SCHOLARLY PUBLISHING & ACADEMIC RESOURCES COALITION

SPARC EUROPE

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Repositories, Policies, and Politics

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Political Agents for Change

Scholarly Communication is being impacted by a number of public policy drivers;

- The ‘knowledge economy’ and the Lisbon agenda
- Accountability and assessment – ‘value for money’
- E-Science / E-Research
- Concerns regarding access to data

Political Imperative – Lisbon Agenda

In March 2000, the EU Heads of States and Governments agreed their aim to make the EU '**the most competitive and dynamic knowledge-driven economy by 2010**'.

One of the key strategic means of achieving this goal was identified as '**preparing the transition to a knowledge-based economy and society by better policies for the information society and R&D…'** and specifically increasing investment in R&D to **3% of GDP**

Knowledge Economy

‘We want the UK to be a key knowledge hub in the global economy, with a reputation not only for world-class scientific and technological discovery but also for turning that knowledge into new and profitable products and services.’

Tony Blair, UK Prime Minister

In a post-industrial economy there is increasing acknowledgement of the relationship between:

- Investment in R&D
- Access to knowledge
- Technology transfer
- Wealth creation

Accountability and Assessment – 'Value for Money'

With increased spending on R&D and education comes increased desire for accountability and assessment of:

- Universities
- Departments
- Research Groups
- Individuals

And with more assessment comes a desire for more metrics of success:

- Number of citations
- Who is citing whom
- Downloads
- Patent registration
- Rate of technology transfer

And a desire to streamline the assessment process

E-Science / E-Research

‘Scientists developing collaboration technologies that go far beyond the capabilities of the Web

- To use remote computing resources
- To integrate, federate and analyse information from many disparate, distributed, data resources
- To access and control remote experimental equipment

Capability to access, move, manipulate and mine data is the central requirement of these new collaborative science applications

E-Science is a shorthand for a set of technologies and middleware to support multidisciplinary and collaborative research.’

Tony Hey

E-Science / E-Research

Successful E-Research needs:

- Resources to integrate, federate and analyse
- Interoperability
- Open access

Institutional repositories will increasingly become part of the infrastructure that allows E-Science to take place (across all disciplinary and geographic boundaries)

Access and Public Policy

As the public policy agenda develops we are seeing an increasing number of policies relating to open access from:

- Research groups
- Universities
- Research centers
- Funding bodies
- Governments
- National and international bodies

Berlin Declaration in Support of Open Access

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- ‘Our mission of disseminating knowledge is only half complete if the information is not made widely and readily available to society.’
- Signatories should promote open access by
  - encouraging researchers/grant recipients to publish in open access.
  - encouraging the holders of cultural heritage to support open access by providing their resources on the Internet.
  - developing means to evaluate open access contributions and online-journals in order to maintain the standards of quality assurance and good scientific practice.
  - advocating that open access publication be recognized in promotion and tenure evaluation.
- Issued on 22nd October 2003

http://www.zim.mpg.de/openaccess-berlin/berlindeclaration.html

Berlin Declaration in Support of Open Access

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- 227 signatories world-wide, including:
  - **Germany:** Fraunhofer Society, Wissenschaftsrat, HRK, Max Planck Society, Leibniz Association, Helmholtz Association, **German Research Foundation**, Deutscher Bibliotheksverband
  - **France:** CNRS, INSERM
  - **Austria: FWF Der Wissenschaftsfonds**
  - **Sweden:** Swedish Research Council, Swedish Library Association, Association of Swedish Higher Education
  - **China:** Chinese Academy of Sciences, National Science Foundation China (NSFC)
  - **Italy:** Rectors of almost all Italy's universities
  - **Spain:** Rectors and Chancellors of 13 universities, Spanish National Research Council (CSIC)
  - **Belgium:** 17 Higher education rectors and ministers

Berlin Declaration: Deutsche Forschungsgemeinschaft Position

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The German Research Foundation (DFG), the largest research funder in Germany, is the first of the funders who signed the Berlin Declaration to adopt an open access policy

