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**REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN  
PARLIAMENT**

**Summary Report on the Monitoring and Assessment Exercise of the Research  
Programme of the Research Fund for Coal and Steel**

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## Summary Report on the Monitoring and Assessment Exercise of the Research Programme of the Research Fund for Coal and Steel

### 1. INTRODUCTION

The Research Fund for Coal and Steel of the European Commission, hereinafter RFCS, was established in 2002 to support the competitiveness of the European Coal and Steel sectors, building on the legacy of the expired European Coal and Steel Community Treaty. In its 11 years of activity, the RFCS has co-funded research, pilot and demonstration projects with total funding in the order of 600M€ (typically 55 M€ per year) granted to industries, universities and research centres.

In accordance with Article 38 of the legal basis of the RFCS (Council Decision 2008/376/EC)<sup>1</sup>, the Commission has recently completed a Monitoring exercise of the research programme and an Assessment of the expected benefits. An Expert Committee made of independent experts was appointed to carry out these two tasks.

The Monitoring exercise was intended to monitor the implementation of the programme since 2002, encompassing all operational aspects and drawing recommendations for future improvement and possible simplification of current procedures. The relevant report was published in electronic format on the RFCS web site<sup>2</sup> in 2013 in accordance with paragraph 1 of said Article 38.

The Assessment exercise was carried out on completion of projects co-financed by the RFCS between 2003 and 2010 in order to assess the qualitative and quantitative benefits to the society and to the relevant sectors. The Assessment report with its Technical Annex was published in electronic format on the RFCS web site<sup>2</sup> in 2013 in accordance with paragraph 2 of said Article 38.

Following consultation with the Coal and Steel Committee (COSCO) it was agreed that a combined Monitoring and Assessment report shall be published in paper and electronic format. Accordingly, the final combined report was published by the Publications Office of the European Union in September 2013 and is currently publicly available online on the EU Bookshop platform.<sup>3</sup>

### 2. METHODOLOGY

In order to establish the administrative and financial framework of the Monitoring and Assessment exercise, the Commission services established in October 2010 an internal Steering Committee chaired by Alan Haigh, Head of Unit for RFCS. In accordance with Article 38 paragraph 3 and Article 39 of the RFCS legal basis, and after consultation with

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<sup>1</sup> Official Journal of the European Union, 20 May 2008, ref. OJ L130.

<sup>2</sup> [http://cordis.europa.eu/coal-steel-rtd/home\\_en.html](http://cordis.europa.eu/coal-steel-rtd/home_en.html)

<sup>3</sup> Monitoring&Assessment Report of the Research Programme for the Research Fund for Coal and Steel. European Commission, DG Research and Innovation. © European Union 2013. ISBN 978-92-79-29742-7, URL <http://dx.doi.org/10.2777/11062>.

COSCO in 2010, an Expert Committee made of independent external experts was established in 2011 to assist the Commission in this activity. The Expert Committee was chaired by Prof. Dr.-Ing. Carl-Dieter Wuppermann and the other members were highly qualified experts selected from the coal and steel sectors appointed following suggestions from the Coal and Steel Advisory Groups (CAG and SAG).

The Expert Committee drew up a set of Terms of Reference for both the Monitoring and Assessment exercises and established a methodology including the formulation of a long and short questionnaire and a series of on-site visits using highly qualified rapporteurs. The COSCO meeting of 2011 endorsed the Terms of Reference and the overall proposed methodology.

With the help of the chairmen and the other members of the Technical Groups, all 198 projects closed between 2003 and 2010 were analysed with the aim to obtain an overview of the main achievements. A sub-set of 78 projects were identified as the ones promising potential for quantification of benefits. Of these, in-depth analysis was carried out for 46 projects including technical visits and completion of a long questionnaire (details of these assessments are presented in the annex to the Assessment Report). Finally, a subset of 23 projects was considered for quantification of actual and potential benefits at the level of the beneficiary and sector, respectively.

The preliminary results of the exercise were presented to the COSCO meetings of 2012 and 2013. A conference was held in Luxembourg on 19 and 20 September 2012 in order to present the findings of the Monitoring Report to a wider audience and to celebrate the 10 year anniversary of the first call for proposals of the RFCS programme.

