



Research Fund for Coal and Steel 14 May 2015 Porto / Portugal

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European Commission
DG Research and Innovation
Research Fund for Coal and Steel**

History of the RFCS

The RFCS Programme (1)

From the past ... European Coal and Steel Community (ECSC)

1952: ECSC Treaty of Paris (validity 50 years)

Expired in July 2002

Levy from coal and steel production

Assets left : ~ 1.6 billion €



The RFCS Programme (2)

... to the present: Research Fund for Coal and Steel (RFCS):

- **2001: Treaty of Nice**
- **To transfer the ECSC assets (originally paid by industry) to the European Community and utilise the interests generated by these assets (now ~ 2,0 billion € to co-finance research in coal and steel**
- **To create the RFCS: 1 February 2003**



RFCS Background Information

Legal Basis

COUNCIL DECISION of 1 February 2003 establishing measures on the financial consequences of the expiry of the ESCS Treaty and on the Research Fund for Coal and Steel *(2003/76/EC)*

COUNCIL DECISION of 29 April 2008 on the adoption of the Research Programme of the Research Fund for Coal and Steel and on the multiannual technical guidelines for this programme *(2008/376/EC)*

WHAT is the RFCS Programme?

A research fund with a budget of ~ 50 M€ / year

Not taxpayer money

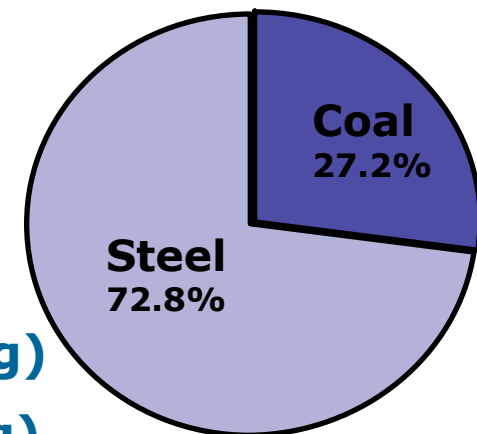
Promoting industrial research in the field of

- **Coal and Steel**

Open call for proposals for

- **Research projects (60% funding)**
- **Pilot & Demonstration projects (50% funding)**
- **Accompanying measures (60 - 100% funding)**
- **Deadline: mid September each year**

Outside the FP/H2020 ... yet closely co-ordinated & complementary



*RFCS funding
allocation*

Who can participate?

Simple rules

- Any legal entity established in the EU28 Member States
- Partners outside EU28 are entitled to participate but without receiving financial contribution

Typical projects

- Focused on industrial participation
- Dedicated and manageable consortium (5/8 partners)
- Average funding 1 – 2 M€ per project
- Duration typically 3 – 4 years



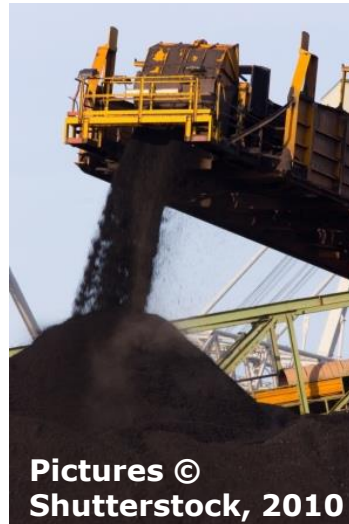
RFCS Overview: Facts & Figures

- **Approx. 300 Grant Agreements running at any one time**
- **>700 M€ funding in Coal and Steel research since 2003 \approx 1 B€ total spending**
- **Mixture of industry, academia and research centres**
- **Technical, innovative projects, well defined objectives**
- **Can be complimentary to other funding (H2020, national funds, etc.)**

COAL: Programme Research Objectives

**Management of
external dependence
on energy supply**

**Health and Safety
in Mines**



**Improving the
competitive
position
of Community Coal**

**Efficient protection of
the environment
& improvement
of the use of coal
as clean energy source**

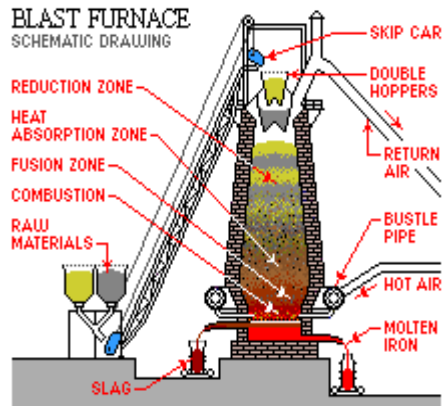


Coal means: Hardcoal - Lignite - Coke - Briquettes - Oil Shales

Coal Technical Groups

- TGC 1** Coal mining operation, mine infrastructure and management, unconventional use of coal deposits
- TGC 2** Coal preparation, conversion and upgrading
- TGC 3** Coal combustion, clean and efficient coal technologies, CO₂ capture