'The DFG **expects the research results funded by it** to be published and to be made available, where possible, digitally and on the internet **via open access**. To achieve this, the contributions involved **should either be deposited in** discipline-specific or institutional **electronic archives (repositories)** following conventional publication, or should be **published in** a recognised peer-reviewed **open access journal**. When entering into publishing contracts scientists participating in DFG-funded projects **should**, as far as possible, **permanently reserve a non-exclusive right of exploitation for electronic publication of their research results for the purpose of open access**. Here, discipline-specific delay periods of generally 6-12 months can be agreed upon, before which publication of previously published research results in discipline-specific or institutional electronic archives may be prohibited.'

http://www.dfg.de/en/news/information_science_research/other_news/info_wissenschaft_04_06.html

Wellcome Trust

- The Wellcome Trust is an independent research funding charity which currently spends over £400 million per annum.
- From October 1 2006, it became a condition of funding that copy of any **original research paper** published in a peer-reviewed journal must be deposited into PubMed Central (PMC).
- The Trust will provide grantees with additional funding to cover the costs of page processing charges levied by open access publishers.
- The Trust is working with the National Library of Medicine (NLM) to establish a European site for PubMed Central.

http://www.wellcome.ac.uk/doc_WTX022827.html

Wellcome Trust – UK PubMed Central

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- UK PubMed Central (UKPMC) is a free digital archive of biomedical and life sciences journal literature, set up by the Wellcome Trust, as part of a group of leading UK research funders, in partnership with the British Library.
- Based on PubMed Central (PMC), UKPMC provides a stable, permanent and free-to-access online digital archive of full-text, peer-reviewed research publications.
- Launched in January 2007, the initial phase involves mirroring PMC and implementing a manuscript submission system - UKMSS - to enable UK scientists to submit their research papers for inclusion in UKPMC.
- Through 2007 and beyond innovative tools for UKPMC will be developed to further support biomedical research.
- UKPMC is part of a network of PMC International (PMCI) repositories.

Research Councils UK – Statement in Support of Open Access

- The seven Research Councils in the UK spend approximately £2.1billion annually
- ‘Ideas and knowledge derived from publicly-funded research must be made available and accessible for public use, interrogation, and scrutiny, as widely, rapidly and effectively as practicable.’
- Where appropriate, funded researchers will be required to:
  - ‘Personally deposit, or otherwise ensure the deposit of, a copy of any resultant articles published in journals or conference proceedings, in an appropriate repository, as designated by the individual research council.
  - ‘Wherever possible, personally deposit, or otherwise ensure the deposit of, the bibliographical metadata relating to such articles, including a link to the publisher’s website, at or around the time of publication.’
- There is no single policy to cover all Research Councils, but each Council is free to adopt its own policy appropriate to the specific subject area.

http://www.rcuk.ac.uk/access/

Research Councils UK – Policy in Support of Open Access

- Five Councils have mandated deposit of papers resulting from projects funded from 1 October 2006 in freely accessible electronic repositories:
  - Biotechnology & Biological Sciences Research Council
  - Economic & Social Research Council
  - Medical Research Council
  - Natural Environment Research Council
  - Science and Technology Facilities Council
- The remaining two Councils currently have no policies in place:
  - Arts & Humanities Research Council (policy was expected by end 2006)
  - Engineering & Physical Sciences Research Council

http://www.sparceurope.org/press_release/RC%20OA%20policies%20v1.4.xls

US National Institutes of Health

Political Interest:

- US Congress instructed the National Institutes of Health (NIH) to develop new access policy
- Originally, copies of all papers reporting research funded by NIH would have been be deposited in PubMed Central six months after publication
- Final announced policy – grant recipients are 'requested' to deposit their papers up to 12 months after publication
- Approximately 60,000 papers each year could be made freely available as a result of the policy
- However, uptake of voluntary policy has been disappointing (about 4%)

http://grants.nih.gov/grants/guide/notice-files/NOT-OD-05-022.html

NIH – Improving the Policy

- Public Access Working Group (November 2005)
  - Recommended strengthening the policy
    - Shorten embargo to six months max (some exceptions)
    - Convert request to requirement
    - Encourage deposit of published edition
- NLM Board of Regents (February 2006)
  - Recommended strengthening the policy
    - Endorsed all three PAWG recommendations
    - Low compliance rate cannot be explained by
      - Difficulty of process
      - Lack of knowledge among grantees
      - Technical problems
    - Time for NIH to plan transition to mandate
- NIH Director, Elias Zerhouni (March 2007)
  - 'reiterated the need for publicly funded research to be made available to advance the conduct of science, and strongly asserted that the NIH the voluntary policy was not working. He made clear that the policy should be made mandatory.'

Federal Research Public Access Act of 2006

- Introduced to the US Senate by John Cornyn (Republican) and Joseph Lieberman (Democrat) on 2nd May 2006.
- Bill would require federal agencies that fund over $100 million in annual external research to make electronic manuscripts of peer-reviewed journal articles stemming from their research publicly available via the Internet.
- Agencies affected include: Departments of Agriculture, Commerce, Defence, Education, Energy, Health and Human Services (including NIH), Homeland Security, and Transportation, as well as the Environmental Protection Agency, NASA, and the National Science Foundation.
- Any embargo would be limited to 6 months after publication.

http://www.taxpayeraccess.org/frpaa/index.html

Canada

- The Canadian Institutes of Health Research (CIHR) has a Draft Policy on Access to CIHR-funded Research Outputs, October 10, 2006.
- [The] CIHR has a fundamental interest in ensuring that research outputs are available to the widest possible audience....*"the primary purpose of all research in the public domain is the creation of new knowledge in an environment that embodies the principles of freedom of inquiry and unrestricted dissemination of research results."*
- Papers should be either:
  - Deposited in an OAI-compliant repository, immediately upon publication. A publisher-imposed embargo on open accessibility of no more than 6 months is acceptable. Or
  - Submitted either to an open access journal, or to a journal that allows authors to retain copyright and/or allows authors to archive journal publications in an open access archive within the six-month period following publication.
- Requirements for access to research materials and research data are also outlined
- CIHR will consider a researcher's track record of providing access to research outputs when considering applications for funding, and will take into consideration legitimate reasons for restricting access.

European Commission Study

- 'Study on the economic and technical evolution of the scientific publication markets in Europe'
- Connected to the EC's objective of 'establishing a genuine European Research Area and [their] aim to raise the profile of European research'
- Looking at:
  - What are the main changes in Europe?
  - What and who is driving change and why? If there is any resistance to positive change, what/who is blocking it?
  - What are the consequences for users (authors, readers, libraries)?
- Launched 15 June 2004

http://www.europa.eu.int/comm/research/press/2004/pr1506en.cfm

European Commission Study

- Concludes that '…policies should make sure that the market is sufficiently competitive and 'dissemination-friendly'. In particular, they should address the need to:
  - enhance access to research output;
  - prevent strategic barriers to entry and to experimentation.

- Recommendation A1. **Guarantee public access to publicly-funded research shortly after publication**

  - Research funding agencies … should promote and support the archiving of publications in open repositories, after a … time period to be discussed with publishers. This archiving could become a condition for funding.
  - The following actions could be taken at the European level: (i) Establish a European policy mandating published articles arising from EC funded research to be available after a given time period in open access archives, and (ii) Explore with Member States and with European research and academic associations whether and how such policies and open repositories could be implemented.

    http://europa.eu.int/comm/research/science-society/pdf/scientific-publication-study_en.pdf

European Commission Study

- RECOMMENDATION A3. **'Extended quality' rankings of scientific journals**
  - …dimensions related to the **quality of dissemination** (self-archiving authorisation, publisher archiving provisions, copyright provisions, abstracting and indexing services, reference linking, etc.) could be tracked explicitly and possibly valued by research funding bodies.

