

DG RTD ANNUAL REPORT ON PROGRAMME EVALUATION ACTIVITIES 2011

Author: Unit A.6 "Ex post Evaluation and Reporting"

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1. INTRODUCTION AND CONTEXT

This is the first Annual Report on Programme Evaluation Activities in DG Research and Innovation. This initiative aims to communicate about the numerous evaluation activities and highlight their main findings and outcomes, contributing to increase the visibility of evaluations. Likewise, it aims to share good practice on how to implement and manage an evaluation study, as well as on how to follow-up on the recommendations contained in the evaluation studies. In a longer-term perspective, these reports may also be used as a tool to monitor the use of evaluation results.

The DG RTD's Annual Report on Programme Evaluation Activities should be seen in the context of the strong emphasis placed on evaluation by the European Commission. The new working methods of the Commission entail that an evaluation of the existing policy framework will be available for all significant new initiatives and that all corresponding proposals for a revision or new measure should be based on the evaluation which forms the basis for the impact assessment.

1.1 Scope of the Report

This Report provides a comprehensive overview of the evaluation studies completed in the year 2011 by DG RTD. In addition to the core analytical text, a summary of findings of each evaluation study is presented in Annex 1.

This report is focused on *programme evaluation*, which describes the activities used to assess a programme, including typically its rationale, implementation and achievements. Programme evaluation leads to judgements on the performance and utility of a programme, according to its results, impacts and needs it aims to satisfy. This is often described as "public intervention".

This report also presents the outcomes of assessment, review and monitoring studies.

Terms such as *assessment* and *review* are widely used to refer to ex post programme evaluation. There is no hard and fast rule on when to use these terms. However, reviews are often considered to be "softer" types of exercise, usually with less use of sophisticated data gathering, and lighter processes. This should not be confused with the term "programme review", which can be described as an adjustment (notably budgetary) of the intervention, often as a consequence of the evaluation.

Typically, *monitoring* is carried out during the lifetime of a programme or intervention, with the aim to provide information to the programme manager. Unlike evaluation, monitoring does not deal with impacts. The linkage between monitoring and evaluation is very important since monitoring can be a source of systematic evidence to support ex post evaluation.

The Report therefore includes different types of evaluation studies, which still share common features: firstly, they are based on judgement; secondly, they are not a single act, but rather an accumulation of evidence, a process.

1.2 The Evaluation System at DG Research and Innovation

The European Commission has implemented a decentralised evaluation system, with each Directorate-General being responsible for the regular evaluation of their activities¹. The evaluation functions of all Directorates General work together in the Commission's Evaluation Network, run by the Secretariat General, where evaluation-related issues are discussed and good practice shared.

Within DG Research and Innovation, Unit A.6 "Ex post Evaluation and Reporting" ensures the central programme evaluation function in the DG. For that purpose, the Unit develops the strategy for evaluation and monitoring of the research and innovation funding programmes, organises evaluation and monitoring activities at Framework Programme level, and supervises the overall evaluation activities within the DG.

Evaluation activities are included in the Strategic Planning and Programming (SPP) cycle. A multi-annual evaluation plan and an annual evaluation plan are attached to each DG's annual Management Plan.

This Report was produced by Unit A.6 "Ex post Evaluation and Reporting" in cooperation with the Interservice RTD Evaluation Network, and based on data provided by operational Units. The methodology is described in Annex 2.

Feedback from readers is most welcome. Please send comments to:
European Commission
DG Research & Innovation
Unit A.6 "Ex post Evaluation and Reporting"
Peter Fisch
SDME 02/41
BE - 1049 Brussels
Peter.Fisch@ec.europa.eu

Further information and reports can also be found on the [DG RTD Evaluation website](#).

¹ Evaluation started to be introduced in the European Commission practices in the 1980ies. Its development has accelerated since the adoption of the Communication "[Focus on Results: Strengthening Evaluation of Commission activities](#)" by the Commission in 2000. The 2002 Communication on [Evaluation Standards and Good Practice](#) put forward the quality standards for evaluation. The 2007 Communication "[Responding to Strategic Needs: Reinforcing the use of evaluation](#)" highlighted the need for further using the results of evaluation, thus better linking evaluation to policy-making.

2. ACTIVITY REPORT

This section provides an overview of the twenty-one evaluation studies and reports with evaluative information which were completed by DG Research and Innovation in 2011².

2.1 Key features

In 2011, fifteen evaluation studies and six reports with evaluative information were completed by DG RTD³. *Please see the list on the following page.*

A large majority of these studies and reports are both retrospective and prospective. Furthermore, the fifteen evaluation studies include one *ex ante* evaluation, four *interim* evaluations, and ten *ex post* evaluations.

2.2 FP7 coverage

Out of these twenty-one evaluation studies and reports, eleven cover themes, activities and initiatives within the Specific Programme Cooperation⁴; nine address areas in the Specific Programme Capacities, and one, a programme associated with EURATOM FP7.

Policy Strategy and Coordination 3					
Nanosciences, nanotechnologies, materials and new production technologies 2					
Environment (including Climate Change) 2					
Energy 1					
Food, Agriculture and Fisheries, and Biotechnology 1	Science in Society 5				
Transport (including aeronautics) 1	Regions of Knowledge 2				
Health 1	International Cooperation 2	Fusion Energy 1			
Cooperation 11	Capacities 9	Euratom 1	Ideas	People	JRC

Chart 1. Mapping of FP7 coverage

² Final report adopted in 2011. Except for the ERAB studies: the ERAB studies presented hereafter are those which outcomes were used to produce ERAB's recommendations in 2011.

³ Building on the DG RTD's Evaluation Plan, this report differentiates between an "evaluation study", which aims to assess the effectiveness and impact of a programme and provides evidence and guidance to make sound decisions, and a "report with evaluative information" which primarily aims to enhance understanding and knowledge, and is not tied to the strategic planning and programming cycle.

⁴ Find out more about FP7 Specific Programmes at: http://cordis.europa.eu/fp7/info-programmes_en.html

Nr	Title of the evaluation study	Abbreviated title	Type of evaluation	Service
1	Assessing the Effectiveness of Simplification Measures under FP7	Simplification	ex post	RTD A.6
2	Long-Term Impact of the Framework Programmes	Long-Term Impact	ex post	RTD A.6
3	Impact Assessment of the Regions of Knowledge Programme	Regions of Knowledge Programme	ex post	RTD C.5
4	Review of S&T Cooperation between the European Union and the Republic of Argentina (2006-2010)	S&T Cooperation EU - Argentina	ex post	RTD D.1
5	Interim Evaluation of the Innovative Medicines Initiative Joint Undertaking (IMI JU)	Interim Evaluation IMI JU	interim	RTD F.2
6	Ex post Evaluation of FP6-NMP - Project Level	FP6-NMP - Project Level	ex post	RTD G.1
7	Meta-analysis of "Bio-Technology", "Agriculture", "Food", "Marine and Maritime" and Horizontal themes	Bio-Technology, Agriculture, Food, Marine and Maritime & Horizontal Themes	ex post	RTD E.1
8	First Interim Evaluation of the Fuel Cells and Hydrogen Joint Undertaking (FCH JU)	Interim Evaluation FCH JU	interim	RTD K.2
9	Impact Assessment of the Research Potential Programme	Research Potential Programme	ex post	RTD C.5
10	Review of S&T Cooperation between the European Union and the Republic of Chile (2007-2011)	S&T Cooperation EU - Chile	ex post	RTD D.1
11	Interim Assessment of the Research Public Private Partnerships in the European Economic Recovery Plan: Energy-efficient Buildings, Factories of the Future, and European Green Cars Initiative	Research PPPs	interim	RTD G.2
12	Stock-Taking of Results and Impacts of EU-Funded Environmental Research	EU-Funded Environmental Research	ex post	RTD I.1
13	State of the Art and Forward-Looking Analysis of Environmental Research and Innovation	Environmental Research and Innovation	ex ante	RTD I.1
14	Fusion Energy - State of Development and Future Role	Fusion Energy	ex post	RTD K.1
15	Interim Evaluation of EU FP7 Transport Research, notably within Theme 7 of the Cooperation Programme "Transport (including Aeronautics)"	EU FP7 Transport Research	interim	RTD H.1

Nr	Title of the report with evaluative information	Abbreviated title	Service
16	Fourth FP7 Monitoring Report (Monitoring Report 2010)	Monitoring Report 2010	RTD A.6
17	The Innovation Union - Challenges for R&I Policies Considering the Economic Impact	ERAB study – Innovation Union	RTD C.2
18	Main Challenges and Impact of Emerging and Generic Technologies at the European and Global Level and their Policy Implications	ERAB study – Emerging and Generic Technologies	RTD C.2
19	The Role of Different Funding Models in Stimulating the Creation of Innovative New Companies - What is the Most Appropriate Model for Europe?	ERAB study – Funding Models	RTD C.2
20	Investing in Research and Innovation for Grand Challenges	ERAB study – Grand Challenges	RTD C.2
21	More Frontier Research for Europe, a Venture Approach for Funding High Risk-High Gain Research	ERAB study – Frontier Research	RTD C.2

Table 1. List of evaluation studies and reports with evaluative information completed in 2011

2.3 Motivation

The evaluation studies and reports completed in 2011 were motivated by five main reasons, as described in the table below:

Studies launched on the basis of legal requirement	5 - Interim Evaluation IMI JU ⁵ 8 - Interim Evaluation FCH JU ⁶ 16 - Monitoring Report 2010 ⁷
Studies focusing on programme cycle in hand to possibly adjust it to meet its goals in the future calls for proposals or initiatives to be launched under the programme	3 - Regions of Knowledge Programme 4 - S&T Cooperation EU - Argentina 7 - Bio-Technology, Agriculture, Food, Marine and Maritime & Horizontal Themes 9 - Research Potential Programme 10 - S&T Cooperation EU - Chile 11 - Research PPPs 15 - EU FP7 Transport Research
Studies and reports to support the preparation of the impact assessment of the future Programmes	- <u>Horizon 2020</u> : 1 - Simplification 6 - FP6-NMP - Project Level 12 - EU-Funded Environmental Research 13 - Environmental Research and Innovation - <u>Next Euratom Research and Training Programme</u> : 14 - Fusion Energy
Studies to support the work of the European Research Area Board (ERAB) in the performance of its tasks to advise the European Commission	17 - ERAB study – Innovation Union 18 - ERAB study – Emerging and Generic Technologies 19 - ERAB study – Funding Models 20 - ERAB study – Grand Challenges 21 - ERAB study – Frontier Research
Gaining a better general understanding of the impacts of FP activities	2 – Long-Term Impact

Table 2. Background

⁵ Art. 11.2 of the [Council Regulation \(EC\) No 73/2008 of 20 December 2007 setting up the Joint Undertaking for the implementation of the Joint Technology Initiative on Innovative Medicines.](#)

⁶ Article 11.2 of the [Council Regulation \(EC\) No 521/2008 of 30 May 2008 setting up the Fuel Cells and Hydrogen Joint Undertaking.](#)

⁷ Article 7.1 of the [Decision No 1982/2006/EC of 18 December 2006 concerning the Seventh Framework Programme of the EC for research, technological development and demonstration activities \(2007-2013\).](#)

3. IMPLEMENTATION

This section provides facts and figures about the implementation of the evaluation studies and reports, from both contractual and methodological points of view.

