



# **Research Fund for Coal and Steel**

**28 May 2015  
Zagreb, Croatia**

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

# Outline

- 1. Introducing RFCS**
- 2. Proposal Evaluation**
- 3. Some Remarks & Advice**
- 4. Proposal Submission**

# 1. Introducing RFCS

# History of the RFCS Programme

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

- 1952: ECSC Treaty of Paris (validity 50 years, expired in 2002)
- Levy from coal and steel production
- Assets left : ~ 1.6 billion €



# History of the RFCS Programme

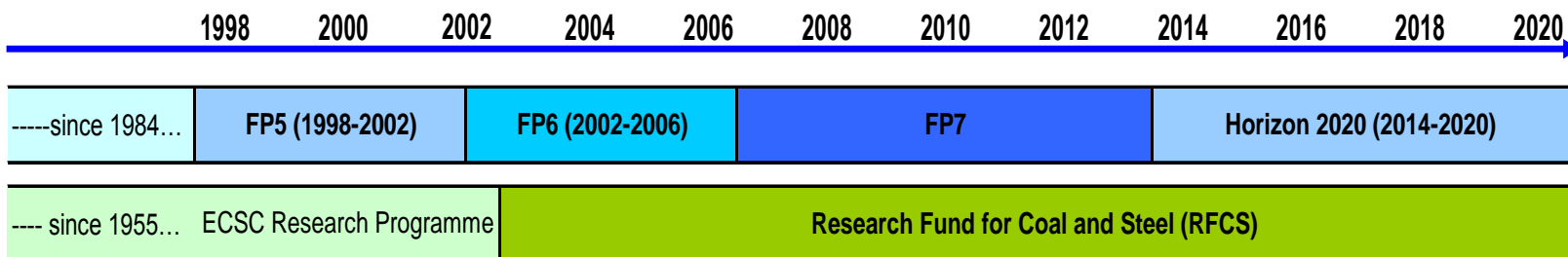
... to the present: **Research Fund for Coal and Steel (RFCS):**

- 2001 - Treaty of Nice: Decision 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
- Creation of the RFCS: 1 February 2003



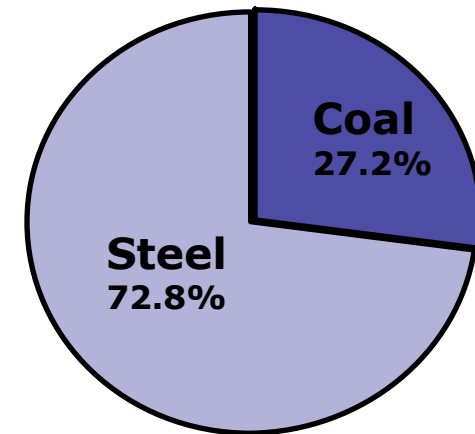
# The RFCS Programme

- A research fund with a budget of **~ 50 M€ / year**, no taxpayer money
- Promoting **industrial research** in the field of *Coal and Steel*
- **Yearly call** with deadline 15 September for proposals for
  - Research projects (60% funding)
  - Pilot & Demonstration projects (50% funding)
  - Accompanying measures (60 - 100% funding)
- **Outside the FP/H2020** ... yet closely co-ordinated & complementary



# RFCS Facts & Figures

- Approx. 350 Grant Agreements running at any one time
- 563 M€ funding in Coal and Steel research since 2003  $\approx$  940 M€ total spending
- Mixture of industry, academia and research centres
- Technical, innovative projects, well defined objectives
- Can be complimentary to other funding (e.g. national funding)



**RFCS funding  
allocation**

# Management of the Programme

3 levels assisting the Commission

Commission:  
DG RTD, Dir D, Unit D4

Coal and  
Steel  
Committee  
(COSCO)

28 Member state representatives:  
give opinion on  
**projects to be funded**, etc.

Coal and Steel Advisory  
Groups (CAG/SAG)