### **3. MAIN FINDINGS OF THE MONITORING EXERCISE**

The main recommendation of the Monitoring exercise was to maintain the general approach adopted since the creation of the Research Fund for Coal and Steel in 2002 and revised in 2008. More specifically, the programme should:

- Keep the research programme as an industry-oriented sectorial programme and keep the research objectives unchanged, as they are considered of high relevance for the European coal and steel industry and suitable for the future trends in both sectors.
- Maintain the current main processes for implementation, such as the rules for allocation of budget to the sectors, the share of allowable actions (research projects, pilot and demonstration projects, accompanying measures) and the participation rules. The practice that non-EU partners can take part in projects but cannot receive funding should be maintained.

At the same time, enhancement of specific aspects was also suggested with the aim of improving the current RFCS practice. Amongst the recommendations were: a possible better harmonization of the technical sub-fields of the programme (Technical Groups), the improvement of the criteria used for the evaluation of submitted proposals, a more extensive use of electronic tools (e.g., for submission and remote evaluation of proposals), the strengthening of dissemination actions both during the lifetime of projects and after the production of the final report, the encouraging of pilot and demonstration projects. Overall, these recommendations do not anticipate any fundamental modification in the nature, scope and general approach of this research programme.

In response to these recommendations, specific actions were undertaken including:

- The full introduction in 2013 of an electronic submission system of proposals allowing remote reading and first assessment by independent external experts. The system used is compatible with the Horizon 2020 electronic submission tools, hence increasing the synergies between RFCS and Framework Programme implementation.
- A review of the evaluation criteria carried out with the assistance of the Coal and Steel Advisory Groups (CAG and SAG). This led to an improved set of evaluation criteria for Research, Pilot and Demonstration projects which is already in use for the 2013 evaluation exercise.
- A review of the scope and of the evaluation criteria for the Accompanying Measures action of the programme, with a view to enhancing the dissemination and impact of project results. A draft proposal is in the agenda of the forthcoming meetings of the advisory groups.
- A draft proposal to harmonize scope and size of some critical technical groups is currently being discussed among advisory group members, TG members, The European Steel Technology Platform (ESTEP) and the Commission services.

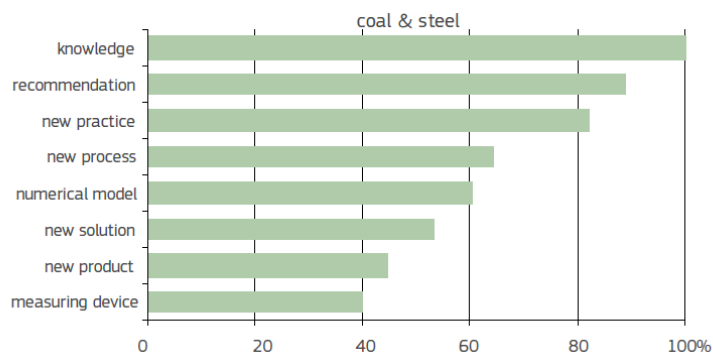
#### 4. MAIN FINDINGS OF THE ASSESSMENT EXERCISE

The Assessment exercise identified both qualitative and quantitative benefits arising from completed projects co-funded by the RFCS.

##### 4.1 Qualitative benefits

The results of more than 500 questionnaires, which were answered by a very high percentage of correspondents, indicated the main qualitative benefits perceived by stakeholders. In addition, all 198 projects completed between 2003 and 2010 were analysed by technical experts with the aim to obtain an overview of the main achievements.

First, the nature of the main outcomes of the projects was determined (Figure 1). It was found that projects generate achievements in terms of increased knowledge and, to a smaller extent, they generate recommendations, new processes and practices, numerical models, new solutions and products and measuring devices.



**Figure 1.** Nature of project outcomes *versus* percentage of projects analysed.

Then, the qualitative benefits generated by these outcomes were identified as follows.

*Benefits for the beneficiaries and the sectors:*

- New knowledge gained and opportunities for networking of experts covering both industry and academia, training and education.
- Financial returns and other economic benefits, which effectively contribute to the economic sustainability and competitiveness of the related industry.
- Development of new processes, new solutions and new products, indicating the impact of the RFCS on the development of innovation and its deployment in industrial practice. Follow-up investment are recommended in order to further improve the exploitation of results through the sectors.

*Benefits for the society:*

- Beside the increase of knowledge, the RFCS projects are considered as strongly enhancing the competitiveness of Europe through new and sustainable technologies, products and solutions.
- Other benefits for the society come from improvements in health, safety and working conditions and from the reduction of the environmental footprint of the coal and steel industry.