3.1 Key features

The evaluation studies and reports with evaluative information constitute very different exercises, with diverse duration and cost.

a) Duration

In 2011, it took from three to eighteen months to produce a study or a report. Two evaluations were launched in 2009, nine in 2010, and ten in 2011. The average duration to carry out an evaluation study is eight months, and is shortened to four months for reports with evaluative information.

b) Cost

DG RTD spent € 2,598,450 on the twenty-one evaluation studies and reports with evaluative information completed in 2011.

The cost of *evaluation studies* ranges from € 14,400 to € 549,800 with an average cost of € 162,594.

As regards the five *reports with evaluative information* (i.e. without counting the Fourth FP7 Monitoring Report, which is an internal Commission-run exercise⁸), their cost spreads from € 5,000 to € 50,000 with an average figure at € 31,908.

3.2 Methodology

The methodology used for these studies and reports relies on a combination of techniques, coupling on average three techniques, with desk research/ synthesis of literature/project database analysis as a starting point in most of the studies.

Fifteen studies included interviews; thirteen, a case study analysis; and nine, a survey. Network analysis was used in four studies; bibliometric and comparative analysis were respectively performed in three evaluation studies.

⁸ This Annual FP7 Monitoring Report is coordinated by Unit A.6 "Ex post Evaluation and Reporting" at DG RTD, with contributions from the DGs and executive agencies in charge of implementing FP7's activities.

Number of the study	Survey	Interviews	Case studies	Desk research	Bibliometric analysis	Network analysis	Comparative analysis	SWOT	Other
1- Simplification		X	X	X		X			X
2- Long-term impact		X	X	X	X				X
3- Regions of Knowledge Programme	X	X	X			X			
4- S&T Cooperation EU-Argentina	X	X	X				X		
5- Interim Evaluation of IMI JU		X		X					
6- Ex post Evaluation FP6-NMP – Project level	X	X	X						
7- Bio-Technology, Agriculture, Food, Marine and Maritime and Horizontal Themes	X	X	X		X		X		
8- Interim Evaluation FCH JU	X	X		X					
9- Research Potential Programme		X	X			X			
10-S&T Cooperation EU-Chile	X	X	X				X		
11-Research PPPs	X	X		X					
12-EU-Funded Environmental Research	X			X	X	X			
13-Environmental Research and Innovation				X					X
14-Fusion Energy		X	X	X					
15-EU FP7 Transport Research Theme		X	X	X		X			X
16-Monitoring Report 2010	X			X					X
17-ERAB study – Innovation Union				X					
18 - ERAB study – Emerging and Generic Technologies				X					
19- ERAB study – Funding Models		X	X	X					X
20- ERAB study – Investing for Grand Challenges			X	X	X			X	
21-ERAB study – Frontier Research		X	X	X				X	

Table 3. Methodology of the evaluation studies and reports with evaluative information

Four points should be noted in connection with these comments.

Firstly, none of these studies and reports used any modelling and simulation techniques, which involve a reduced representation of observable socio-economic phenomena through empirical (statistical), analytical or computational models. In contrast, a large majority of these studies and reports is based on techniques related to observational⁹ and opinion-based¹⁰ investigation modes, which have observation and description of facts in common.

Secondly, the combination of techniques is revealing about their effective complementarity. Case studies, field studies, descriptive statistics and meta-evaluations are examples of the observational mode, whereas questionnaire-based (opinion) surveys, structured interviews, expert panels, are frequently used in the opinion-based mode. As illustrated in Table 3 above, studies and reports generally resort to techniques from both modes.

Thirdly, organising workshops (internal or with external stakeholders) is a usual step in the work process, in particular at its mid-term (presentation of the interim report). They are called "validation workshops" and aim to discuss the preliminary results of the study.

In addition, two reports conducted by expert groups, which consisted in compiling and analysing existing data, were based on the outcomes from a workshop designed to carry out a SWOT ("Strengths, Weaknesses, Opportunities, Threats") analysis.

Finally, the number of methodological tools correlates with the cost of the study or report.

3.3 Quality Assessment

The quality of evaluation studies is mainly reported as "good" to "very good"¹¹.

The quality of one study - "EU-Funded Environmental Research" (12) - is assessed as "excellent" for each of the five criteria used here: relevance, reliability, helpful recommendations, fulfilment of contractual obligations and useful inputs for better evidence base.

⁹ A group of quantitative, quasi-quantitative or qualitative methods by which the investigator simply records in a consistent way the "state of the world" related to the issue under study without interfering with it, often in the form of detailed narratives or summaries of quantitative data.

¹⁰ A group of predominantly qualitative or quasi-quantitative methods which record and measure the opinion on specific issues of targeted populations, samples of targeted populations or targeted individuals, usually experts or stakeholders.

¹¹ Based on data received from fourteen evaluation studies.

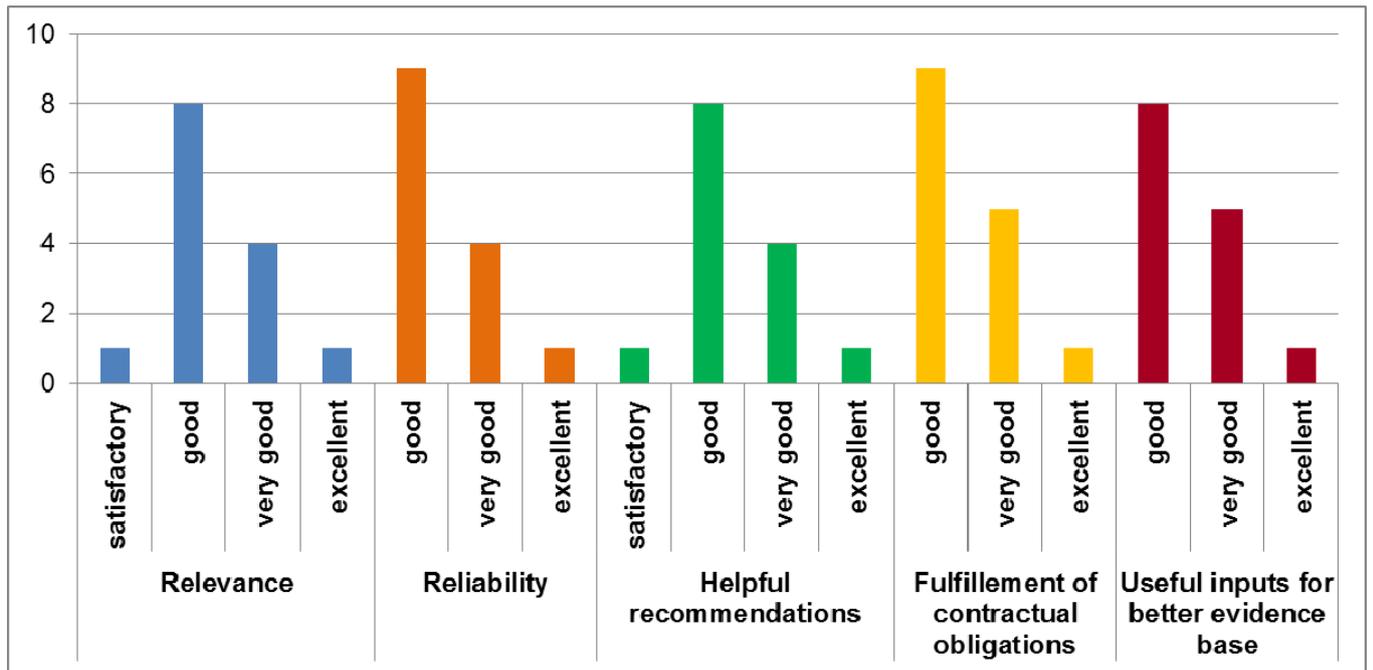


Chart 2. Quality Assessment of evaluation studies

4. KEY FINDINGS

This section picks out a number of major findings from the evaluation studies and reports. The list of findings presented hereafter is not exhaustive; further information and weblinks to final reports can be found in Annex 1.

4.1 Fostering excellence in science

The evaluations underline that the Framework Programmes have succeeded in involving Europe's best researchers and institutes, picking up emerging fields of science or maintaining EU competitiveness in fields, and in setting research agendas.

- Outcomes from the evaluation study on Bio-Technology, Agriculture, Food, Marine and Maritime & Horizontal Themes (7) underline that FP projects have had a substantial impact on improving the knowledge base in this field, through high scientific productivity combined with novel technological output.

Furthermore, the impact of projects on the development and consolidation of the ERA is found to be very high: 84% of coordinators consider that participation in FP projects has consolidated their permanent network of partners, and half of them stated that their participation has contributed to launching new European projects.

- Similarly, the evaluation study on EU-Funded Environmental Research (12) shows that FP Environment research is mainly relevant to impacts related to research excellence.

FP Environment projects achieve their most positive contributions in research excellence with a very positive contribution to high quality publications significantly supporting leading European countries to compete internationally in terms of publications and citations, as well as an upward trend in collaborative publications both within the EU and beyond, mainly with China, Russia and India.

4.2 Strengthening transnational networks and the European Research Area

The evaluation studies show that FP7 significantly contributes to helping grow and strengthen European-wide partnerships.

- The FP7 Transport Research programme (15) has enabled establishing, developing and fortifying transnational networks, with participants having previous experiences of cooperation together forming the core of the projects, then joined by new partners with complementary competencies according to the specific needs of the project. In almost all projects, the level of cooperation between the partners is strong and effective.

Moreover, the FP7 Transport Research programme has a broadening effect: in fact, the programme involves participants beyond the pattern of national specialisation in R&D.

In particular, efforts towards widening participation are noteworthy. FP7 coordination and support actions that fund schemes are suitable for reinforcing the integration of EU-12 Member States into the European research landscape.

- In the survey carried out in the Impact Assessment of the Regions of Knowledge Programme (RoK) (3), 81% of respondents (n= 194 project participants in a RoK project) said that "establishing partnerships" describes best their "organisation's initial expectations that led to (their) participation in the cluster under the RoK project".

About two thirds of them (61% of positive answers) also indicated the formation of new, long-term relationships with clusters at the EU level as one of the most prominent potential impacts of their projects.

Partnerships established during the projects are at the core of a potential sustainability of the benefits of the RoK projects, and from that perspective, the interviewees were highly positive. The RoK has had positive impacts in terms of structuring and/ or strengthening the participants' international networks.

- In the field of NMP, the evaluation study (6) shows that a vast majority of participants in the FP6-NMP programme (n=1181 FP6-NMP participants) think that this programme has been a strategic tool to elaborate novel RTD activities that would not have been able to have been performed otherwise. The main strength of the programme has been its unique capability to bring together the best European, and in many cases international, research groups producing impacts on participant's visibility and trans-European networking through adequate – in most cases although with some issues - funding.

4.3 Enhancing cooperation with industry

The interim evaluations of the IMI JU (5) and of the FCH JU (8) provide valuable data about a strengthened partnership between PROs and the industry.

- Through the IMI JU, Europe has succeeded in establishing a new business model between public and private sectors, which unites research strengths across European pharmaceutical industry, academia and Small and Medium Enterprises (SMEs).

The financial resources available to the IMI JU, totalling € 2 billion, make this the largest public private partnership in health research in the world.

- With strong stakeholder participation (the direct participation of SMEs in the FCH JU programmes has so far proved better than in FP7 overall), the FCH JU is a unique platform and instrument for FCH at European level involving the most important stakeholders in defining objectives and implementing and monitoring activities towards deployment objectives in the FCH. It contributes to ensuring a steady industry-led development towards longer term targets through varying economic cycles.

Evaluations of thematic programmes of FP also highlight this achievement.