STEEL: Programme Research Objectives



**Conservation of resources
and improvement of
working conditions**



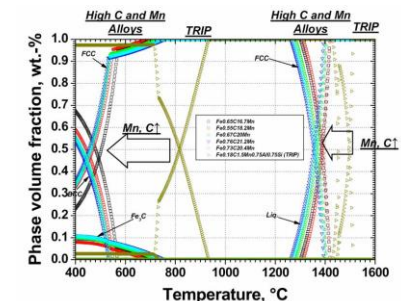
**New and improved
steelmaking
and finishing
techniques**



**Research on
the utilisation
of steel**

STEEL Technical Groups

- TGS 1 - Ore agglomeration and iron making
- TGS 2 - Steelmaking processes
- TGS 3 - Casting
- TGS 4 - Hot and cold rolling processes
- TGS 5 - Finishing and coating
- TGS 6 - Physical metallurgy and design of new generic steel grades
- TGS 7 - Steel products and applications for automobiles, packaging home appliances
- TGS 8 - Steel products and applications for building, construction and industry
- TGS 9 - Factory-wide control, social and environmental issues



Further Groups:

COSCO: Composed of representatives of Member States. Its role is to assist the Commission in the overall programme management.

CAG/SAG: Composed of technical advisers, active in the field concerned and aware of the industrial priorities. Members are appointed by the Commission. The CAG and the SAG shall assist the Commission in the programme management.

Submitting a Proposal

Deadline 15 September 2015

Eligibility and Selection Criteria

Eligibility

- Length and format

Selection

- R&D projects → 5 criteria
- Accompanying measures → 4 criteria

Scoring

- For each criteria from 0 to 5
- If annual priority, then 1 bonus point

0 = Fails/incomplete

1 = Poor

2 = Fair

3 = Good

4 = Very good

5 = Excellent



Research, Pilot & Demonstration Projects

5 criteria, scores 0 to 5

1. Scientific and technical approach

Threshold : if mark < 3 , proposal is rejected !

2. Innovative content

Threshold: if mark < 3 , proposal is rejected !

3. Consistency of resources and quality of partnership

4. Industrial interest, scientific/technical prospects

5. Added value for Community, contribution to EU-policies

+ 1 point if proposal addresses at least one of the annual priorities

2015 Annual Priorities Coal

1. Management of environmental risks during OR after mine operation
2. Increasing the efficiency of mine production by utilising Information and Communication Technologies (ICT) for improved process optimisation
3. Improved monitoring of coke oven conditions
4. Upgrading of coal-derived liquids
5. Technological improvements targeting load flexibility AND environmental performance of coal fired power plants
6. Pilot projects validation of emerging AND innovating technologies leading to efficiency improvements AND CO₂ emission reduction

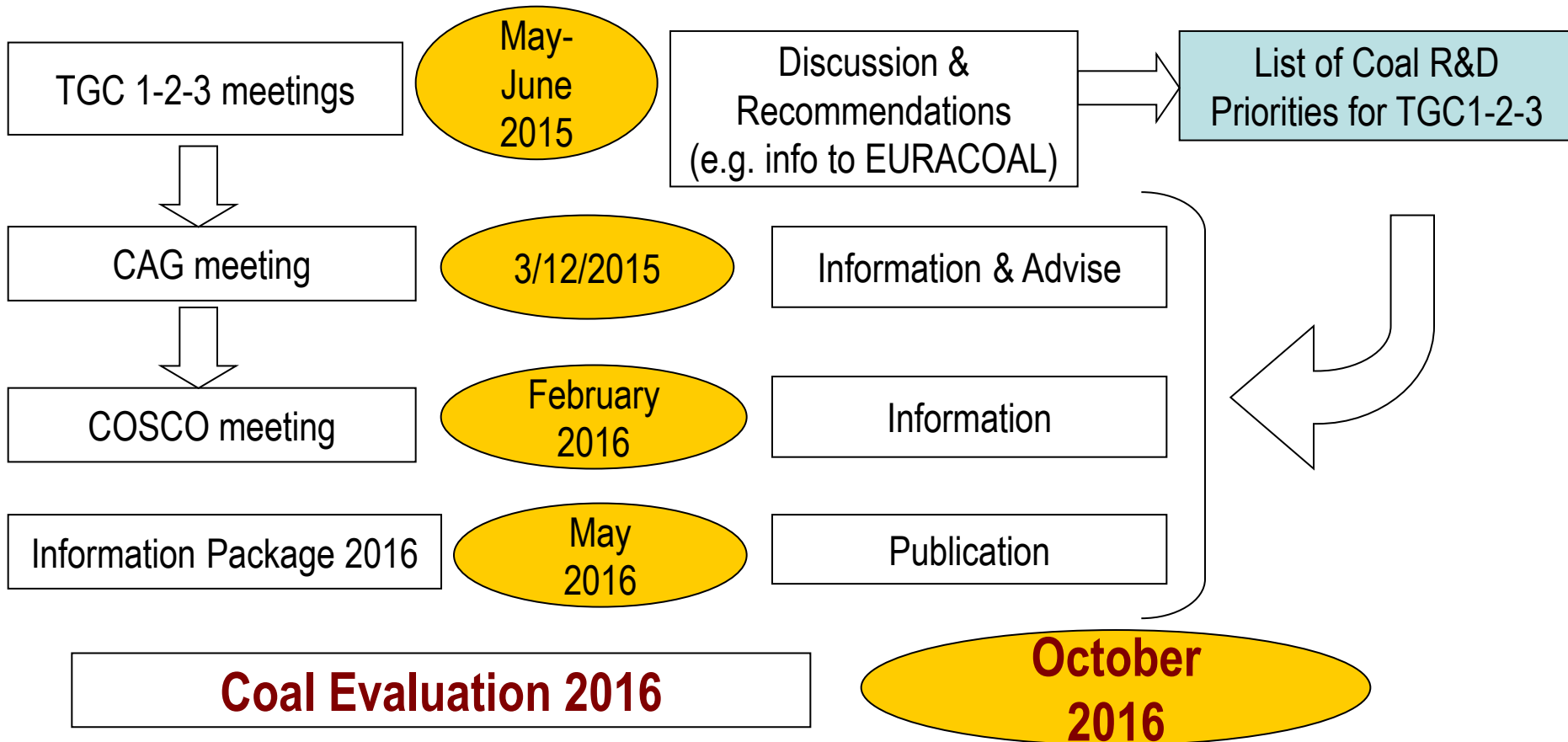
2015 Annual Priorities Steel (1/2)