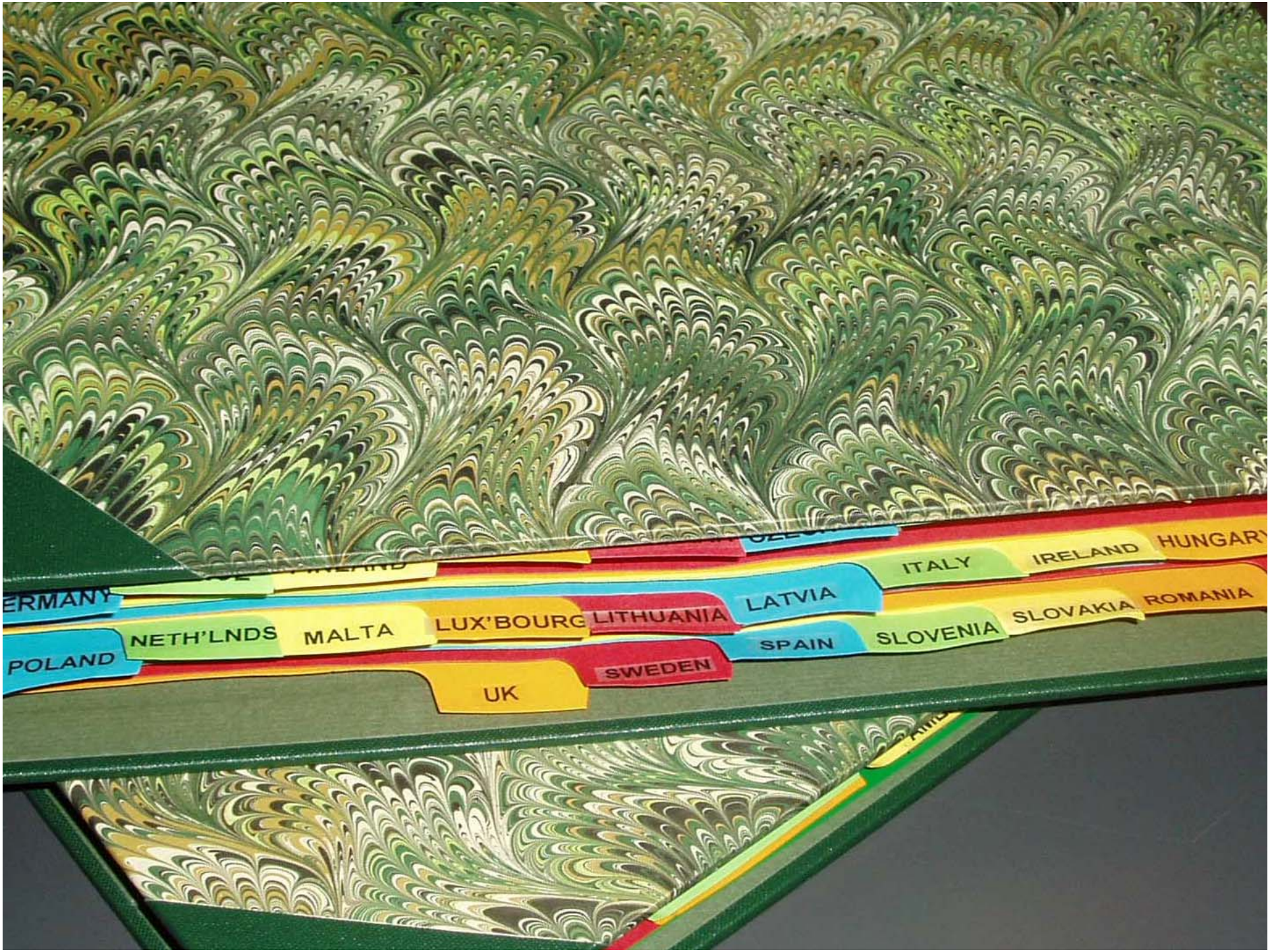
- RECOMMENDATION A5. **Foster interoperable tools to improve knowledge visibility, accessibility and dissemination**
  - This could be achieved by (i) supporting research and development on interoperability issues, notably on metadata to improve scientific information search and retrieval efficiency and on the XML format to improve and accelerate the overall publishing process, and by (ii) promoting the wide implementation of linking technologies,… and of interoperable standard protocols, especially the OAI-PMH that enables metadata harvesting and searching across different platforms.