- For instance, the FP6-NMP programme was characterised by a strong participation of business/industry organisations complemented by an almost equal share of education and research organisations.

In total, out of the 2.798 organisations participating in 449 NMP projects during FP6, 55% were industrial organisations, 18% were higher education institutes, 17% research institutes (and 10% other types of organisations). The launch of specific calls for SMEs explains why the average participation of SMEs in FP6-NMP is higher than for FP6 as a whole.

Moreover, the study highlights that the main players in the FP6-NMP programme participated mostly for strategic reasons and the strong long-term market orientation of research organisations complemented the shorter-term business perspective of industry and SMEs in particular, with many of these associations identified as very productive.

- In the field of environmental research (12), a survey shows that the vast majority of FP7 industrial partners (75%) acknowledge the value of the FPs in consolidating their networks while around 60% state that the project results enhance the competitiveness of the participants. From the business perspective, FP Environment has brought positive and sustainable changes in the way research is carried out and proved to be a valuable means to access additional funding and thus expand research objectives.

4.4 Valorising research results into new products, processes and services

Some of the evaluation studies provide valuable evidence about the contribution of the Framework Programmes to developing innovative products, processes and services which have an impact on competitiveness and job creation.

- For example, the study on Bio-Technology, Agriculture, Food, Marine and Maritime & Horizontal Themes (7) estimates that 340 firms in the manufacturing sector of food and beverages that have introduced a new product or new process have received funds from FP5 and FP6.

Furthermore, in this field, 64% of coordinators believe that EU-funded research projects have enhanced the competitiveness of the participants. Almost 5% of the EU-funded projects under FP5 and FP6 have directly led to the creation of new companies; 82% of projects created temporary jobs during the project's implementation and 35% created new posts after the end of the project.

- The FP6-NMP programme also performed well in that the immediate outputs generated by projects were in line with the strategic objectives of the programme, i.e. to foster innovation and to promote the "transformation of industry".

This programme improved the operational processes of many organisations and led to product and process innovations. A quarter of the FP6-NMP population surveyed (n=1181 FP6-NMP participants) stated that

they had realised or expect to realise in the near future commercial returns through the exploitation of their FP6-NMP project results, with around half of these expecting commercial returns of more than € 100,000 on an annual basis.

4.5 In the long-term, FP plays a key role in coordinating research and innovation

The Long-Term Impact study (2) provides a detailed analysis of the impacts of FP4 and FP5 in five selected areas: Quantum Information Processing Computing, Brain Research, Stratospheric Ozone research, Solar Photovoltaics, and Automotive. It also explores the potential long-term impact of the Manufature Technology Platform.

- In Quantum Information Processing Computing (QIPC), the Framework Programme picked up the emergence of a new field of science and technology, helped it establish scientific and technological agendas, organise and grow in Europe to such an extent that the EU appears fully competitive with the other world R&D leaders.
- The Framework Programme has been less decisive in Brain Research, which was already well established at the point where FP funding began. It has nonetheless made important contributions in imaging and helped support and integrate the European research community in a period when the USA has been investing much more public money in the field than the European Member States have, in sum.
- In Stratospheric Ozone Research (O₃), the Framework Programme has made a major contribution by growing and helping coordinate the European research community. It has helped the European research community move from lagging far behind the USA to working at the global frontier.
- In Solar Photovoltaics (Solar PV), the Framework Programme has expanded the European research community and enabled it to work at the technological frontier in first, second and third-generation Solar Photovoltaics.
- In the Automotive industry, the Framework Programme's role has been to sustain longer-term research and development in areas such as fuel efficiency, emissions and safety. Exploiting the industry's desire to self-organise to define R&D directions and road maps has been a powerful way to coordinate the longer-term R&D effort and has supported a long series of product and process innovations that help maintain Europe's position among the global leaders in this industry.
- The Manufature Technology Platform underlines the importance of coordination and self-organisation as mechanisms to integrate research. It has defined a research agenda about which there is broad agreement in manufacturing industry, recruited large numbers of partners and helped define twenty-six national or regional level platforms.

The most important commonality among these case studies is the importance of the FP's role in coordinating research and innovation through the support of stakeholder communities' self-organisation, as illustrated in Table 4.

Impact mechanisms	QIPC	Brain Research	O ₃	Solar PV	Auto-motive	Manu-future
Discovery	X	X	X	X		
Creating new knowledge outputs, more generally, especially moving towards applications	X	X	X	X	X	
Discipline development	X					
Focusing device in relation to innovation				X	X	X
Agenda-setting	X	X	X	X	X	X
Promoting self-organisation of stakeholder communities	X	X	X	X	X	X
Influencing regulations or standards	X		X	X	X	
Coordinating or influencing policy		X	X	X	X	X
Strengthening networks, Knowledge Value Collectives; defragmenting the research community	X		X	X	X	X
Changing research network shapes: putting Europe in the centre	X	X	X	X	N.A.	N.A.
Levering funding for R&D	X	X	X			X
Mobility and development of human capital	X	X	X	X	X	
Research infrastructure (Grids, test-beds, etc)						
Behavioural additionality: learning a 'new' innovation model		X			X	X
Speeding up industry' entry into new technologies	X					
Tackling problems too big for an individual Member State	X	X	X			X
Addressing areas of major socio-economic importance for the EU	X	X	X	X	X	X

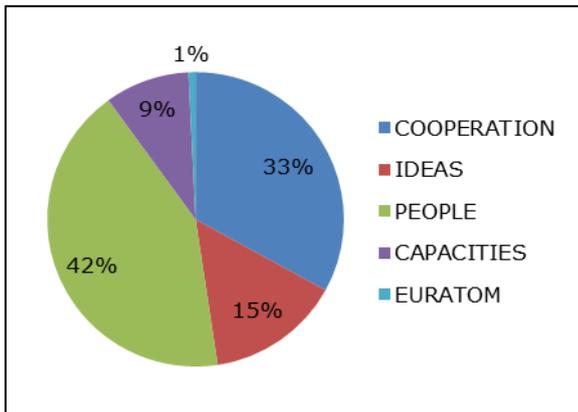
Source: Technopolis, 2011

Table 4. Impact mechanisms in the case study areas

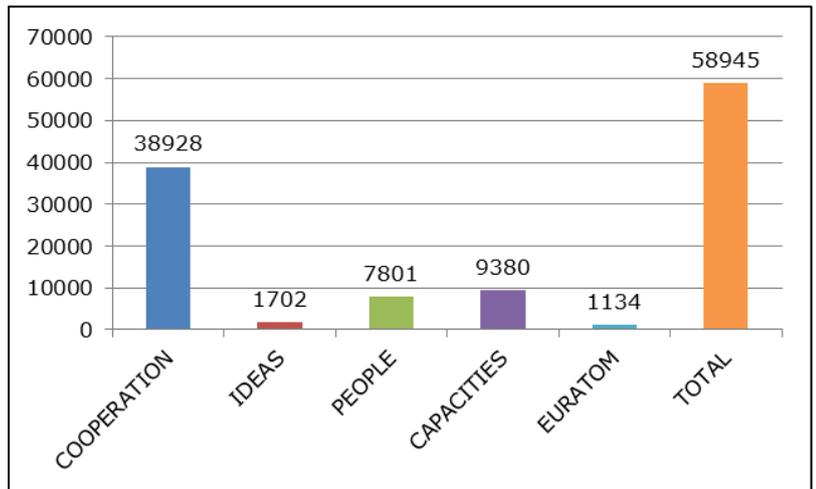
4.6 The magnitude of FP7 is illustrated by impressive participation figures

The magnitude of FP7 is illustrated by the impressive participation figures highlighted in the Fourth FP7 Monitoring Report (Monitoring Report 2010) (17):

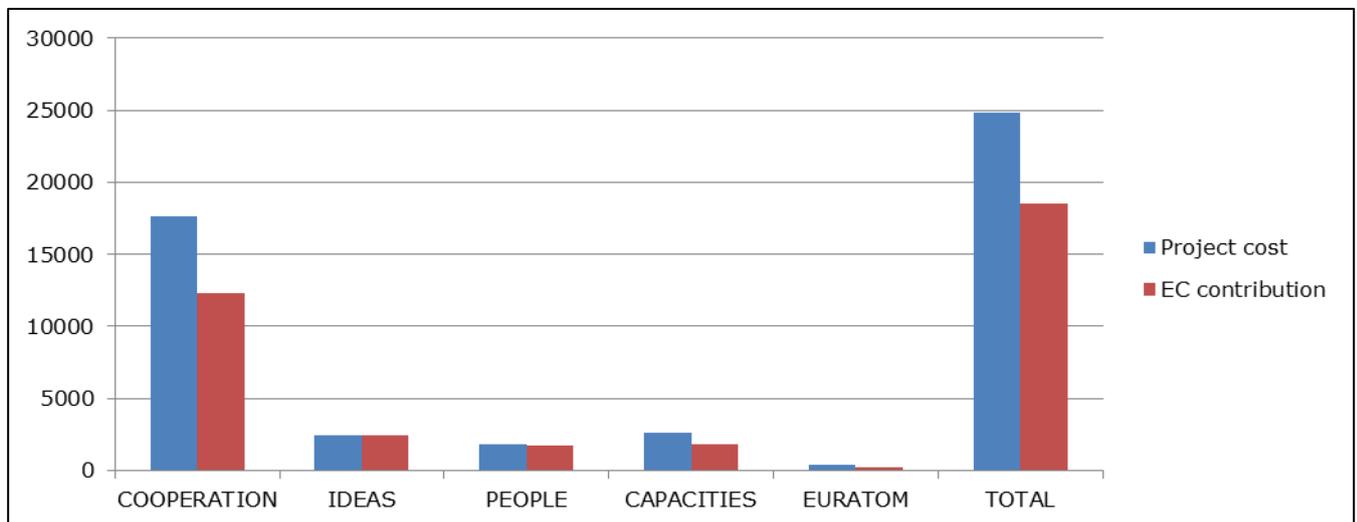
- During the first four years of FP7, 245 concluded calls received more than 77.000 proposals, out of which more than 59.000 were included in the evaluation procedure, and more than 12.000 were finally retained for negotiations. Proposals and applicants had an average success rate of 21% and 22%, respectively. For the concluded calls with closure dates in 2007-2010, 10.524 grant agreements have been signed, which involve 58.945 participants and will be funded by the EU with € 18,5 billion.



Grants agreements (counts)



Participants (counts)



Project costs & EU contribution (€ Mio)

Chart 3. Numbers of signed grant agreements, participants and amounts of project costs and EU financial contribution (in € million) for FP7 calls concluded during the period 2007-2010 (as of March 2011).

- On the participation of Small and Medium Enterprises (SMEs), it is estimated that during the first four years of FP7 implementation 16,6% of all participants in signed grant agreements were SMEs.
- On the gender dimension of FP7 participation, it is estimated that 20,3% of contact persons for scientific aspects in FP7 funded projects, 38,3% of Marie Curie fellows and 21,2% of principal investigators under ERC grants are women.
- The significant international dimension of FP7 is illustrated by the fact that during its first three years it will fund projects with participant organisations from as many as 169 countries. Outside the group of EU and Associated Countries the biggest participants are the USA, China, Russia, Brazil, South Africa, India, and Ukraine.