1. Improved energy efficiency in high temperature processes by recovery of waste heat without drawback on environmental impact compared to present best available technologies
2. Integration of process monitoring (online/offline), control and technical management of steel production using mathematical methods for a multi-criteria optimisation of steel production with respect to at least two of the following aspects: productivity, resource efficiency and product quality
3. New or improved resource efficient processes to transform low quality primary raw materials or secondary raw materials (e.g. slag, dust, scale, sludge, low quality scrap) into valuable products
4. Solutions directly aiming at minimizing the ecological footprint of the Steel Works with respect to one of the following issues: air, water, soil, biodiversity and CO₂ emissions
5. Measurement and on-line control of mechanical properties, through either new measurement techniques or improved physical models

2015 Annual Priorities Steel (2/2)

6. Development of new steel grades with improved technological property combinations (e.g. strength, formability, toughness ...) enabling more efficient steel applications (e.g. weight reduction, energy absorption, thermal shock resistance, wear ...)
7. Development of steel solutions for transport, sustainable construction (focusing on energy efficiency and carbon neutralisation) or energy applications (including renewables) with improved life cycle assessment (LCA) results
8. Safety of steel infrastructures (e.g. tubes, pipes, pipelines, vessels, fittings, structural elements) for cost-efficient fluid storage and transportation in the energy sector
9. Improvement of working conditions in steel production through innovative solutions by use of both modelling and monitoring activities linked to health or safety aspects risks management

