm.co.uk |
| Royal Air Force Museum, Cosford | An outstanding collection of aircraft and associated memorabilia. | Aviation | Museum Size: M | | | www.rafmuseum.org.uk |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|--|--|---|---|------------------|-------------------|--|
| Royal Air Force Museum, London | From a total collection of well over two hundred aircraft, over a hundred full-size aircraft from all over the world are displayed under cover on the historic site of the original London Aerodrome. | Aviation | Museum 100+ exhibits Size: M | | | www.rafmuseum.org.uk |
| Royal Botanic Garden Edinburgh | The RBGE is dedicated to explaining and exploring the world of plants. Education is for all ages and stages, from casual visitors to botany students, and from children to senior citizens. Admission is free. | Plants Horticulture Botany | Science Centre Over 6% of all known plants—over 13,000 (species) exhibits Size: L | ✓ | | www.rbge.org.uk |
| The Royal Botanic Gardens, Kew | The Gardens cover 300 acres and are home to themed gardens and plant collections, as well as a number of historic and 'working' buildings. The living collections are a resource for botanical science world-wide. | Plants from around the globe Science and horticulture Conservation of plants and habitats | Animals/Plants 1000s exhibits Exhibition area: 121,410 m ² Size: XL | ✓ | | www.rbge.org.uk |
| Royal Cornwall Museum, The Childrens House | A community based discovery centre which explores the history and culture of Cornwall. | | Children's Museum Size: S Opened: Summer 2002 | | | www.royalcornwallmuseum.org.uk |
| Royal Museum | NMS holds a wealth of treasures built up over several centuries, encompassing archaeology, ethnology, decorative and applied arts, social history, science and technology, and the natural world. | Natural history Science and technology Art and design Ethnography Ancient cultures and world cultures | Museum 12,000 exhibits Exhibition area: 15,000 m ² Size: L | ✓ | | www.nms.ac.uk |
| Royal Observatory Visitor Centre | The Royal Observatory Visitor Centre aims to introduce the general public and visiting groups to the fascinating world of modern astronomy and space research. | Astronomy Space | Other centre Size: S Opened: 1981 | ✓ | | www.roe.ac.uk/vc |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|----------------------------|--|--|---|------------------|-------------------|------------------------------|
| Satrosphere Science Centre | Satrosphere is Scotland's original science centre. We encourage visitors to get 'hands on' with science through exploration and discovery. Fun-packed experiments, live shows and spectacular demonstrations bring science to life. | Science | Science Centre 50+ exhibits Exhibition area: 700 m ² Size: S Opened: 1990 | ✓ | | www.satrosphere.net |
| science made simple | A science outreach company that takes science and engineering-based shows into schools all across the UK. We also provide professional development courses for staff working in museums and science centres. | Science performance Physics Engineering Theatre | Travelling or Festival Size: S | ✓ | | www.science.madesimple.co.uk |
| Science Museum | Where else can you take a trip to Mars, age 30 years in 30 seconds or participate in a controversial scientific debate? At the Science Museum you can do all this and much, much more. | Science Technology Medicine | Museum Thousands of exhibits Size: L Opened: Wellcome Wing, 2000 | ✓ | ✓ | www.science.museum.org.uk |
| Science Projects | Travelling hands-on exhibitions for science centres, museums, festivals or events. Current exhibitions on tour: Risk; The Senses: Medieval Machines; Puzzles and Illusions; Good vibrations—the science of sound; Feel the Force and Light and Optics. | Science | Travelling or Festival 10 to 18 exhibits Size: S Opened: 1988 | ✓ | | www.science-projects.org |
| SCOPE | Kelham Island Museum traces 'The Story of Sheffield' and includes a science discovery centre. | Light Sound Forces Materials Magnets | Museum 100+ exhibits Exhibition area: 600 m ² Size: M Opened: 1990 | ✓ | | www.simt.co.uk/kel1 |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|---------------------------------------|--|--|---|------------------|-------------------|--------------------------------|
| The Scottish Seabird Centre | Visitors control interactive cameras, sited on islands in the Firth of Forth to explore the fascinating world of seabirds, with thousands of puffins and gannets, and marine wildlife including seals and dolphins. The centre is now operating wildlife boat safaris around the islands of the Firth of Forth throughout the summer period. | Seabirds Marine environment | Discovery Centre Exhibition area: 340 m ² Size: S Opened: 2000 | ✓ | ✓ | www.seabird.org |
| SEARCH | A range of hands-on activity sessions in history and natural science, closely linked to the National Curriculum and led by expert staff. | History Natural History | Museum Exhibition area: 250 m ² Size: S Opened: 1995 | | | www.hants.gov.uk/museum/search |
| Sensation Dundee | Interactive Science Centre in Dundee. Also includes a 3D cinema, soft play area, internet café and shop. Roborealm, will give visitors the chance to interact with robots. | Senses Biology | Science Centre 60+ exhibits Exhibition area: 1000 m ² Size: M | ✓ | ✓ | www.sensation.org.uk |
| Slimbridge Wildfowl & Wetlands Centre | The headquarters of WWT, Slimbridge is an award-winning visitor centre overlooking nationally and internationally protected wetlands. | Wildlife Birds | Animals/Plants Size: S Opened: 1946 | | ✓ | www.wwt.org.uk |
| Technique Science Discovery Centre | Over 150 hands-on exhibits and fascinating shows in the Theatre and Planetarium make Technique a unique experience for visitors. | Biology Chemistry Earth and Space Electricity Energy Environment Forces Light and Colour Maths | Science Centre 100+ exhibits Exhibition area: 1500 m ² Size: L Opened: 1986 | ✓ | | www.technique.org |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|----------------------------------|--|--|---|------------------|-------------------|-------------------------|
| | | Humans Music | | | | |
| Thackray Museum | The displays explain the ways in which people's lives have changed over the last 150 years as a result of improvements in public health, medicine and healthcare. | Medicine & healthcare | Museum Size: M Opened: 1997 | | | www.thackraymuseum.org |
| Thinktank at Millennium Point | Thinktank offers ten galleries of historical artefacts, modern interactives and futuristic facts. Visitors can explore everything from space travel and steam engines to intestines and taste buds. Includes digital planetarium and IMAX cinema. | Transport Industrial Revolution Local history Modern medicine Contemporary and future science Space | Science Centre Approx 2,600 exhibits Exhibition area: 7,500 m ² Size: L Opened: Sep 2001 | ✓ | ✓ | www.thinktank.ac |
| Ulster Folk and Transport Museum | The award winning galleries of the Transport Museum display Ireland's most comprehensive transport collections from horse drawn carts to Irish built motor cars, from the mighty steam locomotives which graced our railways to the history of ship and aircraft building. | Transport Irish culture Life and heritage | Museum Size: M | ✓ | | www.uftm.org.uk |
| Ulster Museum | Ulster Museum's displays feature material from the collections of Fine and Applied Art, Archaeology, Ethnography, Treasures from the Armada, Local History, Numismatics, Industrial Archaeology, Botany, Zoology and Geology. | Art History Natural sciences | Museum Exhibition area: 8,000 m ² Size: L | ✓ | | www.ulstermuseum.org.uk |
| Water of Leith Visitor Centre | Explore Edinburgh's hidden natural asset the Water of Leith. The visitors' centre is home to a fantastic interactive exhibition on the river's heritage and wildlife. Walkway | River Water Wildlife | Other centre Size: S Opened: 2001 | | ✓ | www.waterofleith.org.uk |