4.7 Simplification remains a key challenge in stakeholders' minds

A survey conducted in the evaluation study on simplification (1) shows that of the 15 simplification measures introduced under FP7, the most successful have been:

- the introduction of a unique registration facility (URF);
- a major reduction in the number of certificates related to financial statements that must be provided with periodic claims;
- a considerable reduction in ex-ante controls and revised protective measures for financially weaker participants;
- the extension of lump sum financing for subsistence and accommodation costs.

Simplification remains a key challenge in the stakeholders' minds, who still see significant room for improvement, in particular through:

- the introduction of the possibility of ex-ante certification of the accounting methodology for recurring participants;
- a clearer definition of eligible costs, and improvements to the services and guidance documents for applicants;
- a simpler cost reporting system;
- a simplified support rate per type of activity.

The study presents a detailed analysis of the time spent by FP7 coordinators (23 interviews) and work package leaders (26 interviews) on administrative tasks (time spent on scientific tasks not included). It shows that the most time-consuming project life cycle step for participants is project management.

Project life cycle steps	Average time spent by coordinators per project phase	Average time spent by work package leaders
Application/ selection of proposal	365	80
Negotiation of contracts	197	42
Project management (whole project duration up to the date of interview)	392	255
Ex-post audits	103	57
Total	1057	434

Source: Deloitte 2011

Table 5. Average time spent by participants in hours, 2011

The absolute administrative effort depends on a number of factors including participants' experience with Framework Programmes (experienced participant *versus* newcomers), participants' size and profile (SMEs *versus* big players), participants' internal organisation (centralised project management office *versus* several services involved), the degree of centralisation of tasks by project coordinators, and the project size (focused *versus* large projects).

4.8 Research PPPs: What challenges ahead?

The Interim Assessment of the Research PPPs (11) underlines the fact that these PPPs are a useful scheme to organise research and innovation topics with direct industrial utility and recommends that this model is developed further.

The PPPs have all been successful in engaging top industrial companies, SMEs and research organisations within Europe, increasing significantly the large industry and SME participation. They have facilitated a closer working relationship between the Commission and industry in the setting of goals and longer-term research programme objectives. This has allowed industry to commit to longer-term strategies for research investment.

The study recommends that further work needs to be undertaken to streamline the processes associated with PPPs, maintaining the efficiency of the calls and unifying the procedures across the various participating themes. Dissemination activities associated with research PPPs should also be strengthened.

5. FOLLOW UP TO RESULTS

This section gives detailed insight into the use of evaluation results. In line with the motivation described on 2.3, we may identify three main types of follow up to evaluation results, which are not exclusive.

5.1 Designing the future activities of the programme

To a very large extent, results have been used to assess the effectiveness and impact of a running programme in view of leading to possible adjustments in the next phase of its implementation. The results have been taken into account when designing the next calls for proposals, Work Programmes, activities and initiatives.

- The outcomes of the interim evaluations of the IMI JU (5) and FCH JU (8) provided data about the quality, the efficiency and the progress of these JUs towards the objectives set. These results were discussed at the Governing Boards, States Representatives Groups and Scientific Committees to decide about the future developments of the JUs.
- The recommendations stemming from the international cooperation-related evaluation studies (4 and 10) contributed to identify S&T areas, actors and instruments for which there are promising prospects for developing the cooperation. Both reports were discussed extensively with the counterparts in Argentina and in Chile.

As an example, the outcomes of the evaluation on S&T Cooperation EU - Chile (10) were discussed at the Sixth Steering Committee meeting of the EU-Chile S&T Cooperation Agreement and attracted a lot of attention from CONICYT (the EU institutional counterpart in the agreement) inducing new analyses of their own work organisation and some changes in emphasis.

- The outcomes of the impact assessment of the Regions of Knowledge Programme (3) over the period 2007-2009 were used in the next calls of this programme.
- The results of the interim evaluations of the research PPPs (11), those of EU FP7 Transport Research (15), of the Meta-analysis of "Bio-Technology", "Agriculture", "Food", "Marine and Maritime" and Horizontal themes (7), and of the FP6-NMP (6) evaluations were used to design the future actions and initiatives (including management-related issues) launched under these programme cycles.

5.2 Feeding into decision-making process and helping define the next strategic and policy orientations

In a longer-term perspective, evaluation studies have also provided evidence analysis and recommendations to make sound decisions about the next strategic and policy orientations.

- The impact assessment of the Research Potential Programme (9) provided first thoughts for the next period (2014-2020). The study on Fusion Energy (14) was used as impact assessment to design the next Euratom Research and Training Programme.

- The interim evaluations of the IMI JU (5) and FCH JU (8) were used as inputs to prepare the Commission Communication "[Partnering in Research and Innovation](#)"¹². The [accompanying document](#) to this Communication¹³ contains a dedicated and detailed report on both evaluations.

A number of evaluation studies have been used to provide inputs in the *ex ante* impact assessment of Horizon 2020.

- The FP7 Monitoring Report 2010 (16) was an important element of the evidence base for the *ex ante* impact assessment of the Rules for Participation for the Horizon 2020 Programme.
- Likewise, the evaluation studies related to environmental research (12 and 13) identified and appraised future challenges and options for environmental research under Horizon 2020. The expert group (13) identified an "ideal" scenario for Horizon 2020, which contributed to elaborating the rationale for the EU environmental programme in the future.

5.3 Results are used by expert groups as basis for further discussion and delivering recommendations

In few studies, the results, which are primarily of informative nature, were discussed by expert committees or groups. This is typically the case of the five studies to the European Research Area Board (17, 18, 19, 20, 21). For example, based on report n°19, ERAB published their "Recommendations on Venture Capital (VC)" in December 2011.

¹² COM(2011)572 of 21/09/2011.

¹³ SEC (2011)1072 final of 21/09/2011.

6. OUTLOOK

6.1 Evaluation Plan 2012: Preparing the ex post evaluation of FP7

Nineteen evaluation studies and ten reports with evaluative information are planned to be completed in 2012. In total, this represents eight additional evaluation studies and reports with evaluative information as compared with year 2011.

As regards FP7 coverage, there is a significant increase in evaluation studies of themes, areas and activities within the Specific Programme Capacities as compared with year 2011.

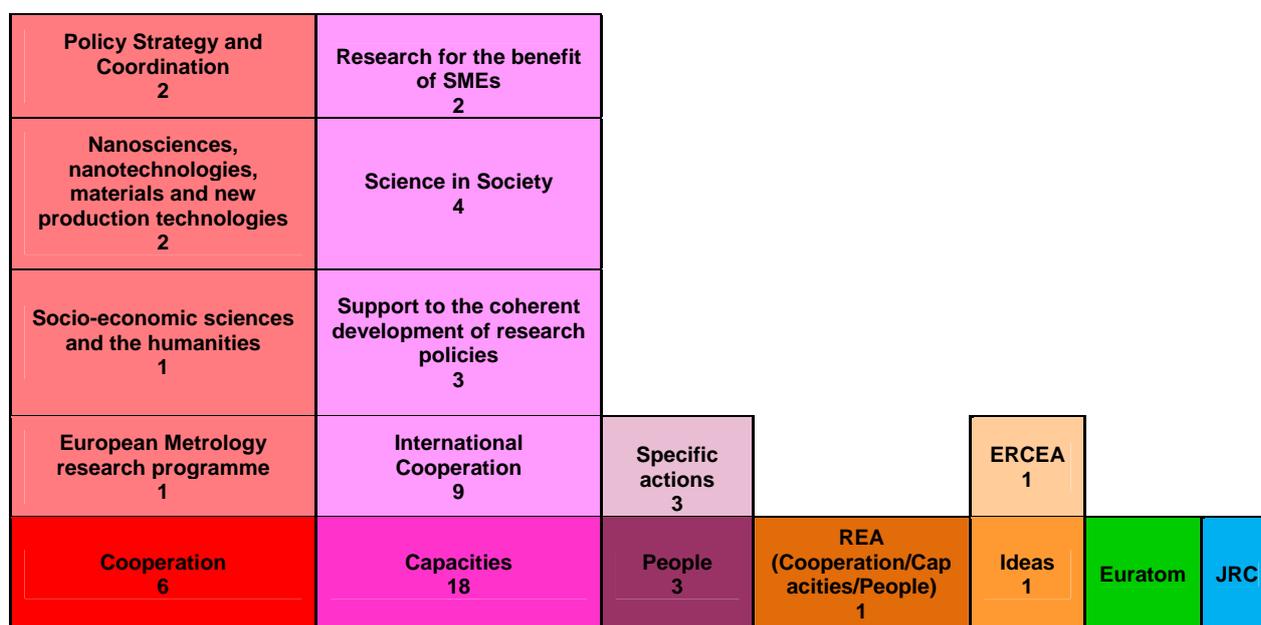


Chart 4. Evaluation Plan 2012: Mapping of FP7

Furthermore, sixteen evaluation studies and four reports with evaluative information are planned to be launched in 2012, as well as sixteen studies and nine reports in 2013¹⁴.

These evaluation studies and reports and those which will be conducted in 2013 will provide evidence and data to support the ex post evaluation of FP7 in 2015. A number of evaluations have been included in the Work Programmes 2013.

6.2 Evaluation and monitoring under Horizon 2020

The new system for policy and programme evaluation and monitoring which will be implemented under Horizon 2020 will provide a strong focus on the assessment of outputs and impacts. As outlined in the Impact Assessment of

¹⁴ As of 24 July 2012.

Horizon 2020, the new system will be developed on the basis of four key principles: strategic, comprehensive, coherent, evidence-based.

a) Strategic

This strategy will ensure appropriate and systematic evaluation coverage of all Horizon 2020 action lines, and will define a detailed timetable for specific evaluation work. The strategy will be updated annually, taking into account new developments in the overall evaluation context.

b) Comprehensive

Three well-timed key deliverables are set¹⁵:

- A comprehensive Interim Evaluation of Horizon 2020 and its specific programmes not later than 2017, with a specific focus on the implementation so far, the quality of the research and innovation activities under way, progress towards the challenges and objectives set, and recommendations for possible improvements.
- A full-scale Ex-Post Evaluation will be carried out in 2023 analysing, in depth, the rationale, the implementation and the impact of the activities.
- Annual monitoring of all components under Horizon 2020.

c) Coherent

Common templates, methodologies and indicators for cross-cutting and thematic studies will be developed.

d) Evidence-based

At the centre of the Horizon 2020 evaluation and monitoring approach will be a powerful data gathering and processing capacity focused on throughput, output and impact.

As regards our evaluation and monitoring activities in practice, this new system requires that a number of challenges are addressed, which include notably handling with a wider range of activities as compared to FP7, analysing and assessing cross-cutting issues, placing an increased emphasis on quantitative and qualitative assessment of outcomes and impacts, and developing appropriate dissemination and reporting.

¹⁵ Articles 25 and 26, Proposal for a Regulation of the European Parliament and of the Council establishing Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020), COM(2011) 809 final, 30/11/2011.

ANNEXES

Annex 1. Fiches

Annex 2. Methodology of the Report

Annex 1. Fiches

1. Assessing the Effectiveness of Simplification Measures under FP7

1. Aim of the evaluation study

The overall objective of this study was to provide a well-founded and robust assessment of the effectiveness of the simplification measures and initiatives implemented under FP7.

2. Key findings

The study concludes that stakeholders - while understanding that a programme such as FP7 is complex *per se* - still see significant room for improvement. Simplification remains a key challenge in their minds. According to stakeholders, the most successful FP7 simplification measures introduced under FP7 are:

- The introduction of the Unique Registration Facility (URF);
- A major reduction in the number of certificates related to financial statements that must be provided with periodic claims;
- A considerable reduction in ex-ante controls and revised protective measures for financially weaker participants;
- The extension of lump sum financing for subsistence and accommodation costs.