RFCS Coal R&D Priorities



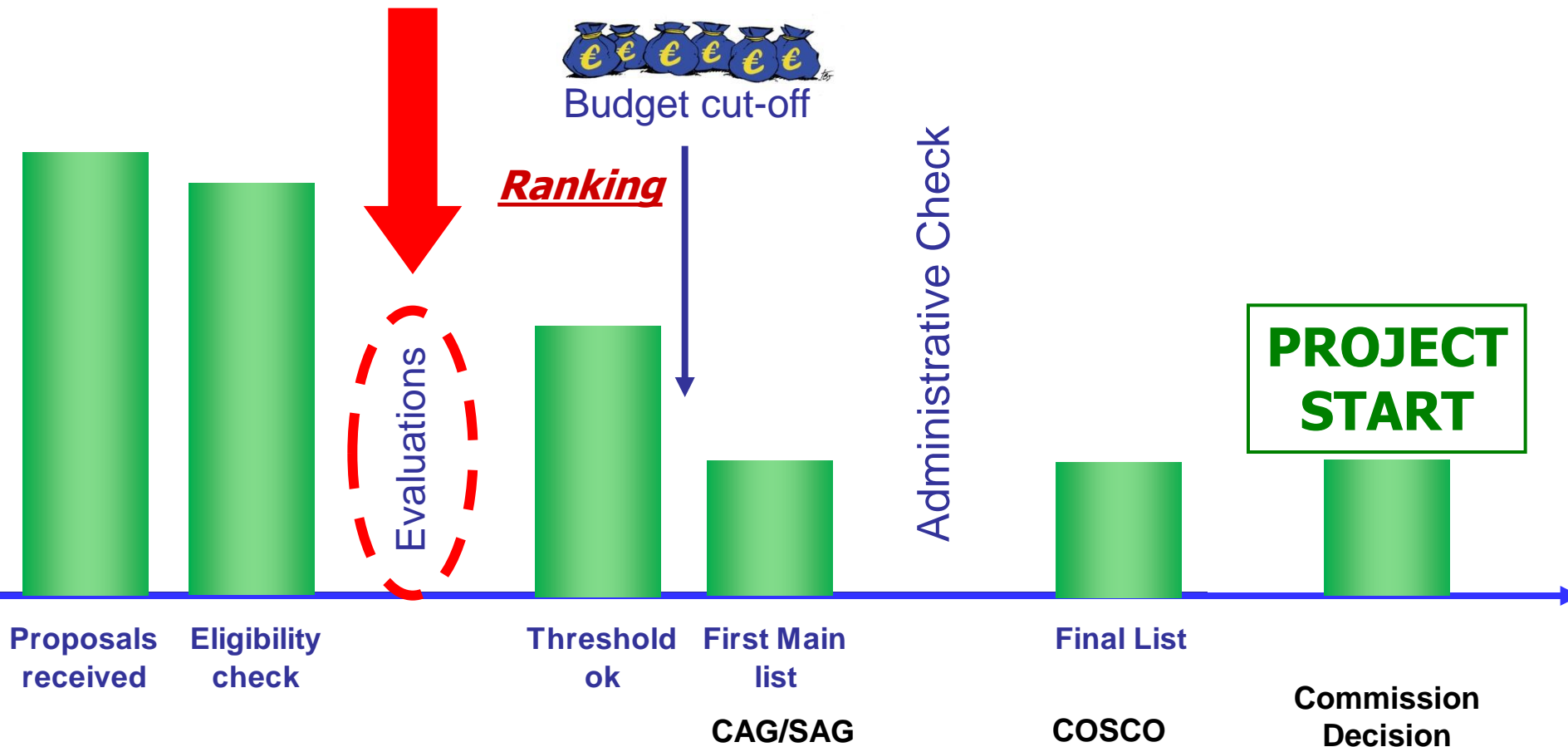
Accompanying measures **(= Dissemination of knowledge gained,** **workshops/conferences on projects/priorities)**

4 criteria, scores 0 to 5

- 1. Contribution to RFCS objectives**
- 2. Scientific, technical and socio-economic prospects**
- 3. Added value for Community, contribution to EU-policies**
- 4. Information on budget and resources**

No threshold on single criteria, but overall threshold of 15/20 !

Evaluation and Selection Process



Evaluation

Phase 1: Remote evaluation

Each proposal is evaluated individually by 3 evaluators on the dedicated SEP system (Submission & Evaluation of Proposals)

Phase 2: Preparation of draft Consensus Report

For each proposal a draft CR is prepared on the SEP system by a rapporteur (one of the evaluators) on the basis of the individual evaluations

Phase 3: Central evaluation (Brussels)

For each proposal a consensus meeting takes place with the participation of the 3 evaluators and a Commission's Project Officer

Most common weak points

Criterion 1 (Scientific & technical approach)

• State-of-the-art

- Poorly described – position at European & worldwide level
- Existing patents not taken into account or referenced
- No prioritisation of reference list (Form A1)

• Feasibility

- Poor description/lack of vision on development & validation stages

• Methods & Techniques, Approach

- Experimental activities: link/integration & global objectives unclear
- Excessive modelisation & simulation on unvalidated concepts



Most common weak points

Criterion 2 (Innovative content)

- Often not so innovative – new ideas necessary
- Real innovative aspects remain unclear
- Incremental research & added value unclear
- Perspective of a wider & general use of expected results: poorly described



Most common weak points

Criterion 3 (Consistency of resources/quality of partnership)

- **Project Scheduling**

- Coherence of flow of tasks
- Timing: either lax, either too ambitious

- **Partnerships**

- Industrial partners: often only pointed/specific contributions
- - (Real) Participation of industrial partners
- Universities: implication in industrial & economic project parts
- Plethoric & redundant partnerships
- « Sleeping » partners without real contribution

Workplan

- Deliverables
 - Who is responsible for what?
 - Definition
- (Clear) Overall WP flow diagram is helpful

Most common weak points

Criteria 4 & 5

(Industrial interest & Community added value/policies)

- Lack of knowledge of market deployment
- Evaluation of impact on competitiveness: poor or inexistant
- Quantitative assessment of economic impact: poor or inexistant
- Metrics of success missing (preferably with quantitative criteria) for Go / No Go
- Publication strategy poor (communication, seminars/workshops, website,...)