- RECOMMENDATION C2. **Further investigation**
  - … evolution of copyright provisions. While publishers have become more permissive over time, in particular in terms of the posting of published material on individual web pages, it would be good to investigate precise legal solutions that would provide legal certainty to authors, but also potentially to other parties, in terms of dissemination of published material.
  - … technological developments: Research could be supported for example on interoperability issues and on the specifics of long-term preservation issues.

European Commission Study

- The EC hosted a conference on scholarly communication in Brussels in February 2007.
- Before the meeting a SPARC Europe and the Knowledge Exchange partners co-sponsored petition collected 22,000 signatories calling on the Commission to adopt the study's recommendations. (http://www.ec-petition.eu/)

  - **University associations**
  - Portuguese Rectors Conference, Hochschulrektorenkonferenz (Germany), Irish Universities Association, Finnish Council of University Rectors, Association of Swedish Higher Education, Norwegian Association of Higher Education Institutions, Conference of Italian University Rectors
  - **Research funders**
  - European Research Council, Deutsche Forschungsgemeinschaft, German Research Council, Austrian Science Fund, Spanish National Research Council, Wellcome Trust, Swiss National Science Foundation, CNRS, INRIA, Medical Research Council, Association of Medical Research Charities (UK), Max Planck Society, Swedish Research Council
  - **National academies**
  - Royal Swedish Academy of Sciences, Royal Swedish Academy of Letters, History & Antiquities, Royal Flemish Academy of Arts and Sciences, Lithuanian Academy of Sciences, Royal Scientific Society of Jordan, Schweizerische Akademie der Geistes- und Sozialwissenschaften, Royal Netherlands Academy of Arts and Sciences, Academia Romana, Hungarian Academy of Sciences


ERMANY
ITALY
IRELAND
HUNGARY
LATVIA
NETH'LNDS
MALTA
LUX'BOURG
LITHUANIA
SLOVENIA
SLOVAKIA
ROMANIA
POLAND
SPAIN
SWEDEN
UK

European Commission Study

- The conference was inconclusive, but the Commission has issued a ‘Communication’ which includes:
  - A commitment to include open access publishing costs in EC grants
  - The promise of specific guidelines to be issued, within specific programmes, on the publication of articles in open repositories.
  - Significant funding for repository infrastructure and digital preservation
  - Funding of research on publication business models and on the scientific publication

http://ec.europa.eu/research/science-society/document_library/pdf_06/communication-022007_en.pdf

‘Specific Guidelines within Specific Programmes’

- In March, a draft FP7 Grant Agreement required grantees to submit electronic copies of their journal articles to the EC and permits the EC to redistribute them online.
- The draft was adopted on 10th April:
  - Article II.12.2, *Information and communication*....The Commission shall be authorised to publish, in whatever form and on or by whatever medium, the following information:...the publishable reports submitted to it; ...
  - Article II.30.4, *Dissemination*....Furthermore, an electronic copy of the published version or the final manuscript accepted for publication shall also be provided to the Commission at the same time for the purpose set out in Article II.12.2 if this does not infringe any rights of third parties....
- Peter Suber describes this as ‘the heart of an OA mandate.’

European Commission Green Paper

- The EC has just published a Green Paper – The European Research Area: New Perspectives

- **Effective knowledge sharing.** This should consist of: open and easy access to the public knowledge base; ….; innovative communication channels to give the public at large access to scientific knowledge, the means to discuss research agendas and the curiosity to learn more about science.

- Generation, diffusion and exploitation of knowledge are at the core of the research system. In particular, access to knowledge generated by the public research base and its use by business and policymakers lie at the heart of the European Research Area, where knowledge must circulate without barriers throughout the whole society.

