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Assessing "impact " in peer review:

update from the European Commission

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ESF Member Organisation Forum, 8-9 February 2011

- **EU-US Workshop on peer review and "broader impact"**
  - 13-14 December 2010
- **Lessons learned in assessing "impact" in successive EC Framework Programmes**
  - and prospects for the remainder of FP7

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EU/US workshop on peer review: *Assessing "broader impact" in research grant applications*

Brussels, 13-14 December 2010

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Context

- **Funding agencies worldwide are being called upon to demonstrate greater accountability**
  - How to best integrate societal impacts in the funding process?
- **NSF introduced "broader impact" alongside "intellectual merit" in late 1990s**
  - for example, links to education, the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.), and the benefits of the proposed activity to society.
- **But implementation problematic for many**
  - Difficult to understand
  - Applicants and reviewers feel ill-equipped to address it
- **US National Science Board is conducting a review**
- **NSF-funded study by University of North Texas (CAPR)**
  - See http://csid-capr.unt.edu/
- **Similar reflections by the Commission**

- **Brussels workshop aimed to take stock of current practices and to consider options for the future.**
  - Examined differences and similarities in approach across the various agencies, on both sides of the Atlantic, and the logic behind the choices made.
- **A timely reflection for the Commission, against the backdrop of:**
  - Debate on simplification
  - Research as part of a broader innovation chain
  - Orientations for the rest of FP7, and future research and innovation programmes
- **Brought together practitioners and specialists from both US and European agencies to help frame the coming debate.**
  - Drawing on ground work and interim findings of the CAPR study team.

National Institute for Health	US
National Science Foundation	US
Arizona State University	US
University of North Texas	US
Colorado School of Mines	US
Fonds National de la Recherche	Luxembourg
Swedish Research Council	Sweden
Slovenian Research Agency	Slovenia
Deutsche Forschungsgemeinschaft	Germany
Research Councils UK	UK
ETH-Zurich	Switzerland
ERC Scientific Council (President)	
European Science Foundation	
European Commission	
European Research Council Executive Agency	
Research Executive Agency	

Topics discussed (1)

- **Definition of Impact**
  - Eg. "sustained powerful influence"
- **Impact on what?**
  - Scientific field
  - Across disciplines
  - Wider still (society, economy, sustainable development etc)
- **Who can judge impact?**
  - "Every scientist is a citizen"
- **How to maximise impact?**
  - Communication, public engagement, involvement of users
  - "Pathways to impact"
  - How to assess this by peer review

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Topics discussed (2)

- **Intellectual merit ("S/T quality") and Impact**
  - De-correlating the two…can we? Should we?
  - "Scientific excellence is necessary but not sufficient"
  - Relative importance
    - ✓ Set out weighting in advance
    - ✓ Let reviewers judge relative weighting
    - ✓ Let programme managers decide afterwards
- **Linking agency mission statement with evaluation criteria**
- **Linking ex ante proposal evaluation with project monitoring**
- **Linking ex ante proposal evaluation with ex post impact assessment**

A workshop report will follow

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Lessons learned in assessing “impact” in the EC Framework Programme

- **Three aspects to "Broader impact" in relation to research projects:**

1. Definition of calls for proposals – what areas are open for funding?
2. Potential influence of individual research projects
3. The mechanisms planned by researchers within the project on outreach, public engagement, education etc

- **From FP5 (1998-2002) to FP7 (2007-2013)**
  - A progressive ‘reining in’ of the notion of impact in proposal evaluation
- **FP5: three out of five criteria related to impact**
  - Wide ranging – referring to EU-wide objectives
  - Plus unscored criteria
- **FP7: one out of three criteria,**
  - tailored to research area
- **And: Creation of ERC – entirely ‘bottom-up’ calls**
  - Impact on scientific landscape is a sub-criterion

FP7 Evaluation criteria (2006-2013)

"Cooperation" & "Capacities"

1. S&T Quality (relevant to the topic of the call)

- *Concept, objective, progress beyond state-of-art, work-plan*

2. Implementation

- *Management*
- *Individual participants and consortium as*
- *Allocation of resources*

Example:. Structure European epigenetic research…and generate the technology, knowledge and know-how to increase Europe's competitive position in exploiting the vast amount of epigenome data that will become available in the near future

3. Impact

- *Contribution to "expected impacts" listed in work programme*
- *Plans for dissemination/exploitation*

Including communication with the public at large

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FP7 "Frontier research" (ERC)

- **Quality of Principal investigator**
  - *research output/track record)*
  - *(Intellectual capacity and creativity*
- **Quality of research project**
  - *Ground-breaking*
  - ***Potential impact***
  - *Methodology*
  - *High-gain/high -risk balance*
- **Research environment**
  - *Contribution to the project*
  - *Other project participants*

In terms of new and important, scientific, technological or scholarly horizons;
research environment and capabilities for frontier research in Europe.

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Impact criterion: the experience of FP7 (2007-2013)

- ***Lesson learned from the past:***

  Don't try to make EU policy via evaluation criteria!