Measures that were considered as potentially important by stakeholders, but are not perceived as having been successfully implemented include:

- The introduction of the possibility of ex-ante certification of the accounting methodology for recurring participants;
- A clearer definition of eligible costs, and improvements to the services and guidance documents for applicants;
- A simpler cost reporting system;
- A simplified support rate per type of activity.

As regards the administrative burden (time spent on scientific tasks not included) and according to the study results, the most time-consuming project life cycle step for participants is project management, followed by application/selection, negotiation and audit. The absolute administrative effort depends on a number of factors including participants' experience with Framework Programmes, participants' size and profile, participants' internal organisation, the degree of centralisation of tasks by project coordinators, and the project size.

In addition to these findings, the study identified a number of simplification areas meriting attention by the Commission and provides corresponding recommendations, for instance to make better use of communication as a powerful simplification tool. The study also recommends to monitor the simplification effects continuously and to measure simplification impacts.

Author: Deloitte Consulting

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/fp7-evidence-base/evaluation_studies_and_reports/simplification_study_report.pdf

2. Long-Term Impact of the Framework Programmes

1. Aim of the evaluation study

This study was intended as an initial exploration of the long-term impacts of the Framework Programmes through a number of six selected areas, and of the usefulness of coupling scientometric techniques with a case-based approach to impact.

2. Key findings

- In Quantum Information Processing Computing, the Framework Programme picked up the emergence of a new field of science and technology, helped it establish scientific and technological agendas, organise and grow in Europe to such an extent that the EU appears fully competitive with the other world R&D leaders. Europe has the technological basis and has started to develop standards for doing so and for continuing to maintain strong positions in the global computing and communications industries.
- In brain research, the FP has made important contributions in imaging and helped support and integrate the European research community. The FP has been important in keeping Europe 'in the game' in this field.
- In Stratospheric Ozone research, the Framework Programme has made a major contribution by growing and helping coordinate the European research community, not least through organizing multinational research campaigns to provide a better evidence base for policy. It has helped the European research community move from lagging far behind the USA to working at the global frontier. Research results have shaped the evolving Montreal Protocol requirements and have been so influential at the policy level that Europe has achieved the Protocol's 2020 targets ten years ahead of schedule.
- In Solar Photovoltaics (PV), the Framework Programme has expanded the European research community and enabled it to work at the technological frontier – not only in first- but also in second- and third generation Solar PV. Demonstration projects and complementary renewable energy policies have helped develop markets for Solar PV and establish a significant European presence in the supply industry.
- In automotive, the Framework Programme's role has been to sustain longer-term research and research in areas such as fuel efficiency, emissions and safety that create not only private advantages for the industry but significant public goods. Exploiting the industry's desire to self-organise to define R&D directions and road maps has been a powerful way to coordinate the longer-term R&D effort and has supported a long series of product and process innovations that help maintain Europe's position among the global leaders in this industry.
- The Manufature Technology Platform is of interest more for its potential than for any socioeconomic impacts achieved at this point. It underlines the importance of coordination and self-organisation as mechanisms to integrate research.
- The most important commonality among these stories is to do with coordination by enabling self-organisation.

Author: Technopolis Group

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/long_term_impact_of_the_fp.pdf#view=fit&pagemode=none

3. Impact Assessment of the Regions of Knowledge Programme

1. Aim of the evaluation study

The study aimed to evaluate the impact of the Regions of Knowledge programme regarding:

- Transnational cooperation of clusters
- Regional growth and competitiveness
- Regional investment in research and innovation, incl. potential synergies with Structural Funds, Competitiveness and Innovation Programme and any other source of funding
- Inclusion of more regions into the ERA.

2. Key findings

- A targeted programme playing a non-negligible role in the smart specialisation of regions
 - Most projects focus on areas of regional strategic importance
 - Development of sectoral's regional innovation strategies through the couple 'state of the art analyses / Strategic Research Agendas + Joint Action Plans in regions which have often already carried out 'generalist' regional innovation strategies.
- Outcomes are to a large extent 'intangible' including:
 - Improvement of clusters' strategic management, enhancement of expertise and competence in regional authorities, strengthening of collaboration within and between the clusters
- The five most potential impacts of the participation to a Regions of Knowledge project according to the survey are:
 - An improved strategic vision in the cluster area;
 - The formation of new, long-term relationships with clusters at the EU level;
 - More knowledge transfer between research organisations and enterprises;
 - Access to a pool of complementary competencies;
 - Improvement in the strategy making process.
- Regions of Knowledge sets the fundamentals for future impacts to occur in terms of an enhanced regional economic competitiveness through R&D activities.
- Balanced partnerships in terms of 'triple helix' and newly established regional linkages
 - Public bodies are the main partners followed by private partners and universities and research organisations.
 - Long-lasting effects esp. in terms of inter-regional collaboration but also strengthening of intra-regional links & communication channels between the triple helix
 - Progressive up scaling of the programme over the years to increase the level of cooperation between regional research-driven clusters
 - Fundamentals for gaining a critical mass & the potential for international competitiveness
 - A facilitator was the mentoring dimension of the RoK programme

Author: Technopolis Group

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/assessment_of_the_impact_of_the_regions_of_knowledge_programme.pdf

4. Review of S&T Cooperation between the European Union and the Republic of Argentina (2006-2010)

1. Aims of the evaluation study

- Analyse the S&T cooperative activities 2006-2010 under the EU Research Framework Programmes (FP) so as to draw up a pattern both in terms of areas/topics and types of research (science led, technology led, trade led, global issues led), if possible;
- Identify success factors as well as bottlenecks and obstacles for on-going activities or their further development;
- Broadly review EU Member States' bilateral activities with Argentina;
- Assess complementarities/synergies and overlaps between different EU-Argentina activities;
- Analyse the extent to which the EU-Argentina S&T cooperation is mutually beneficial;
- Identify S&T areas/actors/instruments for which there are promising prospects for developing the cooperation.

2. Key findings

The review identified a number of useful opportunities for future cooperation, e.g. through:

- Increased EU focus on large and complex, autonomously managed and adapted 'projects' such as ETPs, JTIs, JPIs, and the European Innovation Partnerships.
- Converging of EU-RTDI- and EU-LAC-RTDI-cooperation policies in terms of priorities and approaches
- Increased EU focus on leveraging national funds (of the Member States)
- Increased EU efforts to better use resources through more coherence and synergies between different programmes, and through better priority setting, helped by the EU Delegation in Buenos Aires.
- ABEST, the EU-AR Liaison Office, is actively involved in political work and dissemination activities, e.g. via 10 National Contact Points (NCP) and an NCP network throughout the country.
- A growing interest of Europe for Latin American countries in general as exemplified e.g. by an increased propensity of students and young researchers to be internationally mobile, and ability to host young European researchers having difficulties to get appropriate positions and conditions in their home countries.
- The global necessity to share research facilities to share costs, therefore creation and development of international platforms.
- Good opportunities for research employment in Argentina, whereas EU Member States lack more and more this kind of positions. Incentives are, *inter alia*, the RAICES programme, a specific repatriation programme implemented by MINCyT, and the recent increase of 30% in the salary of public researchers and professors
- Attraction of European centres of excellence to set up joint centres in Argentina
- Strengthened connections to the activities of the Ministry of the Economy and its programmes could enhance the uptake of research for innovation in SMEs and elsewhere
- Simplification for making cooperation more attractive

Composition of Expert Group:

- Günter Clar, Director, Steinbeis-Europa-Zentrum (DE)
- Claudine Schmidt-Lainé, Director, CNRS (FR)

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/review_eu-argentina_st_coopagree.pdf#view=fit&pagemode=none

5. Interim Evaluation of the Innovative Medicines Initiative Joint Undertaking

1. Aim of the evaluation study

To assess the quality and efficiency of the IMI Joint Undertaking and progress towards the objectives set (set in Council Regulation (EC) 73(2008), Article 11.2).

2. Key findings

- Through the IMI JU, Europe has succeeded in establishing a new business model between public and private sectors, which unites research strengths across European pharmaceutical industry, academia and small to medium enterprises (SMEs). The consortia formed carry out focussed research addressing problems of immediate relevance to industry and future public health. To have formed and embedded this new, applied, research environment is a significant achievement for Europe.
- By facilitating enhanced cooperation between academic, SMEs, patient organisations, regulatory authorities and the pharmaceutical industry, the IMI JU enables mutual learning and the opportunity to build understanding of respective rationales and approaches, with benefits to all parties. This is powerful.
- The scientific scope of the initiative is well targeted, embodied in the IMI Research Agenda, and the IMI JU has had the foresight to ensure that the Research Agenda is updated regularly.
- The financial resources available to the IMI JU, totalling €2Bn, make this the largest public private partnership in health research in the world.
- IMI constitutes a novel model for implementing the concept of "open innovation". No other European programme has enabled cross-company collaboration within the pharmaceutical sector on the scale that has been achieved with IMI.
- Having identified many positive points, the Panel also identified certain weaknesses:
 - Internal governance structures are not yet working optimally;
 - Proactive communication activities have been lacking;
 - The advisory potential of several stakeholders, such the European Medicines Agency (EMA), is not exploited fully by the IMI JU.
- The Panel therefore came up with seven recommendations:
 1. Continuously improve stakeholder involvement in IMI supported research projects.
 2. Continuously ensure EFPIA and Commission commitment to IMI's success and sustainability.
 3. Ensure excellence and exploit new ways to support IMI scientific objectives.
 4. Improve IMI communication.
 5. Reinforce and streamline decision making and well-functioning processes.
 6. Ensure best use of IMI results and IMI sustainability.
 7. Develop monitoring and evaluation processes.

Composition of Expert Group:

- Fred Gvillo (Chair), Principal, Eagle Eyrie Consulting (USA)
- Magdalene Rosenmöller (Rapporteur), Professor, IESE Business School (DE)
- Tom Andersen, Deputy Economic Adviser, European Investment Bank (DK)
- Manfred Horvat (JU Evaluator), Honorary Professor, Vienna University of Technology (AT)
- Ruth Keir, Principal, Archea Ltd (UK)
- Bart Wijnberg, formerly Ministry of Health, Welfare and Sport, Netherlands (NL)

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/first_interim_evaluation_imi.pdf#view=fit&pagemode=none

6. Ex Post Evaluation of FP6-NMP - Project Level

1. Aim of the evaluation study

To get further in-depth information and insight into:

- the factors that affected the extent and range of impacts of NMP projects at individual, organisational, societal, economic and environmental levels across both Europe and more globally;
- the programme aspects and policy angles that should be retained (or altered) in future NMP programmes.

2. Key findings

- The FP6 NMP programme attracted most of the top EU research institutions and companies.
- The programme participants underlined that the FP6-NMP programme was a strategic tool to elaborate novel RTD activities that they would not have been able to perform otherwise. The main strength of the programme was the ability to bring together the best European, and in many cases, international research groups, raising the visibility of individual participants and improving trans-European networking.
- The participants considered S&T goals as the most important reason for participating in the programme, followed by economic and health/environment goals.

Author: Inno AG and Atlantis Research Organization

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/ex-post-evaluation-fp6-nmp-2011_en.pdf#view=fit&pagemode=none

7. Meta-analysis of "Bio-Technology", "Agriculture", "Food", "Marine and Maritime", and Horizontal themes

1. Aim of the evaluation study

The aim of the above evaluation study was to assess the impact of all Framework Programme projects from 2000-2010 in the areas of:

- Sustainable production and management of biological resources from land, forest and aquatic environments;
- Food, health and well-being;
- Life sciences, biotechnology and biochemistry for sustainable non-food products and processes.