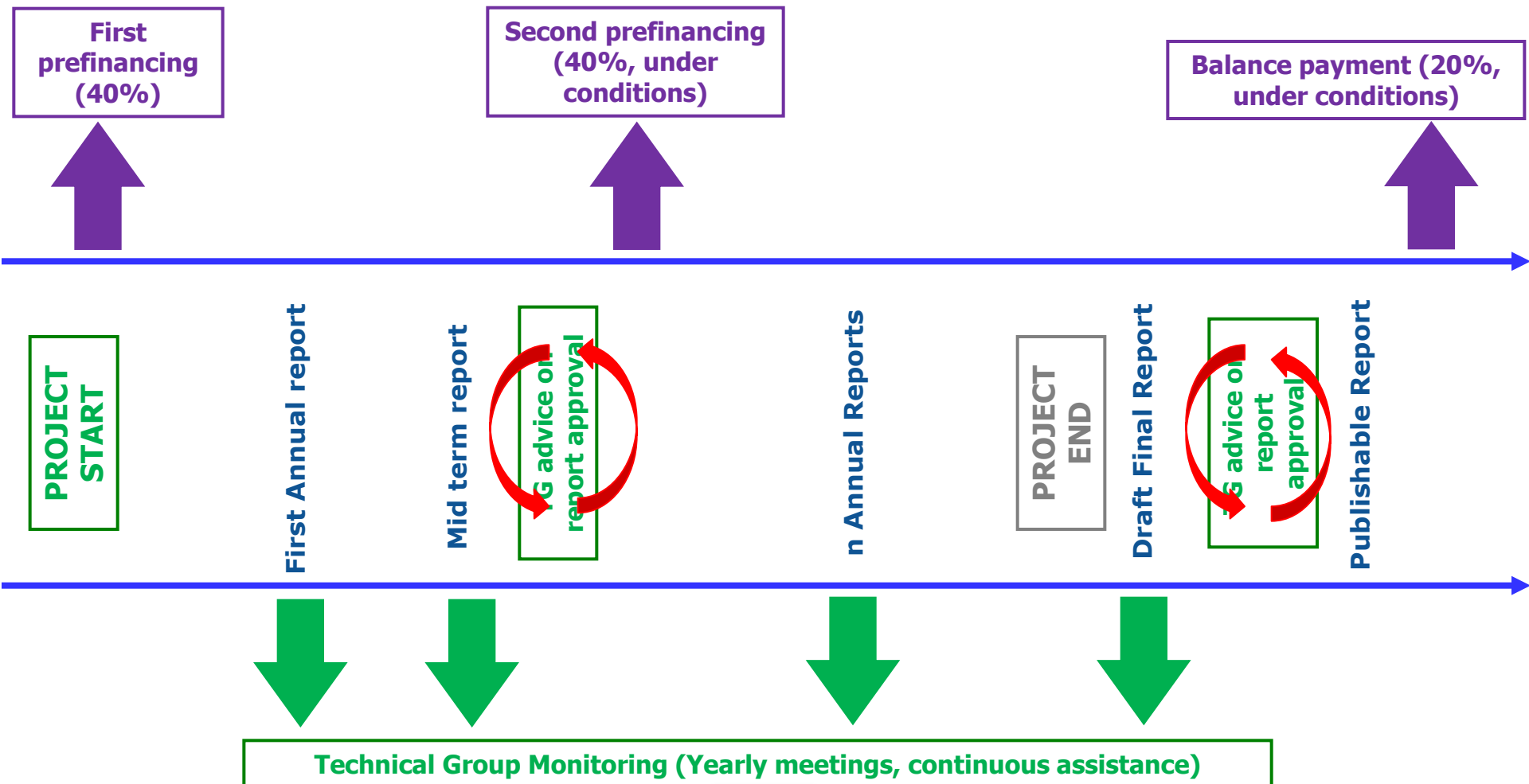
Some Remarks & Advice

- **Strong competition**
- **High quality** level of proposals
- **Long process:** start early with experienced partners !
- Descriptions should be **short & concise**, but don't expect the evaluators to dig out necessary information
- Explain improvements in case of resubmission
- **Test your application** by 'neutral' proof-readers
- Make use of the **RFCS projects synopsis** (good overview about recent projects)
- **Enrol as an expert (Evaluator)**
- Typical projects:
 - Focused industrial subjects, almost **problem solving**
 - Dedicated and **manageable consortium** (5/8 partners)
 - Average funding ~ **1 – 2 M€**