| Name | Summary | Themes | Type | Ecsite-uk member | Millennium funded | Website |
|-------------------------|--|---|---|------------------|-------------------|--------------------------------|
| | information, cafe, giftshop. | | | | | |
| whowhatwhere whenwhy—W5 | W5 is Ireland's only purpose-built science discovery centre. Located at Odyssey, Northern Ireland's Millennium Landmark. 140 interactive exhibits in five exhibition areas. | | Science Centre 140 exhibits Exhibition area: 3,600 m ² Size: M Opened: Spring 2001 | ✓ | ✓ | www.w5online.co.uk |
| Woolsthorpe Manor | Interactive science centre at the birthplace and childhood home of Sir Isaac Newton, with historic manor house, orchards and farm buildings. | The work of Sir Isaac Newton | Science Centre 14 exhibits Exhibition area: 50 m ² Size: M | ✓ | | www.nationaltrust.org.uk |
| World Museum Liverpool | World Museum Liverpool is the largest of the National Museums Liverpool venues. The fascinating and varied collections cover archaeology, ethnology and the natural and physical sciences. | Archaeology Natural sciences Physical sciences | Museum 5 exhibits Exhibition area: 100 m ² Size: M Opened: 1993 | ✓ | | www.liverpoolmuseums.org.uk/wm |
| Yorkshire Museum | Collections of Roman, Viking, Anglo-Saxon and medieval artefacts, decorative arts, geology and the natural sciences. | Archaeology Geology Natural sciences Decorative arts | Museum Size: M Opened: 1828 | | | www.yorkshiremuseum.org.uk |

Formal minutes

Tuesday 9 October 2007

Members present:

Mr Phil Willis, in the Chair

Adam Afriyie

Mrs Nadine Dorries

Linda Gilroy

Dr Evan Harris

Dr Brian Iddon

Chris Mole

Graham Stringer

Dr Desmond Turner

The Committee considered this matter.