- ***Instead, "societal impact" largely determined upstream***
  - *Reseach areas in FP decisions (political choices)*
  - *Research topics announced in the calls*
- ***Proposal evaluation focuses more on scientific excellence***
  - *But still not enough, some would argue*
- ***Evaluation of impact limited to mid-term/mid-range; tailored to the different research areas***
  - *Mostly (but not entirely) referring to impacts on S/T landscape*
- ***Implementation still needs attention***

For the last two years of FP7

- **beefing up the guidance given to applicants;**
- **improving the drafting of the "expected impact statements"**
  - links with broader programme objectives, including innovation,
  - ensuring that they are can be interpreted operationally;
- **reviewing the composition of peer review panels**
  - including individuals more clearly attuned to impact aspects, if necessary;
- **providing clear briefing to all experts.**

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...As we also turn attention to the next Programme

- **Green paper on a Common Strategic Framework to be published tomorrow**
  - Broad stakeholder consultation
  - "wrap up" event on 10 June in Brussels
- **Commission due to table its package of proposals by the end of 2011**
- **Debates in the inter-institutional arena during 2011-2013**
- **Launch in 2014**

Thank you for your attention!

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The FP5 Evaluation criteria (1998-2002)

1. *Scientific/Technological quality and innovation*
2. *Community added value and contribution to EU policies*
3. *Contribution to Community social objectives*
4. *Economic development and S&T prospects*
5. *Resources, Partnership and Management*

FP5 "impact" in detail (1)

Community added value and contribution to EU policies

- The **European dimension of the problem**. The extent to which the project would contribute to solving problems at the European level and that the expected impact of carrying out the work at European level would be greater than the sum of the impacts of national projects;
- The **European added value of the consortium** - the need to establish a critical mass in human and financial terms and the combination of complementary expertise and resources available Europe-wide in different organisations;
- The project's contribution to the implementation or the evolution of one or more **EU policies** (including "horizontal" policies, such as towards SMEs, etc.) or addressing problems connected with standardisation and regulation.

FP5 "impact" in detail (2)

Contribution to Community social objectives

- The contribution of the project to improving the **quality of life and health and safety** (including working conditions);
- The contribution of the project to improving **employment** prospects and the use and development of skills in Europe;
- The contribution of the project to **preserving and/or enhancing the environment** and the minimum use/conservation of natural resources.

FP5 "impact" in detail (3)

Economic development and S&T prospects

- The possible contribution to growth, in particular the **usefulness and range of applications** and quality of the **exploitation plans** , including the credibility of the partners to carry out the exploitation activities for the RTD results arising from the proposed project and/or the wider economic impact of the project;
- The **strategic impact** of the proposed project and its potential to improve competitiveness and the development of applications markets for the partners and the users of the RTD results;
- The contribution to European technological progress and in particular the **dissemination strategies** for the expected results, choice of target groups, etc

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FP5 additional citeria

(not scored –comments only)

- Have relevant **ethical issues** been adequately taken into account in the preparation of the proposal?
- is the proposed research compliant with **fundamental ethical principles**, if relevant?
- Is the research proposed **in line with Community policies**?
- if relevant; have appropriate **safeguards/impact assessment regarding Community policies (e.g. environment)** been taken into account, where necessary?

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Impact: The experience of FP5 (1998-2002)

- ***Attempt to apply the criteria used to shape the programme, also for proposal evaluation***
- ***Large relative weight given to non-scientific criteria***
- ***Very complicated, multi-faceted questions***
  - *Often difficult to apply at proposal-level*
- ***Some scored, some just commented***
- ***Needed two sets of experts: scientific and "strategic***
  - *But the latter not always easy to identify*

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The FP6 Evaluation criteria (2002-2006)

1. Relevance

   The extent to which the proposed project addresses the objectives of the work programme

2. Potential impact

3. S&T excellence

4. Quality of the consortium

5. Quality of the management

6. Mobilisation of resources

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FP6 "impact" in detail (1)

POTENTIAL IMPACT

- The extent to which the proposed project is suitably ambitious in terms of its strategic impact on **reinforcing competitiveness** (including that of SMEs) or on solving **societal problems**.
- The extent to which the **innovation-related activities and exploitation and/or dissemination** plans are adequate to ensure optimal use of the project results.
- The extent to which the proposal demonstrates a clear **added value in carrying out the work at European level** and takes account of research activities at national level and under European initiatives (e.g. Eureka).

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FP6 additional citeria
(not scored –comments only)

- Are there **gender issues** associated with the subject of the proposal? If so, have they been adequately taken into account?
- Have the applicants identified the potential **ethical and/or safety aspects** of the proposed research regarding its objectives, the methodology and the possible implications of the results?
- To what extent does the proposal demonstrate a readiness to **engage with actors beyond the research community and the public as a whole**, to help spread awareness and knowledge and to explore the wider societal implications of the proposed work?
- Have the **synergies with education** at all levels been clearly set out?
- If **third country participation** is envisaged in the proposal, is it well justified and the participation well integrated in the activities?

FP7 Evaluation criteria (2006-2013)

"Cooperation" & "Capacities"

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