Representatives from stakeholders:  
give advice on the overall  
**programme management**

Technical Groups (TGC/TGS)

Technical experts: give  
advice on  
**project monitoring**



# 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

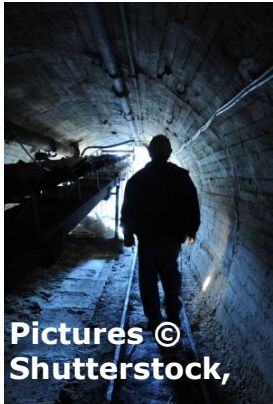
## Typical projects

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



# COAL: Programme Research Objectives

*Programme objectives established in the RFCS Legal Basis, coming from EC Council Decision*



Improving the competitive position of Community Coal

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

Health and Safety in Mines

Management of external dependence on energy supply

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

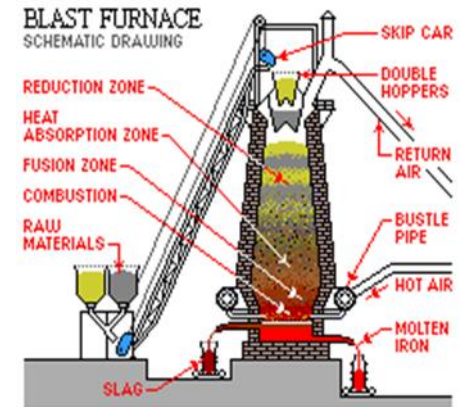
# Coal Technical Groups

- 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, CO<sub>2</sub> capture

# STEEL: Programme Research Objectives

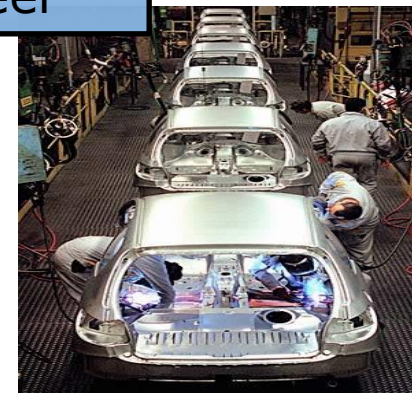
*Programme objectives established in the RFCS Legal Basis, coming from EC Council Decision*

New and improved steelmaking and finishing techniques



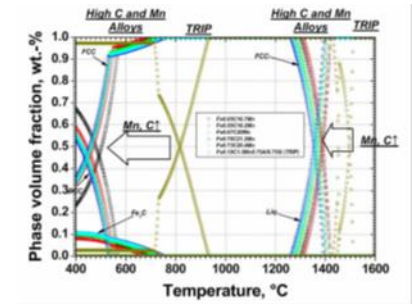
Conservation of resources and improvement of working conditions

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



# Annual Research Priorities

- The long-term strategy of the RFCS is based on annually updated priorities identified by stakeholder platforms in the field of coal and steel (ESTEP, ZEP,...)
- Proposals addressing an annual research priority receive 1 extra point in evaluations
- 6 Annual Coal Priorities & 9 Annual Steel Priorities in 2015, among which:

# 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)

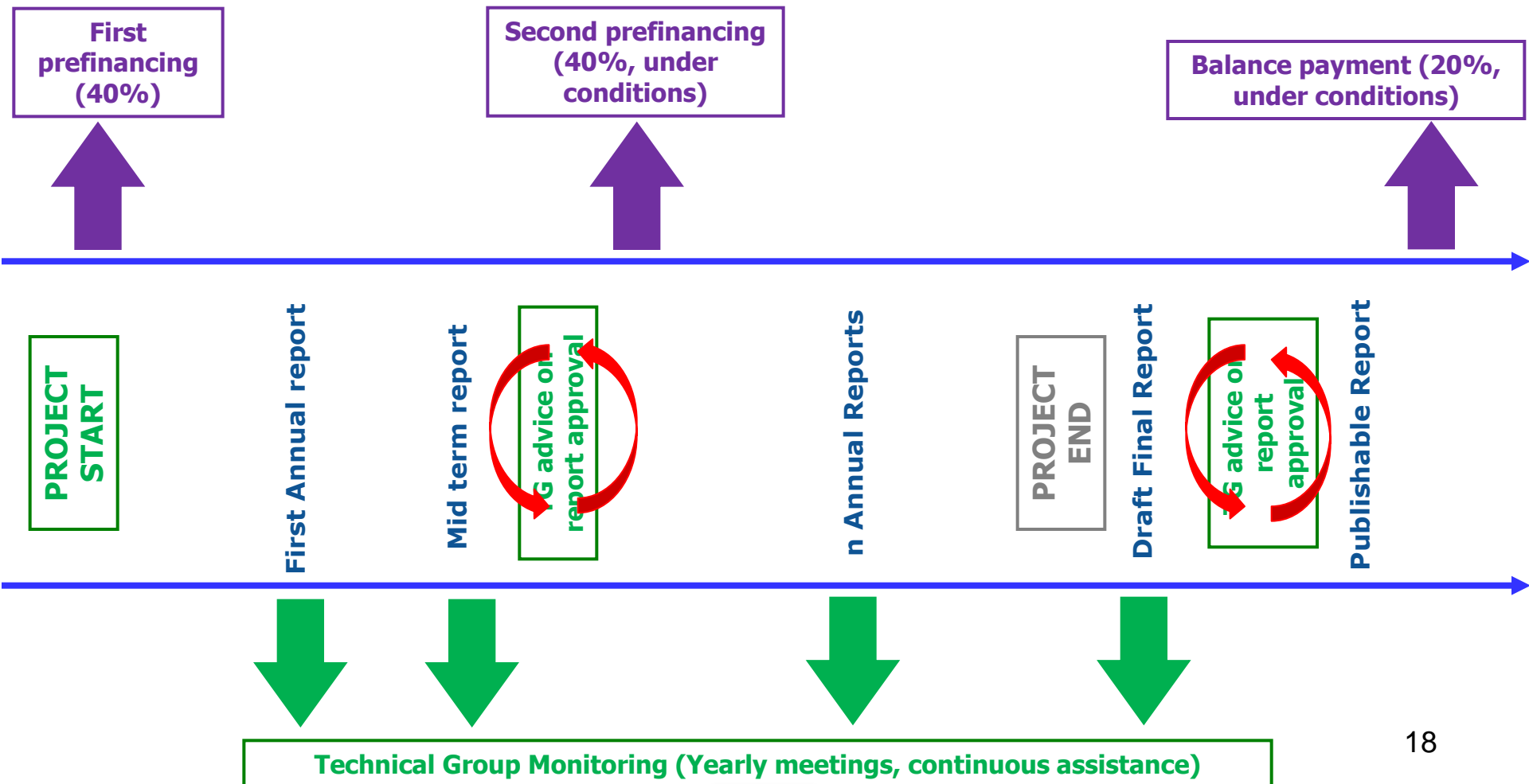
1. Improved energy efficiency in high temperature processes by recovery of waste heat without drawback on environmental impact compared to present best available technologies
2. Integration of process monitoring (online/offline), control and technical management of steel production using mathematical 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

# Project timeline



## 2. Proposal Evaluation

# Eligibility and Selection Criteria

**Eligibility** : Length and format

**Selection** : Different evaluation forms for Research, P&D and Accompanying measures → cf. Infopack\*

**Scoring** : For each criteria from 0 to 5

**0 = Fails/incomplete**

**1 = Poor**

**2 = Fair**

**3 = Good**

**4 = Very good**

**5 = Excellent**

+ *If annual priority*, then 1 **bonus point**

**\* Evaluation forms are reviewed for the 2015 Call, to be published end of June in new Infopack; following slides are criteria in 2014 and serve as a guideline**