Draft Report (*The Funding of Science and Discovery Centres*), proposed by the Chairman, brought up and read.

Ordered, That the Chairman's draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 54 read and agreed to.

Summary read and agreed to.

Annex read and agreed to.

Resolved, That the Report be the Eleventh Report of the Committee to the House.

Ordered, That the Appendices to the Minutes of Evidence taken before the Committee be reported to the House.

Ordered, That the Chairman make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Written evidence reported and ordered to be published on 11 July 2007 was ordered to be reported to the House for printing with the Report.

[Adjourned till Wednesday 10 October at 9.00am

Witnesses

Wednesday 11 July 2007

Page

Ms Linda Conlon, Chair, Ecsite-uk, Director, Centre for Life, **Mr Colin Brown**, Chief Executive, The Deep, **Mr Phil Winfield**, Director, INTECH, and **Mr Alec Coles**, Director, Tyne & Wear Museums.

Ev 1

Ms Clare Matterson, Director of Medicine, Society and History, the Wellcome Trust, **Mr Richard Halkett**, Executive Director, Policy & Research Unit, NESTA, **Dr Peter Anderson**, Museum Consultant.

Ev 7

Jim Knight MP, Minister of State for Schools and 14-19 Learners, Department for Children, Schools and Families, **Ian Pearson MP**, Minister of State for Science & Innovation, Department for Innovation, Universities and Skills, and **Rt Hon Margaret Hodge MBE MP**, Minister of State, Department for Culture, Media and Sport.

Ev 12

List of written evidence

| | | |
|----|--|--------|
| 1 | Department of Trade & Industry, Department for Education & Skills and Department for Culture Media & Sport | Ev 19 |
| 2 | West of England Aerospace Forum | Ev 21 |
| 3 | National Maritime Museum | Ev 22 |
| 4 | The Deep Millennium Project | Ev 25 |
| 5 | East Midlands Development Agency | Ev 28 |
| 6 | Advantage West Midlands | Ev 36 |
| 7 | V&A Museum of Childhood | Ev 32 |
| 8 | Stephen Pizzey, Founder and Director of Science Projects Ltd | Ev 34 |
| 9 | INTECH Science & Discovery Centre | Ev 37 |
| 10 | One NorthEast | Ev 41 |
| 11 | SEARCH–Hampshire County Council Museums and Archives Service's Hands-on Centre, Gosport | Ev 42 |
| 12 | Eden Project | Ev 43 |
| 13 | Making It! Discovery Centre | Ev 46 |
| 14 | National Museums Northern Ireland and W5 | Ev 47 |
| 15 | University of Durham, submitted by Professor Christopher F Higgins | Ev 53 |
| 16 | Glasgow Science Centre | Ev 53 |
| 17 | Norfolk Museums and Archaeology Service, Department of Natural History | Ev 56 |
| 18 | Thinktank Trust | Ev 57 |
| 19 | GlaxoSmithKline | Ev 62 |
| 20 | Institute of Physics | Ev 66 |
| 21 | Centre of the Cell | Ev 67 |
| 22 | Field Studies Council | Ev 70 |
| 23 | British Association for the Advancement of Science | Ev 71 |
| 24 | London Development Agency | Ev 72 |
| 25 | Snibston Discovery Park | Ev 73 |
| 26 | National Space Centre | Ev 77 |
| 27 | South West Environmental Parks | Ev 84 |
| 28 | Magna Science Adventure Centre | Ev 88 |
| 29 | Consortium of Zoos, Wildlife & nature sites and Aquaria (CZWA) | Ev 89 |
| 30 | British and Irish Association of Zoos and Aquariums | Ev 92 |
| 31 | Astronomer Royal for Scotland, University of Glasgow | Ev 94 |
| 32 | York Museums Trust | Ev 95 |
| 33 | Dr Peter Anderson, Museum Consultant | Ev 97 |
| 34 | Research Councils UK | Ev 99 |
| 35 | Ironbridge Gorge Museum Trust | Ev 101 |
| 36 | Colin H Johnson OBE | Ev 103 |
| 37 | Chief Scientific Adviser of the Scottish Executive | Ev 106 |
| 38 | John Durant, MIT Museum | Ev 108 |
| 39 | Catalyst Science Discovery Centre | Ev 109 |
| 40 | Wellcome Trust | Ev 114 |
| 41 | Dundee Science Centre | Ev 118 |