How to submit a proposal

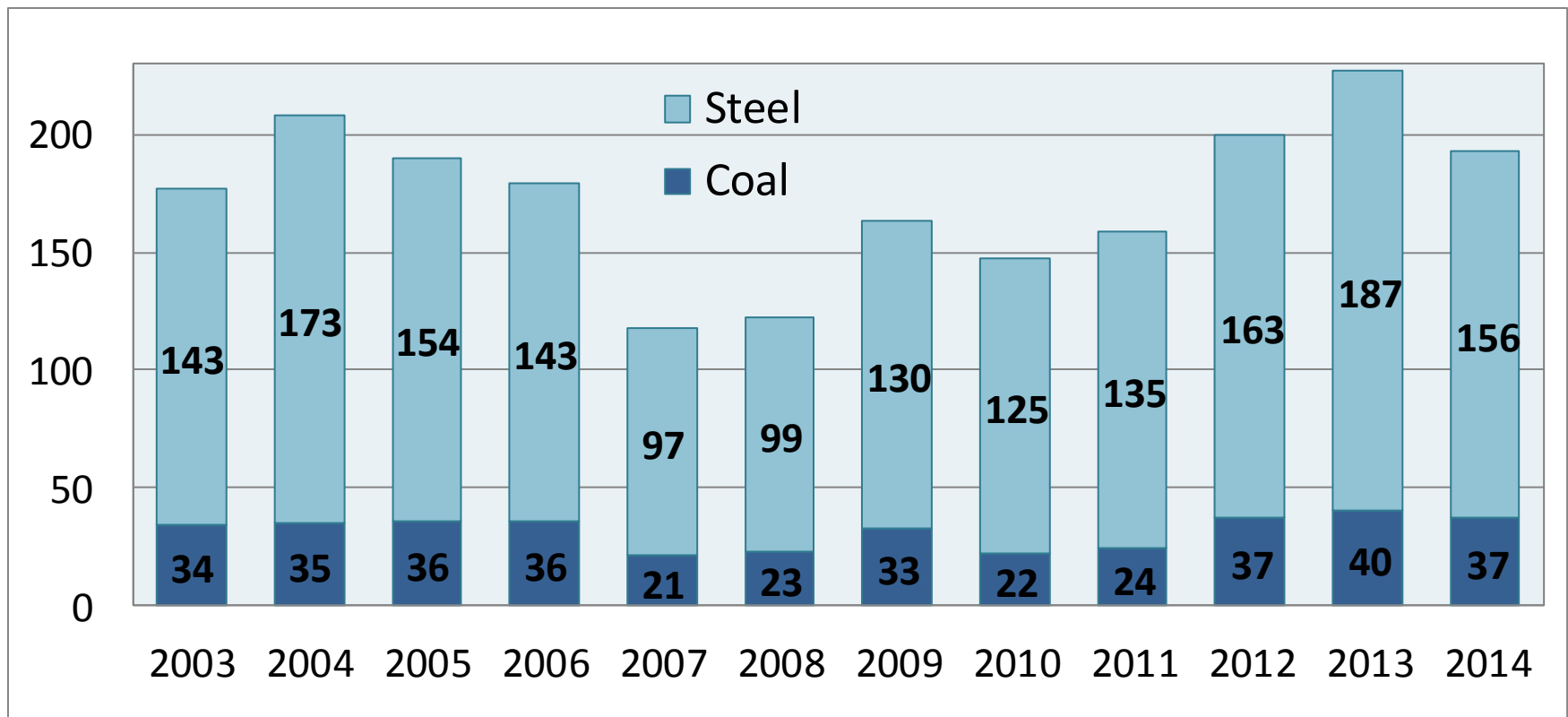
- Since 2011, RFCS proposals are to be submitted electronically.
- To be able to apply to the RFCS, each beneficiary needs a user ID and a **Participant Identification Code** (PIC).
- Unless you have already one (through prior participation in the RFCS, FP, H2020) → request and validate your PIC as soon as possible through the **Unique Registration Facility** (URF).
- Step by step description on RFCS website

Management of the programme: Project timeline



Results of the 2014 Evaluation

Proposals received



Evolution of Available RFCS Budget

Year	Coal (€)	Steel (€)	Total (€)
2003	16.320.000	43.680.000	60.000.000
2004	16.320.000	43.680.000	60.000.000
2005	15.368.000	41.132.000	56.500.000
2006	14.892.000	39.858.000	54.750.000
2007	14.654.000	39.221.000	53.875.000
2008	14.535.136	38.902.864	53.438.000
2009	14.067.568	37.651.432	51.719.000
2010	14.649.784	39.209.716	53.859.500
2011	16.572.892	44.356.858	60.929.750
2012	15.902.446	42.562.429	58.464.875
2013	14.071.240	37.661.260	51.732.500
2014	13.155.620	35.210.630	48.366.250
2015	12.974.400	34.725.600	47.700.000
Totals	193.483.086	517.851.789	711.334.875



Portuguese Beneficiaries in RFCS

- Σ RFCS Coal: Participation in 10 projects;
funding 3,0 Mio €
- Σ RFCS Steel: Participation in 73 projects;
funding 15 Mio €
- Σ RFCS: Application for 424 projects (344
steel, 80 coal); 83 successful (20 %)
- RFCS 2014: Application for 3 coal projects;
0 successful
Application for 50 steel projects;
6 successful (12 %)

Information Package 2015

Vol I (Submission of proposals)

- Expected end of June 2015
- Updates on priorities; info on submission (SEP) and evaluation
- Possible substantial changes will be introduced following discussion with the CAG/SAG/COSCO ad-hoc working group (evaluation criteria, thresholds and the cascade mechanism)