# 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**

# 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

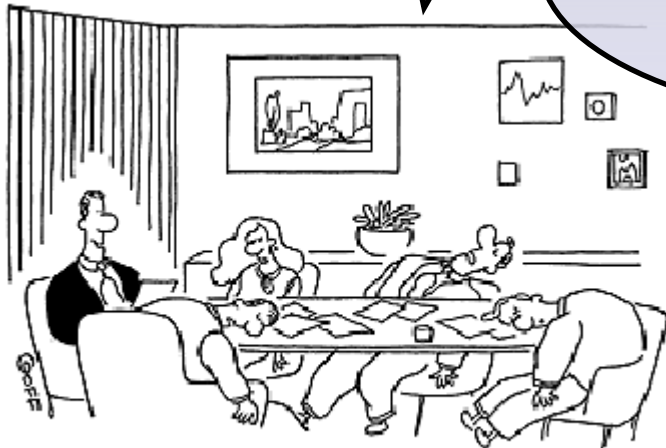
No threshold on single criteria, but overall threshold of 15/20 !

# Evaluation in 3 steps

Each proposal is read and evaluated independently by 3 evaluators



A meeting is convened by a Commission officer with the 3 evaluators



"At last we've reached a consensus!  
This meeting is boring!"

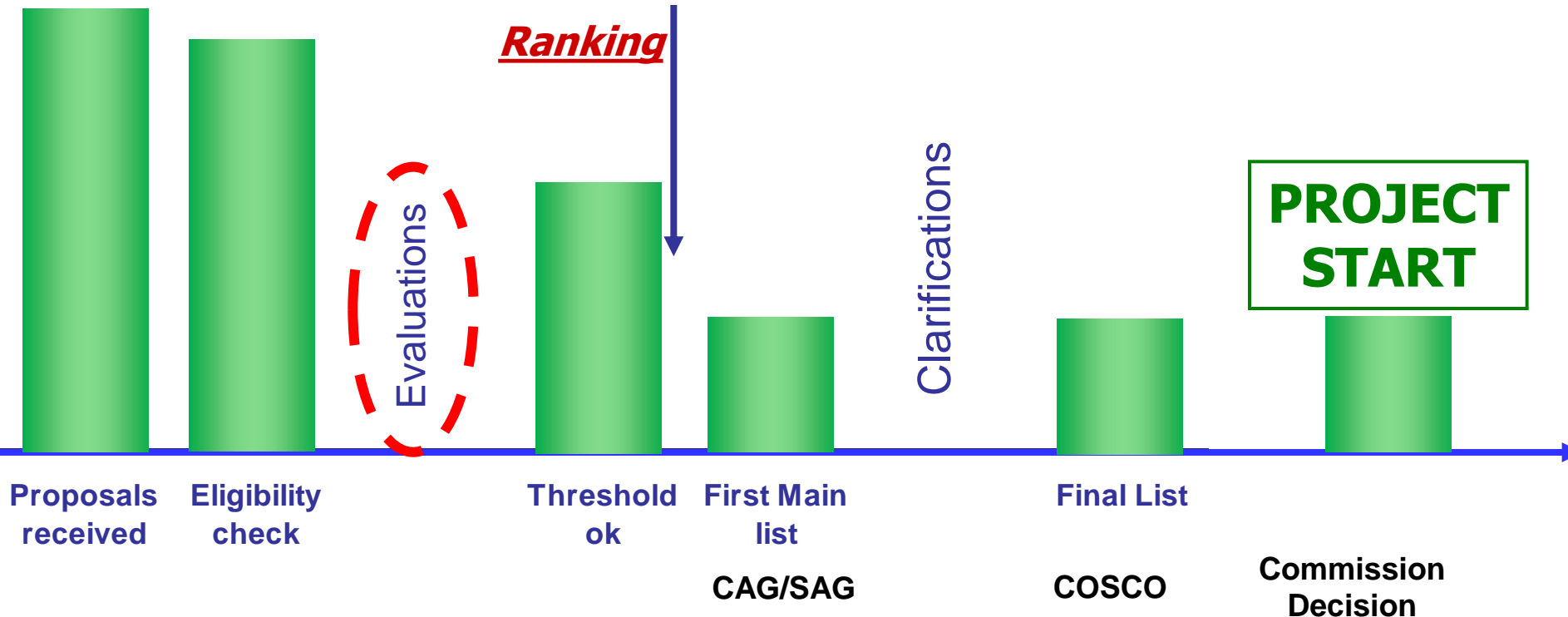
Outcome is summarised in a consensus report