2. Key findings

- Results: The projects in this theme have increased the body of knowledge, delivered innovation and supported EU policies, thus helping Europe address global societal challenges. According to a survey, 64% of coordinators believe that their projects enhance the competitiveness of the participants, close to 5% of projects have directly led to the creation of new companies; 82% of projects created temporary jobs during the project's implementation and 35% created new posts after the end of the project.
- Impacts: Overall, FP projects have had a substantial impact on improving the knowledge base in Food, Agriculture, Fisheries and Biotechnologies, through high scientific productivity combined with novel technological output. 340 firms in the manufacturing sector of food and beverages that have introduced a new product or new process have received funds from FP5 and FP6 programmes. Impacts on policies have also been high: according to the survey, more than 60% of FP projects have provided inputs to European policies, 56% to national policies, and 25% to international agreements. 49% of FP funded project coordinators stated that their project had positive environmental impacts. The impact of projects on the development and consolidation of the ERA is also found to be very high: 84% of coordinators consider that participation in FP projects has consolidated their permanent network of partners, and half of them stated that their participation has contributed to launching new European projects.
- EU2020 and Innovation Union: The bio-based economy, addressing the key societal global challenges of limited resources, food security, health and climate change contributes to Europe 2020 on a broad front.
- Competitiveness and international comparison: Biotechnology publications in 2010 'Nature' journals cited US and Canadian authors in 486 cases and European authors in 641 cases, while Europe accounted for 35% of worldwide biotechnological patent applications in 2006, compared to 40% for the USA.
- European-added value: Research and innovation in Food, Agriculture and Fisheries and Biotechnologies has an intrinsic high European added value. The sectors address pan-European challenges which require pan-European research and innovation. Moreover, almost 70% of coordinators confirm that their participation in an FP-funded project has delivered leverage effects. Co-ordination and synergy with national R&I policies and investments is another important aspect of European added value.

Composition of Expert Group:

- Professor Manfred Horvat (Chair) -AT,
- Mr Andrea Ricci (Rapporteur) - IT,
- Professor Margarida Casal - PT,
- Ms Elina Griniece - LV,
- Professor Mario Pianta -IT,
- Professor Jens Christian Tjell – DK.

8. First Interim Evaluation of the Fuel Cells and Hydrogen Joint Undertaking (FCH JU)

1. Aim of the evaluation study

The objective of this evaluation was to assess the effectiveness, efficiency and quality of the FCH JU operations, both with regard to the Joint Undertaking and its operating bodies and the technical activities carried out by its members and project participants. In particular, emphasis was put on the progress of the FCH JU towards its objectives as set up in article 2 of the Council Regulation establishing the FCH JU.

2. Key findings

- The FCH JU is an achievement on its own and represents a valuable instrument for the European Union that should be maintained and supported to implement its work as originally envisaged.
- However, the experts have also identified a number of issues encountered by the FCH JU as well as some areas where its operation could be improved:
 - the current legal framework as a “Community/Union body” is not best-suited to industry led public-private partnerships like JTIs and should be streamlined;
 - funding rates for FCH JU projects have proved variable from year to year and, in addition, always considerably lower than those of FP7;
 - inadequate resources of the Programme Office for effective project monitoring and management;
 - insufficient collaboration with Member States’ related programmes;
 - lack of a robust project monitoring and assessment;
 - lack of an international cooperation strategy.
- In order to address these issues the experts’ panel made a series of recommendations, grouped in five broad categories:
 1. Reinforce portfolio management
 2. Ensure high agility of operations and adaptability to changing competitive forces
 3. Improve visibility, communication and outreach
 4. Improve collaboration and alignment with Member States
 5. Ensure high efficiency of operations.

Composition of Expert Group:

- Elisabet Fjermestad Hagen (Chair), former Director, Norsk Hydro ASA (NO)
- John Loughhead (Rapporteur), Director, UK Energy Research Centre (UK)
- Jens Rostrup-Nielsen, Member of the Scientific Council of the European Research Council (ERC) (DK)
- Maria-Rosaria Di Nucci, Senior Research Fellow, Freie Universität Berlin (IT)
- Ana Sofia Caires Sousa Branco, Technology Transfer Expert (PT)
- Manfred Horvat (Common reviewer with IMI and CleanSky Joint Undertakings) Honorary Professor, Vienna University of Technology (AT)

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/eval_fuel_cell_hydro_report_2011.pdf#view=fit&pagemode=none

9. Impact Assessment of the Research Potential Programme

1. Aim of the evaluation study

The study aimed to address the following considerations regarding the Research Potential programme:

- a) Impact oriented analysis of projects
- b) Innovation and I.P. capacity building measures
- c) Analysis of the implementation per thematic domain and for the whole activity
- d) First thoughts for the next period (2014-2020)

2. Key findings

- Programme considered to be simple and well understood by applicants:
 - High numbers of proposals received (despite low success rate)
 - Many proposals scored 14 and above and were rejected
- All FP7 thematic domains are well represented among funded projects
 - Excellent geographical distribution
- Goods links with partnering organisations
 - Average of 7 partnering organisations per project
- Increased participation in the European Research Area
- Increased recognition of research quality
- Increased publications
- Increase attention to patenting
- Improved cooperation with end-users
- Increased involvement in regional social and economic development
- Improved relationship with S&T policy makers

Composition of Expert Group:

- Jacques Claude, former Director, Institut de Recherche pour le Développement (FR)
- Orfeu Flores, CEO, STAB VIDA Lda (PT)
- Jan Krzysztof Frackowiak, Director, PolSCA (BE)
- Costas Iacovou, Director, Planning Bureau (CY)
- Axel Lehmann, Professor, Universität der Bundeswehr München (DE)
- Gonzalo León (Chairman), Vice President, Universidad Politécnica de Madrid (ES)
- Dr David Lindley OBE FREng FRSA (UK)
- Liviu Miron, Professor, University of Agricultural Sciences and Veterinary Medicine (RO)
- Francesco Paolo Russo, Assistant Professor, University Hospital Padova (IT)
- Yolanda Smits (Rapporteur), Consultant EU Affairs (BE)

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/impact_assessment_regpot.pdf#view=fit&pagemode=none

10. Review of S&T Cooperation between the European Union and the Republic of Chile (2007-2011)

1. Aims of the evaluation study

- Analyse the S&T cooperative activities 2006-2010 under the EU Research FP so as to draw up a pattern both in terms of areas/topics and types of research (science led, technology led, trade led, global issues led), if possible;
- Identify success factors as well as bottlenecks and obstacles for on-going activities or their further development;
- Broadly review EU Member States' bilateral activities with Chile;
- Assess complementarities/synergies and overlaps between different EU-Chile activities;
- Analyse the extent to which the EU-CL S&T cooperation is mutually beneficial;
- Identify S&T areas/actors/instruments for which there are promising prospects for developing the cooperation.

2. Key findings

- The staff of CONICYT's International Directorate is highly qualified and motivated. However, given its broad spectrum of tasks regarding bilateral, multilateral, regional and EU-S&T cooperation, it seems not well endowed in terms of personnel and of budget. It is difficult to harness fully the potential of international S&T cooperation.
- The NCP network would benefit from more resources.
- 'Institutional liaison offices' could be established, supported from Chile's S&T budget and, if needed, twinned with successful offices in EU MS.
- The low enterprise participation could be improved through a broader dissemination and hands-on training, and systematic links of the SME NCP with national innovation actors.
- The increased EU focus on leveraging national funds of the MS could provide indications and incentives to further develop instruments or approaches to open ERA to the world.
- In addition to aiming at more programme synergies, the synergies inherent in well designed and well implemented projects could be increased through strengthening national and institutional contact points and support throughout the project cycle.
- More training of administrators at universities and research institutions could be a good way to accompany researchers in consortia building.
- Strengthening connections between FP projects with Chilean participants and bilateral cooperation projects with EU MS and other countries could be driven by CONICYT and/or the EC delegation in Santiago.
- A national programme to accompany the preparation of EU project proposals could help, as well as any activity of institutional actors to disseminate the information about opportunities for collaboration with the EU.

Composition of Expert Group:

- Amaia Bernaras, Consultant, IDOM (ES)
- Günter Clar, Director Regional Strategies and Innovation, Steinbeis-Europa-Zentrum (DE)

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/review_eu-chile_st_coopagree.pdf#view=fit&pagemode=none

11. Interim Assessment of the Research Public Private Partnerships in the European Economic Recovery Plan: Energy-efficient Buildings, Factories of the Future, and European Green Cars Initiative

1. Aim of the evaluation study

The overall objective is to assess the progress achieved in the first two years from the launch of the public private partnerships (PPPs), including the effectiveness and efficiency of the PPPs mechanisms and structures and how the PPP implementation has contributed to the objectives set in the European Economic Recovery Plan and, as appropriate, bring forward proposals for how to further develop the PPPs.

2. Key findings

- The research PPPs are seen as a useful scheme for organising Research and Innovation topics with direct industrial utility and the model could be developed further.
- The PPPs have all been successful in engaging top industrial companies, SMEs and research organisations within Europe, increasing significantly the large industry and SME participation.
- The three research PPPs were targeted at providing research and innovation support to strategically important industries at a time when industrial funding of such actions was in danger of being cut back due to the economic crisis. However, while the review found that the research PPPs have been an effective response to the crisis, it is unlikely that they will achieve the aim of making a difference to the competitiveness of European industry unless they are given longer term support. One criticism from industrial stakeholders is that the current level of funding is not sufficient given the economic importance of the industries they are targeting. To make a significant impact on the world stage in terms of European competitiveness, the total combined public and private expenditure in this area would need to be considerably increased.
- The three research PPPs have facilitated a closer working relationship between the Commission and industry in the setting of goals and longer-term research programme objectives. This has allowed industry to commit to longer-term strategies for research investment.
- Further work needs to be undertaken to streamline the processes associated with PPPs, maintaining the efficiency of the calls and unifying the procedures across the various participating themes.
- The research PPPs need to include innovation actions that address near market issues.
- Dissemination activities associated with research PPPs need to be strengthened.

Composition of Expert Group:

- Joaquin Mollinedo (Chairman), Chief Officer, Acciona Corporation (ES)
- Geoff Pegman (Rapporteur), Director, R U Robots Ltd (UK)
- Eberhard Bessey, Senior Adviser, Daimler AG (DE)
- Edward Chlebus, Professor, Wroclaw University of Technology (PL)
- Lars Gunnarsen, Senior Researcher, Aalborg University (DK)
- Charles Hirlimann, Director, CNRS (FR)
- Gunnar Muent, Head of Division, European Investment Bank (DE)
- Pietro Perlo, Director, FIAT Research Centre (IT)
- Leena Sarvaranta, Chief Research Scientist, VTT (FI)

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/research-ppps-interima-assessment_en.pdf#view=fit&pagemode=none

12. Stock-Taking of Results and Impacts of EU-Funded Environmental Research

1. Aim of the evaluation study

The aim of this study was to support the preparation of the impact assessment report for Horizon 2020.

The aim of this group of experts (GoE) on "Stock-taking of results and Impacts of EU-funded environmental research" is to provide evidence of outputs, results and impact of FP6 and FP7 environmental research. Results of this study served as inputs for a follow up study conducted by another GoE on "State of the art and forward-looking analysis of environmental research and innovation.