Vol II (Model Grant Agreement and Preparation Forms)

- Expected as soon as MGA becomes available
- Clear indication of deadlines for submission of GA preparation forms

Possible Changes to RFCS

- Amendment of the Legal Basis
- New Model Grant Agreement
- New Info Pack 2015



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SME Participation

Reference Documents

This page includes all the H2020 & FP7 reference documents starting with legal documents and the Commission work programmes for research and innovation up to model grant agreements and guides for specific actions and horizontal issues. The documents are grouped by categories. It also includes reference documents of other EU programmes, as 3rd Health, Consumer, COSME and Research Fund for Coal and Steel programmes. To access a document:

- Click on a folder
- Click on ARROW to have more information about the document and its available translations

You can search a specific H2020 or FP7 document on the [Europa Search](#) service.

H2020

Other EU programmes

FP7

- 3rd Health Programme
- Consumer Programme
- Cosme
- Research Fund for Coal and Steel
 - RFCS legislation
 - Work Programme
 - Grant agreements and contracts
 - Guidance
 - Templates & forms

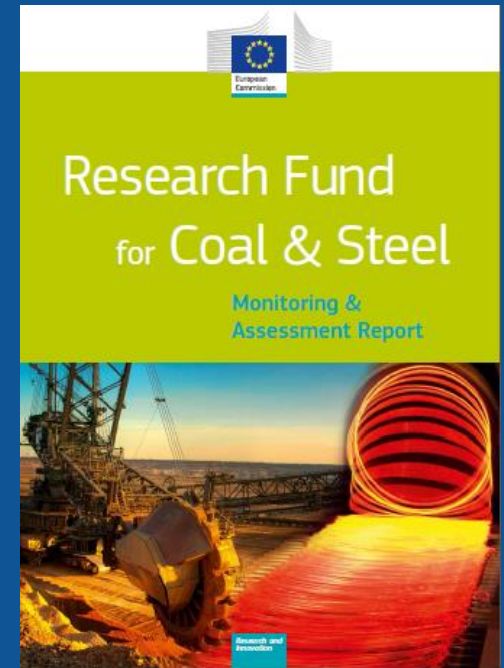
RFCS Planning 2015-2016

- Commission Decision: May 2015
- Signature of Grant Agreements: May - June 2015
- Earliest Pre-financing: July 2015
- Start of most projects: 1 July 2015
- Deadline for the Call 2015: 15 September 2015 (Tuesday)
- Remote evaluations: September/October 2015
- Central evaluation sessions: October/November 2015
- 16th CAG Meeting: 3 December 2015 (tentative)
- 18th SAG meeting: 19 January 2016 (tentative)
- 16th COSCO meeting: 16 February 2016



The RFCS Monitoring and Assessment report is published and available from:

**EU Bookshop, or
RFCS web site**



Quantitative Benefits

The 23 projects analysed have provided an **annual benefit** of about **100 M€/year** for the beneficiaries.

This annual benefit was compared to the corresponding budget of the projects and to the RFCS funding → **1 Euro of RFCS funding** resulted in a **benefit of 3.3 Euros/year for the beneficiaries.**

Estimation of the potential accumulated **benefits for the beneficiaries** → **400 M€.**

Correspondingly: **1 Euro** spent of **RFCS funding** corresponds to an average of potential **accumulated benefit of ~ 14 Euros** at the level of the beneficiaries.



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Engineering longer lives for bridges



Bridges are an integral part of today's road and rail transport network, but maintaining them puts significant strain on public finances. The EU-funded project Long Life Bridges has found a way to keep them safe at lower cost. It has also built a prototype of a device designed to extend the lifetime of bridge cables.

Published: 25 February 2015

Mapping greenhouse emissions to prevent climate change



EU-funded researchers have used advanced modelling and geo-spatial information to compile more accurate greenhouse gas inventories for Poland and Ukraine. The approach could substantially improve the accuracy of national inventories of greenhouse gases and boost Europe's efforts to reduce emissions.

Published: 30 June 2014

OXYMOD – Cleaner power thanks to mathematics



Mathematical modelling has in recent years proven to be a useful and cost-cutting tool for designing and modernising coal-fired power plants. The OxyMod project – supported by the European Union (EU) Research Fund for Coal and Steel (RFCS) – has striven to extend existing combustion modelling capabilities to oxy-fuel combustion conditions. This should

lead to preparation and pre-engineering of large demonstration power plants in Europe using modern and clean oxy-fuel CO2 capture technology in the