European Commission Green Paper

- Europe should stimulate the development of a 'continuum' of accessible and interlinked scientific information from raw data to publications, within and across different communities and countries.

- **Is there a need for EU-level policies and practices to improve and ensure open access to and dissemination of raw data and peer-reviewed publications from publicly funded research results?**

- Invites researchers and research organisations, higher education establishments, businesses, civil society organisations and citizens directly, to engage in the debate and to respond to the public consultation launched with this Green Paper (by 31 August 2007).

Access to Data

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Science, Technology and Innovation for the 21st Century. Meeting of the OECD Committee for Scientific and Technological Policy at Ministerial Level, 29-30 January 2004

Recognising that an optimum international exchange of data, information and knowledge contributes decisively to the advancement of scientific research and innovation;

Recognising that open access to, and unrestricted use of, data promotes scientific progress and facilitates the training of researchers;

Recognising that open access will maximise the value derived from public investments in data collection efforts;

DECLARE THEIR COMMITMENT TO:

Work towards the establishment of access regimes for digital research data from public funding in accordance with the following objectives and principles:

Openness, Transparency, Legal conformity, Formal responsibility, Professionalism, Protection of intellectual property, **Interoperability**, Quality and security, Efficiency, Accountability.

http://www.oecd.org/document/0,2340,en_2649_34487_25998799_1_1_1_1,00.html

Access to Data

Allowing data to be used, reused, repurposed, shared, mined, etc. makes it more valuable:

- Human Genome Project
- Clinical trials
- Weather and environmental data,
- Chemical structures, etc. etc.

US Plans to Store Research Data

- The Interagency Working Group on Digital Data (IWGDD) is reported to be drawing-up a draft strategic plan on data
- The IWGDD represents 22 US funding agencies, including the National Science Foundation, NIH, and NASA
- 'One option is to create a national network of online data repositories, funded by the government and staffed by dedicated computing and archiving professionals.'
- The NIH already requires research applications in excess of $500,000 per year '…to include a plan for sharing final research data for research purposes, or state why data sharing is not possible.'

Nature, Vol. 446, p. 354, 22 March 2007

Self-Archiving Policies

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Research Organisations:

- CERN – Requires researchers to deposit papers in the CERN repository
- CNRS (Centre National de la recherche scientifique)

Institutions:

- Queensland University of Technology
- Bielefeld University
- University of Bremen
- University of Hamburg
- Universidade do Minho
- University of Southampton
- Université de Liège
- Case Western Reserve University
- University of Oslo

http://www.eprints.org/signup/fulllist.php

Open Access – A Policy Issue

Open Access policies are:

- Welcomed by authors
- Complied with by authors
- Compatible with copyright and respect authors' moral rights
- Compatible with patent registration
- Respectful of academic and intellectual freedoms
- Aligned with the aims of most funding bodies and institutions
- Effective!

Policy Issues - The Future

- The last three years has seen funding agencies in Europe and US begin to take an interest in open access
- They see dissemination as part of the research process and publication costs as research costs
- We will continue to see increasing high-level support for open access
- We can expect further policy statements over the next year, some of which will mandate deposit in suitable repositories
- These policies and high-level support will underpin work on institutional repositories

Policy Issues – What we need to do next

- We need to engage policy makers at all levels:
  - Within institutions
  - Within funding bodies
  - Nationally at the political level (and open access is a non-partisan issue).
  - Internationally at bodies such as the EC, UN, OECD, etc.
- We need to show widespread support for open access, so please sign (and encourage others to sign) the European and US petitions in favour of open access:
  - European - http://www.ec-petition.eu/
  - US - http://www.arl.org/petition/
- We need to continue to build and develop excellent open access resources

Create Change!

“It is one of the noblest duties of a university to advance knowledge, and to diffuse it not merely among those who can attend the daily lectures--but far and wide. ”

Daniel Coit Gilman, First President, Johns Hopkins University, 1878 (on the university press)

“ An old tradition and a new technology have converged to make possible an unprecedented public good. ”

Budapest Open Access Initiative, Feb. 14, 2002

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