In all cases, an efficient dissemination of results is a key factor for harvesting the potential benefits and to boost the development of knowledge beyond just the Coal and Steel sectors (other industrial sectors, customers, SMEs, academia and research centres, citizens, etc.).

#### 4.2 Quantitative benefits

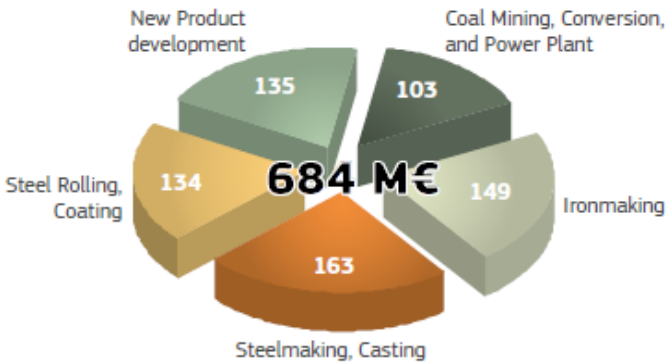
The assessment of the main quantitative benefits was carried out for 23 completed projects or clusters of projects, co-funded by the RFCS with 31 M€ and selected as the ones delivering the most direct and non-ambiguous financial benefits for the beneficiaries (other projects also showed benefits but these were more difficult to quantify). The financial benefits considered in the analysis consisted in increased productivity, new or improved market shares and cost reduction and did not take into account the additional cost that had to be incurred by the companies to capture those benefits (a full cost/benefit analysis was out of the scope of the Assessment exercise).

The actual benefits at the level of the beneficiaries involved was estimated to be nearly 103 M€ per year. This figure has been fully endorsed by the industrial partners of the projects and shows that, on average for those 23 projects, 1 € of RFCS co-funding resulted in financial benefits of 3.3 € per year.

The report also describes a simplified model by which accumulated benefits could be assessed over a reasonable time span. According to this model, and still taking the 23 selected projects as reference, the total accumulated benefits for the project partners have been estimated in the order of 400 M€. Although this figure is a projection and does not consider investments, it is indicative of the potentiality of projects to generate large benefits over time.

Finally, based on conservative assumptions made by the Expert Committee, an estimation was made of the potential total benefits that could be generated if the results of the selected 23 projects would be extended to all relevant industrial contexts in the European coal and steel sectors. In this case it was estimated that the overall annual potential benefits would amount to 684 M€/y in the different production areas, as shown in Figure 2. Compared to the RFCS

typical annual budget of 55 M€, this corresponds to a potential multiplying effect of 12.4 euros of benefits for each euro spent by RFCS, reflecting well on this research programme as an instrument able to deliver innovation and competitiveness to the European coal and steel sectors as a whole rather than just to individual beneficiaries.



**Figure 2.** Potential benefit of 684 M€y from an annual RFCS funding of 55 M€y for different production areas for the coal and steel sectors

The reports of the Monitoring and Assessment exercise of the RFCS programme indicate that this programme is a unique and effective instrument in supporting the competitiveness of the European Coal and Steel industry.

**5. CONCLUSIONS**

Main outcomes can be summarized as follows.

- The programme does not require fundamental changes; its industry-oriented nature and main operating rules should be maintained.
- Qualitative benefits have been identified for the beneficiaries, for the coal and steel sectors and for the society and mainly consist in new knowledge, new processes and products, financial returns and improved working conditions.
- Quantitative benefits have been estimated in detail for 23 selected projects, showing that every euro used as RFCS co-funding has resulted in 3.3 €y of financial benefits for the beneficiaries.
- Projections across the coal and steel sectors showed the huge potential for exploitation of the technical and scientific achievements of RFCS projects. They indicated that, if widely applied at European scale, these achievements could lead to financial benefits of 684 M€. Considering a typical annual RFCS budget of approximately 55 M€, this corresponds to a potential multiplying factor of 12.4.

From this analysis, the Research Fund for Coal and Steel appears fully in line with its mandate defined by Article 2 of the RFCS legal basis on the adoption of the Research Programme for the RFCS (Council Decision 2008/376/ EC), which shall be an instrument to “support the competitiveness of the Community sectors related to the coal and steel industry”, delivering innovation and therefore “complementing the activities carried out in the Member States and within the existing Community research programmes” such as FP7 and the forthcoming Horizon 2020.