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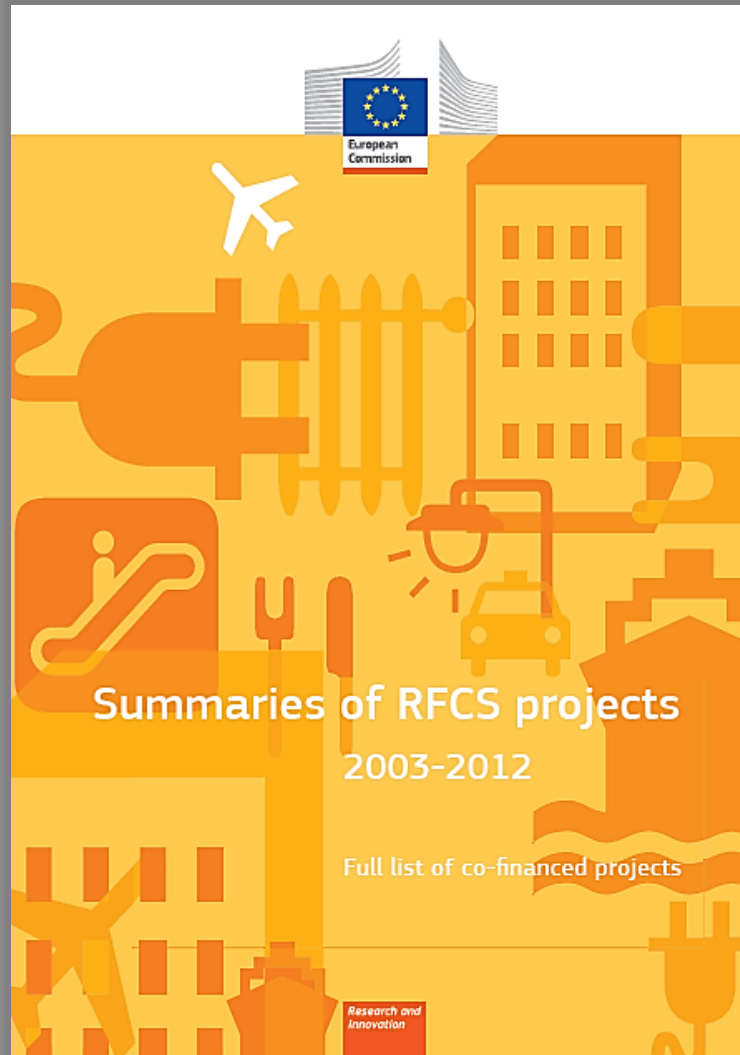
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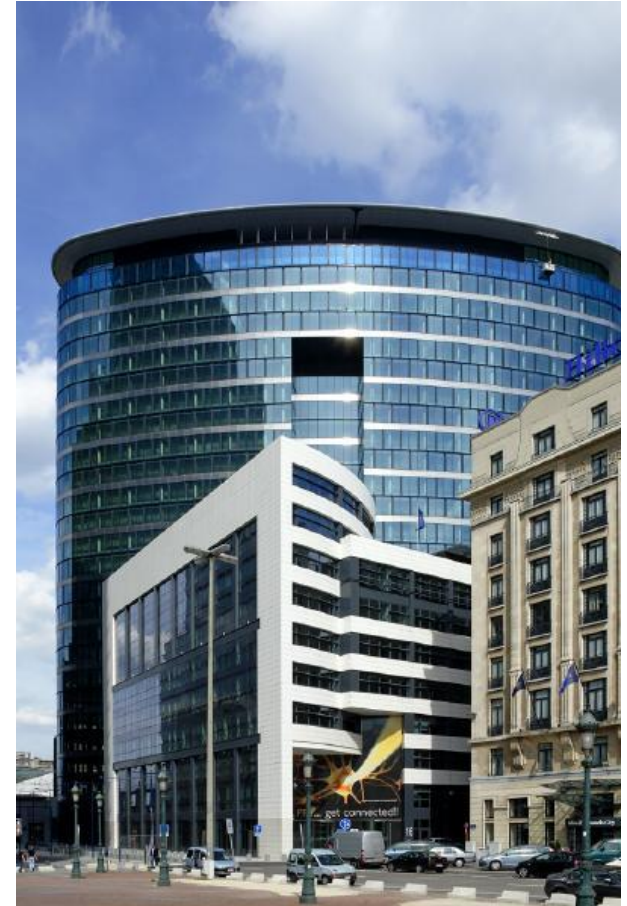


2015 RFCS Evaluations

Location for session in Brussels:
Covent Garden Building

Indicative Planning

- ▶ Remote evaluation:
September/October 2015
- ▶ Central session:
October /November 2015



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Web Links / RFCS Info

- **RFCS website:** http://ec.europa.eu/research/industrial_technologies/rfcs_en.html
- **Information Package**
http://cordis.europa.eu/coal-steel-rtd/infopack_en.html
- **Latest published technical reports:**
<http://bookshop.europa.eu/>
<http://cordis.europa.eu/library/>
- **Synopsis of ongoing RFCS projects:**
http://cordis.europa.eu/coal-steel-rtd/synopsis_en.html
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