2. Key findings

- FP Environment research is mainly relevant to impacts related to research excellence and policy support. Innovation and private sector engagement is not at the top of the agenda/priorities of environmental research funded in FPs.
- The programme provides a very positive contribution to high quality publications significantly supporting leading European countries to compete internationally in terms of publications and citations as well as an upward trend in collaborative publications both within the EU and beyond.
- Regarding policy impacts, the value of FP environment research is unquestionable especially in terms of EU policy making, and international agreements and conventions. There is ample evidence proving the use of FP environment research results in EU policy documents and for the development of certain EU directives and standards.
- From a business perspective, although direct economic impacts are quite limited, there are indications based on participants' judgments of positive economic impacts associated with certain environmental research areas in terms of patents, prototypes and new products and processes. Yet the issue remains that participation by businesses, and especially SMEs, stays at a relatively low level.
- FP Environment research also provides the critical mass of European level projects that is of particular importance for observation, modelling and impact assessment studies. The case of the European added value of environment research is established on the basis of developing critical mass, attracting and retaining top researchers, building research capacity and infrastructure, enhancing mobility of researchers and, most importantly, addressing Europe's Grand Challenges at an adequate scale.

Composition of Expert Group:

- Katharina Helming (Chair), Professor, Leibniz-Zentrum für Agrarlandschaftsforschung (DE)
- Effie Amanatidou (Rapporteur), Self-employed (EL)
- Andrea Ricci, Deputy Executive Director, ISIS (IT)
- René Kemp, Professor, MERIT - Maastricht University (NL)
- Mans Nielsson, Deputy Director, SEI - Stockholm Environment Institute (SE)
- Evanthia Kalpazidou Schmidt, Danish Centre for Studies in Research and Research Policy (DK)

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/horizon2020_env_stocktaking_goe_final_2011.pdf#view=fit&pagemode=none

13. State of the Art and Forward-Looking Analysis of Environmental Research and Innovation

1. Aim of the evaluation study

This is the second of the two studies launched to support the preparation of the impact assessment report for Horizon 2020. Based on the results of the Group of Experts (GoE) on "Stock-taking of results and Impacts of EU-funded environmental research", this study identifies future challenges and avenues for environmental R&I.

2. Key findings

- This report identifies and appraises future challenges and options for environmental research under the future Horizon 2020. The GoE identified eight grand challenges: Climate change, Loss of biodiversity, Resource constraints and loss of ecosystem services, Urbanization, Ageing society, Environmental health, Social preparedness, and Eco-innovative solutions and their dissemination.
- Along with the identification of thematic challenges, the GoE highlighted the importance of monitoring, modelling and forecasting methods to design policies and measures, the strong linkages between environmental and social systems, the importance of inter-disciplinary research and the need for trans-boundary research and policy initiatives.
- International comparisons reveal that the EU27 has an overall lower share of government expenditure on R&D than the US or Japan, but it does allocate a larger share of that R&D budget to environmental categories.
- The report also proposes research areas to be supported under Horizon 2020 and discusses different implementation modalities. From this analysis, it appears that a specific, holistic, cooperative environmental programme is needed to support the increasingly crucial environmental policies, harvesting innovative ideas for business purposes and providing a clear interface to address the above mentioned challenges.

Composition of Expert Group:

- Pierre Devillers (Chair), formerly Royal Belgian Institute of Natural Sciences (BE)
- Anil Markandya (Rapporteur), Director, Basque Climate Change Centre (UK)
- Manuel Barange, Director, Plymouth Marine Laboratory (ES)
- Cees Buisman, Professor, WETSUS (NL)
- Jennifer Cassigena-Harper, Director of Policy Unit, Malta Council of science and technology (MT)
- Peter Fritz, formerly Helmholtz Centre for Environmental Research (DE)
- Ana Iglesias, Professor, Polytechnic University of Madrid (ES)
- Anne-Yvonne Le Dain, Director, CIRAD (FR)
- Adrian Joyce , Senior Advisor, Architects Council of Europe (IRL)
- Lea Kauppi, Director, Finnish Environment Institute (FI)
- Lisbeth Knudsen, Professor, University of Copenhagen (DK)
- John Ludden, Director, British Geological Survey, NERC (FR/UK)
- Michal Miedzinski, Consultant, Technopolis Group (PL)
- Ece Ozdemiroglu, Director, Economics for the Environment Consultancy Ltd (TR/UK)

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/horizon2020_env_forward-looking_goe2011_final.pdf#view=fit&pagemode=none

14. Fusion Energy - State of Development and Future Role

1. Aim of the evaluation study

The aim of this study was to present the current state of development and future role of fusion energy and furthermore analyse socio-economic risks and opportunities related to funding of fusion research. The study was commissioned by DG RTD in the context of preparations of an impact assessment for next Euratom Research and Training Programme.

2. Key findings

- Fusion research has made considerable progress towards overcoming the scientific challenges, in line with the research resources made available.
- An increase in resources would speed up the commercialisation of fusion but the prospects are too long term and high risk for commercial companies to fund research yet.
- The physics which makes fusion power a viable possibility has been demonstrated at the JET facility in 1997 which produced 16MW of fusion power while being driven by 25MW of input power. The challenge now is to demonstrate that fusion works in an integrated power station like facility and to make the reaction stable, produce a net amount of electricity and commercially viable.
- Fusion offers genuine benefits in comparison to other energy sources that, given the seemingly inevitable growth in energy demand predicted should ensure it a role in the future energy mix.
- The research and development costs associated with developing fusion are very large but given the scale and value of the global energy market and the benefits fusion could bring, the on-going resources allocated to other alternative sources of energy (e.g. renewables) fusion is worthy of public support

Author: ECORYS Nederland BV

15. Interim Evaluation of EU FP7 Transport Research, notably within Theme 7 of the Cooperation Programme "Transport (including Aeronautics)"

1. Aim of the evaluation study

The interim evaluation of the Seventh European Framework Programme (FP7) Transport research aims to contribute to the overall FP7 interim evaluation.

2. Key findings

- The FP7 Transport programme exhibits a strong European added value
- The approach adopted for the FP7 is an outstanding improvement compared to the previous FPs
- The Transport programme demonstrates stronger ambitions with regards to cross-modal and cross-cutting activities, yet allows them to materialise more concretely
- The procedures for priority-setting and Work programme design are well-defined
- European Technology Platforms (ETPs) add value to the FP7 Transport programme
- European Technology Platforms contribute to gear Member States public and private research towards common goals
- The FP7 Transport programme strengthens and broadens the 'ERA in Transport'
- The capacity of the FP7 to attract the most important players in research and innovation in transport is uneven among sectors
- All necessary conditions are set for projects to deliver their expected results
- FP7 funds applied mid-term research for projects that will need follow-ups to lead to innovation
- FP7 funds research with high additionality
- The role of the Small and Medium Enterprises (SMEs) in the projects is important
- The cooperation with ICPC partners is still limited

Recommendations:

- The EC should reaffirm and strengthen its integrated, holistic and systemic approach in future FP7 work programmes and in FP8
- The EC should reinforce and modify the modalities of its support to multi-modal research activities
- The EC should redefine its approach of cross-cutting issues
- The EC should increase the development of new means of communication and diffusion of FP7 Transport programme results
- The EC should enhance the internal human resources and budget assigned to the management of the FP Transport programme in order to maintain sufficient project and programme coordination
- The EC should identify the lessons-learned from the Clean Sky Joint Technology Initiative and reflect upon possible replication in other transport modes
- The EC should explore ways and instruments to reinforce European exploratory research
- Increasing articulation between the Framework Programme and the national programmes of the Member States

Author: Technopolis Group

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/fp7-evidence-base/evaluation_studies_and_reports/interim_evaluation_of_eu_fp7_transport_research.pdf

Reports with evaluative information

16. Fourth FP7 Monitoring Report (Monitoring Report 2010)

1. Aim of the report

The monitoring of EU Framework Programmes' implementation is an essential component of the overall evaluation and monitoring system. It supports the management of the programmes, provides transparency on programme activities and contributes towards the evidence base for major programme evaluations. In legal terms, the requirement to undertake monitoring is set out in the FP7 Decisions (EC and Euratom, Articles 7(1) and 6(1)).

The main objective of the 2010 Monitoring Report was to comply with these requirements and to report about the implementation of FP7 in 2010.

2. Key findings

- The magnitude of FP7 is illustrated by the impressive participation figures: During the first four years of FP7, 245 concluded calls received more than 77.000 proposals, out of which more than 59.000 – involving a staggering more than 312.000 applicant organisations and individuals – were included in the evaluation procedure, and more than 12.000 – involving more than 69.000 participants – were finally retained for negotiations, with a corresponding requested EU funding of € 20,4 billion.
- These figures also illustrate the impact of FP7 on the European science system and the European Research Area (ERA). Proposals and applicants had an average success rate of 21% and 22%, respectively.
- On the participation of Small and Medium Enterprises (SMEs), it is estimated that during the first four years of FP7 implementation 16,6% of all participants in signed grant agreements were SMEs.
- On the gender dimension of FP7 participation, it is estimated that 20,3% of contact persons for scientific aspects in FP7 funded projects, 38,3% of Marie Curie fellows and 21,2% of principal investigators under ERC grants are women. A more detailed analysis shows significant variations among the different thematic areas of FP7 as well as among the EU Member States.
- The significant international dimension of FP7 is illustrated by the fact that during its first three years it will fund projects with participant organisations from as many as 169 countries. Outside the group of EU and Associated Countries the biggest participants are the USA, China, Russia, Brazil, South Africa, India, and Ukraine.
- On the redress and ethical review procedures, out of the 2.105 requests for redress received, only 30 led to a re-evaluation, whereas 1.078 ethical reviews were organised so far with no project having been stopped.

Author: Unit A.6 "Ex post Evaluation and Reporting"

Weblink to the study:

http://ec.europa.eu/research/evaluations/pdf/archive/fp7_monitoring_reports/fourth_fp7_monitoring_report.pdf#view=fit&pagemode=none

17. The Innovation Union – Challenges for R&I Policies Considering the Economic Impact

Study to assist the European Research Area Board

1. Aim of the study

This is a scoping study the outcome of which will provide ERAB and the research policy community with instrumental knowledge in its advisory capacity for an effective implementation of the Innovation Union strategy.

2. Key findings

Suggestions for new initiatives at the EU level that help redress Europe's early stage equity gap are:

- Supporting Member States initiatives: an important contribution which the EU level can provide to Member States is the provision of a larger platform for policy learning.
- Re-aligning existing EU instruments into a holistic policy framework: the European Union has already currently in place a number of instruments and initiatives (bans by Risk-Sharing Finance Facility (RSFF) of the European Investment Bank (EIB) and FP project funding). These instruments should be redesigned as part of a holistic approach to address the funding escalator.
- Filling the funding escalator with new EU initiatives:
 - A Yollies-Grant Program to bridge the gap from the lab to the market;
 - A Fund-of-Fund to leverage Europe's early stage Venture Capital market;
 - A program for leveraging Member States procurement for innovative purposes.

Author: Reinhilde Veugelers

Weblink to the study:

http://ec.europa.eu/research/erab/pdf/erab-study-challenges-for-ri-policies-considering-the-economic-impact-2011_en.pdf

18. Main Challenges and Impact of Emerging and Generic Technologies at the European and Global Level and their Policy Implications

Study to assist the European Research Area Board

1. Aim of the study

This is a scoping study which should include:

- A systematic scanning and scoping of relevant existing, emerging and future generic technologies;
- An analysis of the likely impact of these technologies as related to the economic and social aspects at both, European and global levels;
- An identification of policy areas and measures to be analysed in greater detail in order to find ways to implement any necessary measures / changes;
- And/ or the feasibility of setting up such a comprehensive scanning in the future, including methodology that should be used.