| | | |
|----|---|--------|
| 42 | The Oxford Trust | Ev 120 |
| 43 | Tyne and Wear Museums | Ev 122 |
| 44 | Cardiff University, School of Engineering | Ev 126 |
| 45 | John SF Walker FSA, Chief Executive, York Archaeological Trust | Ev 128 |
| 46 | South West of England Regional Development Agency | Ev 131 |
| 47 | Our Dynamic Earth | Ev 132 |
| 48 | Birmingham City Council | Ev 134 |
| 49 | British Antarctic Survey | Ev 135 |
| 50 | Museum of Science and Industry in Manchester | Ev 136 |
| 51 | National Stone Centre | Ev 140 |
| 52 | Scottish Science Centres Network Scottish Science Centres Network | Ev 142 |
| 53 | Royal Society | Ev 146 |
| 54 | NESTA | Ev 147 |
| 55 | Eureka! Museum for Children | Ev 150 |
| 56 | Zoological Society of London | Ev 154 |
| 57 | Observatory Science Centre | Ev 158 |
| 58 | Cardiff University | Ev 162 |
| 59 | Thackray Museum | Ev 160 |
| 60 | Museums Libraries and Archives Council | Ev 169 |
| 61 | At-Bristol | Ev 171 |
| 62 | North of England Zoological Society | Ev 175 |
| 63 | Royal Botanic Garden Edinburgh | Ev 176 |
| 64 | National Museum of Science and Industry | Ev 178 |
| 65 | SEEDA | Ev 179 |
| 66 | Royal Society of Edinburgh | Ev 181 |
| 67 | Jodrell Bank Observatory | Ev 184 |
| 68 | National Marine Aquarium | Ev 185 |
| 69 | Peter McIlwraith, Chairman, At-Bristol | Ev 188 |
| 70 | Jonathan Osborne, Kings College, London | Ev 191 |
| 71 | Merseytravel | Ev 192 |
| 72 | National Museum Wales | Ev 195 |
| 73 | Ecsite-uk | Ev 195 |
| 74 | Natural History Museum | Ev 201 |
| 75 | Nature's World | Ev 201 |
| 76 | TechniQuest | Ev 202 |
| 77 | Centre for Life | Ev 206 |
| 78 | Yorkshire Forward | Ev 212 |
| 79 | Bolton Technical Innovation Centre | Ev 214 |

List of Reports from the Committee during the current Parliament

The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2006–07

| | | |
|----------------------|--|--------------------|
| First Report | Work of the Committee in 2005-06 | HC 202 |
| Second Report | Human Enhancement Technologies in Sport | HC 67-I (Cm 7088) |
| Third Report | The Cooksey Review | HC 204 (HC 978) |
| Fourth Report | Research Council Institutes | HC 68-I (HC 979) |
| Fifth Report | Government Proposals for the Regulation of Hybrid and Chimera Embryos | HC 272-I (Cm 7139) |
| Sixth Report | Office of Science and Innovation: Scrutiny Report 2005 and 2006 | HC 203 (HC 635) |
| Seventh Report | 2007: A Space Policy | HC 66-I |
| Eighth Report | Chairman of the Medical Research Council: Introductory Hearing | HC 476 |
| Ninth Report | International Policies and Activities of the Research Councils | HC 472-I |
| Tenth Report | Investigating the Oceans | HC 470-I |
| First Special Report | Scientific Advice, Risk and Evidence Based Policy Making: Government Response to the Committee's Seventh Report of Session 2005-06 | HC 307 |

Session 2005–06

| | | |
|-----------------------|--|--------------------|
| First Report | Meeting UK Energy and Climate Needs: The Role of Carbon Capture and Storage | HC 578-I (HC 1036) |
| Second Report | Strategic Science Provision in English Universities: A Follow-up | HC 1011 (HC 1382) |
| Third Report | Research Council Support for Knowledge Transfer | HC 995-I (HC 1653) |
| Fourth Report | Watching the Directives: Scientific Advice on the EU Physical Agents (Electromagnetic Fields) Directive | HC 1030 (HC 1654) |
| Fifth Report | Drug classification: making a hash of it? | HC 1031 (Cm 6941) |
| Sixth Report | Identity Card Technologies: Scientific Advice, Risk and Evidence | HC 1032 (Cm 6942) |
| Seventh Report | Scientific Advice, Risk and Evidence Based Policy Making | HC 900-I |
| First Special Report | Forensic Science on Trial: Government Response to the Committee's Seventh Report of Session 2004-05 | HC 427 |
| Second Special Report | Strategic Science Provision in English Universities: Government Response to the Committee's Eighth Report of Session 2004-05 | HC 428 |