2. Key findings

- An overview table of technologies is presented. The technologies are also assessed on their generic and emerging character through an inventory of evidence as regards their economic relevance, societal relevance and status / maturity.
- As regards policy implications for following up on and furthering emerging and generic technologies, the Final Report of the High Level Expert Group on Key Enabling Technologies (KET) provides a good starting point. The following measures are deemed relevant:
 - Define and implement a comprehensive approach to emerging and generic technologies at EU level;
 - A combined financing to promote RDI investments in emerging and generic technologies (EGTs);
 - A globally competitive Intellectual Property (IP) Policy;
 - The development of skills and competencies to enhance the exploitation of EGTs;
 - Appropriate follow-up and monitoring mechanisms.
- In addition, we posit that it is vital to develop actions in 3 additional directions:
 - Anticipate on ethical, environmental and other issues surrounding the respective technologies in an early stage to avoid “technological determinism” and to maximize societal utility and acceptance of EGTs.
 - Build consensus with other continents, trade blocks or multilateral organizations in case that driving specific technologies forward has collateral effects beyond Europe (or vice versa).
 - Sensitization of the public for KETs
- To come to a more systematic future scanning on emerging and generic technologies, again we propose to take the recommendations issued in the Final Report of the High Level Expert Group on KET as a starting point. We would notably recommend embracing the issues raised:
 - The establishment of a European observatory monitoring mechanism that aims at providing relevant information / data on EGTs to enable better development and implementation of policies regarding the furthering of EGTs by European decision-makers, including Member States, regional authorities and industry. The European mechanism or structure to be created should consult the main stakeholders on a regular basis.

Author: Bart Kemp, Orkestra Institute of Competitiveness

Weblink to the study:

http://ec.europa.eu/research/erab/index_en.html

19. The Role of Different Funding Models in Stimulating the Creation of Innovative New Companies – What is the Most Appropriate Model for Europe?

Study to assist the European Research Area Board

1. Aim of the study

This exploratory study is asked to contain the following information:

- What are the main financial mechanisms in US, Europe (EU plus associated countries) and China for stimulating new high technology businesses (or "Yollies": young leading innovators).

- Is the Venture Capital (VC) route the most appropriate for Europe, or what mix of financial methods is best for the European framework? Is there a role for the European Investment Bank, the European Investment Fund and the Framework Programme?

- How do VC activities in US, China and Europe look like today?

- What is the volume and structure of the VC market in these countries?

- What is the typology of the VC firms (single portfolio funds, fund in funds)?

- What is the role of public authorities/policy?

- What are the specific new initiatives with regard to Grand Challenges?

- What is the relationship with universities and big research hubs?

This has to lead to a policy recommendation with regard to the European VC situation: what is the optimal initiative the European Commission could take to stimulate the European VC market?

2. Key findings

- Future policy options:

- Public policy should avoid excessive market entry
- Venture investing is only one element of a strongly interconnected system
- Public support needs to be 'flexibly aligned' to market and societal trends by setting 'core parameters' for support
- Policy should seek to incentivise private venture funds through long term investment in professionally managed schemes by scaling up and expanding horizons of hybrid funds and by policy makers biting the bullet and shutting down ineffective instruments.

- Financing Young Innovative Companies

- General Policy Guidelines: simplicity, clarity, incentives

- Specific Policy Guidelines: build well-funded, long term, professionally managed schemes, focused on both direct and indirect effects and learn from success and failure over long periods.

- Specific Finance Policy: a key aim should be to ensure that the level of smart capital, involving both debt and equity funding, seamlessly grows as firms grow and require more funding.

Author: Technopolis Group

Weblink to the study:

http://ec.europa.eu/research/erab/pdf/erab-study-venture-capital-2011_en.pdf

20. Investing in Research and Innovation for Grand Challenges

Study to assist the European Research Area Board

1. Aim of the study

This is a comparative study on research and innovation strategies and investment in two Grand Challenges, climate change and active and healthy ageing. The comparative analysis should include investment levels and an analysis of the research and innovation investment strategies in the grand challenges in Europe (EU + associated countries) and in a sample of non-EU countries. Also, a SWOT analysis of the EU's future global competitiveness on the two grand challenges should be performed.

2. Key findings

- Going through the policy documents of Member States there is a relatively strong consensus about the nature of the challenges backed by ample reference to European Commission and Union documents. In our view this provides a basis for stronger guidance and/or process management by the Commission, even when many of the challenges are part of policy domains which largely fall under the member States' responsibilities.
 - On this basis it should be tried to reinforce and speed up the Joint Programming Initiatives, make them more ambitious and call for larger coordinated investment from the side of the Member States.
- Do not focus the European grand challenges approach on research only, but start from the demand for solutions that a challenge may generate. The wealth of regional and local initiatives in the two challenges studied points to a strong interest at the level of innovation and diffusion of innovations in market and society.
 - Fostering and "upscaling" initiatives at this level may prove to be very beneficial for the goals of research excellence and industrial growth and leadership as well.
- As the sphere of Innovation is very different from the sphere of Science and Technology it is not advised to seek a strong integration and/or alignment of the two. Europe's scientific world does not have to solve all the issues relevant for a challenge, but it can build a strong position when it effectively responds to a better articulation of challenge driven research and technology needs in the sphere of innovation.
 - When implementing GC-focused programmes in Europe, the setting up of arm's length agencies should be part of the plan:
 - Examples from the agencies in the US and the private sector initiatives show us that a degree of political and organisational independence from changing governments and administrations usually leads to more effective programmes.
 - The agencies should not so much be seen as (research and innovation) funding bodies, but rather try to be "change agents" building upon the relatively strong and stable political consensus with regard to the specific challenge.
 - It is important that such agencies are audited in a longer-term horizon with a clear focus on their mission: contributing to solving GC.

Author: Joint Institute for Innovation Policy

Weblink to the study:

http://ec.europa.eu/research/erab/pdf/erab-study-grand-challenges-2012_en.pdf

21. More Frontier Research for Europe, a Venture Approach for Funding High Risk-High Gain Research

Study to assist the European Research Area Board

1. Aim of the study

The study on a European Research Area of excellence should include comparative SWOT analysis of existing models of research funding at the EU and Member States level and a sample of non-EU models. The study should also include an analysis of at least three possible models for future EU research funding that would maximise excellence and optimal risk-taking for European Research.

2. Key findings

- To work towards the ERAB milestone stating that 50% of European research will be regarded as frontier research in 2030, it is necessary that Europe adopts a more venturing approach to its overall research portfolio. Part of the overall portfolio management should be directed towards easing the flow of knowledge and people between different “boxes” of the portfolio.
- Trust based direct researchers awards and institutional funding should become essential and larger parts of the European research portfolio.
- Thematic programmes need stronger (scientific) management, with responsibility and accountability in view of the challenges which the programmes want to address.
- More attention should be paid at the European level to develop challenging programmes which go beyond the immediate and well-defined interests of stakeholders.
- One of the ways to do this is to systematically foster the special line for frontier science or Future and Emerging Technologies in all themes of the Framework programme. A similar line could be developed within the PPPs.
- It is to be advised to systematically program and monitor thematic research in a Triple Helix setting, whereby each of the participating stakeholder parties has a different role (government: societal challenges, industry: business opportunities, scientists: longer term research opportunities). It is worthwhile to also consider the possibility to include citizens or laymen in the process.
- Flexibility, speed, and increased dynamics in the research portfolio as a whole require simplification as a boundary condition.
- In general independent agencies (as a generic word for any organisation to which tasks are outsourced) which are accountable to politics on the basis of a clear and publicly discussed strategy are best positioned for the implementation of frontier research funding schemes.

This study has been of an explorative nature. Key elements for future elaboration are:

- Further development of a coherent vision and approach toward the overall European research portfolio;
- Managing for challenging frontier research programmes and a venturing researchers’ environment;
- Implementation by outcome-oriented mission driven agencies accountable for a well-defined and politically agreed set of strategic goals.

Author: Joint Institute for Innovation Policy

Weblink to the study:

http://ec.europa.eu/research/erab/pdf/erab-study-high-risk-high-gain-2010_en.pdf

Annex 2. Methodology of the Report

The basic information for this Report was provided in the Annual Evaluation Plan 2011. Questionnaires were elaborated in consultation with DG RTD's Interservice Evaluation Network and distributed throughout DG Research and Innovation to be filled in by policy and project officers in March 2012. Please find a blank copy below. These questionnaires provided further and detailed information about the studies and reports.

The section about Quality Assessment (9) was completed in reference to the Quality Assessment form which is annexed to the evaluation report by project officers.

Questionnaire:

1. Title of the evaluation study
2. Aim of the evaluation study
3. Key findings (1 page max.)
4. Weblink to the study (if any)
5. Cost of the study
6. Estimate of Commission human resources needed (person month full-time equivalent)
7. Implementation of the evaluation study

Please indicate your answer by an X:

Expert group	
External contractor through open call	
External contractor through Framework Contract	
Other (<i>please specify</i>):	

- Name of the contractor (*if external contractor*):

.....
.....

8. Methodology

Please indicate your answer by an X (several answers possible):

Survey	
Interviews	
Case studies	
Bibliometric analysis	
Network analysis	
Modelling	
Other (<i>please specify</i>):	

9. Quality Assessment (Please refer to your Quality Assessment Form)

Please indicate your answer either by an X or by adding appropriate text.

a) Relevance:

Does the evaluation respond to information needs, in particular as expressed in the terms of references?

<u>Poor</u>	<u>Satisfactory</u>	<u>Good</u>	<u>Very Good</u>	<u>Excellent</u>
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b) Reliability

Are the findings and conclusions reliable?

<u>Poor</u>	<u>Satisfactory</u>	<u>Good</u>	<u>Very Good</u>	<u>Excellent</u>
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Are there any specific limitations to their validity and completeness?

YES	NO.....
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If **YES**, please specify:

.....

c) Helpful recommendations

Are the areas needing improvements identified in coherence with the conclusions? Are the suggested options realistic and impartial?

<u>Poor</u>	<u>Satisfactory</u>	<u>Good</u>	<u>Very Good</u>	<u>Excellent</u>
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d) Overall assessment (1)

Does the evaluation fulfil contractual obligations?

YES		NO.....		
If YES , please specify:	<u>Satisfactory</u>	<u>Good</u>	<u>Very Good</u>	<u>Excellent</u>

e) Overall assessment (2)

Is the information in the report a useful input for designing intervention, setting priorities, allocations resources or improving interventions?

YES		NO.....		
If YES, please specify:	<u>Satisfactory</u>	<u>Good</u>	<u>Very Good</u>	<u>Excellent</u>

10. Dissemination of results

- Have you done an internal workshop with your colleagues to present the results of the evaluation study?
- Have you prepared a note presenting the key outcomes of the study to your colleagues?
- Have you organised a workshop with external stakeholders?
- Have you presented the results of the study at (external) conferences?
- Has a dedicated website been created?
- Other (*please specify*)

11. What lessons can be learnt from this evaluation process? Which particular difficulty did you encounter (delays, procedure, staffing...)?

12. Please add any other comments you may have on this evaluation study/process