# Evaluations and Selection Procedure



Budget cut-off

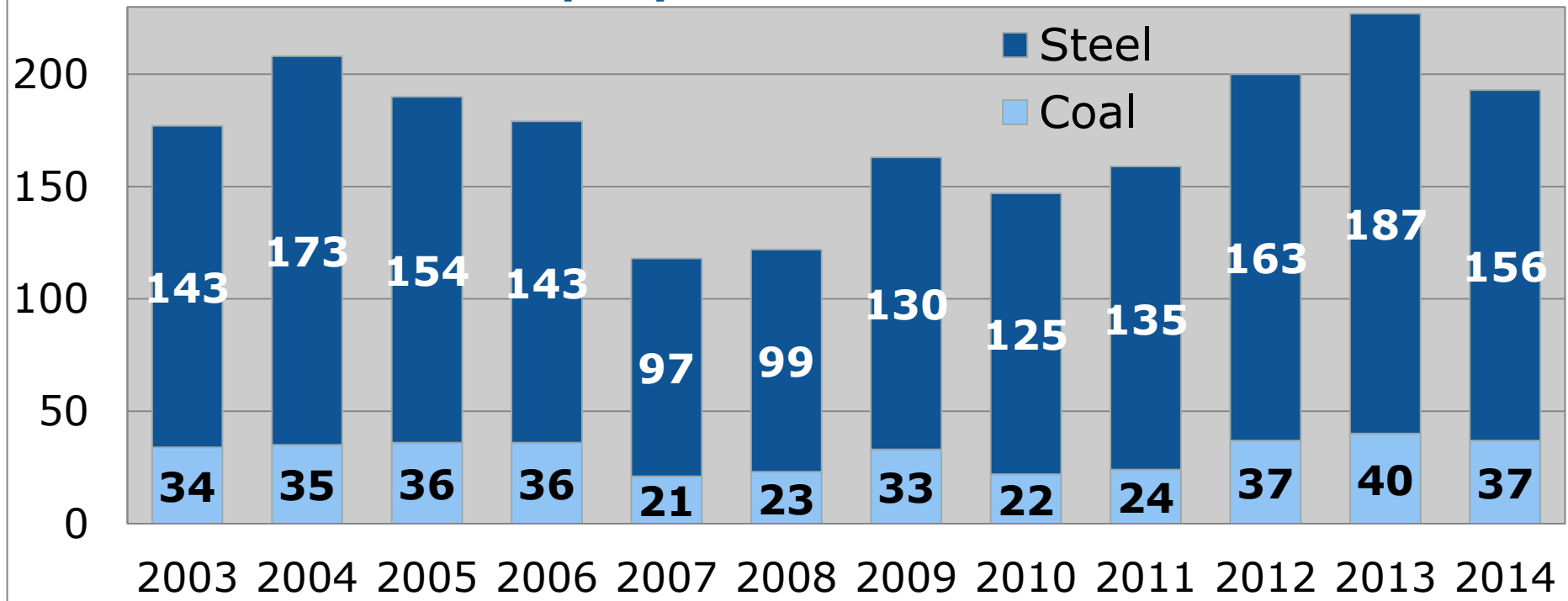




# Proposals received

Coal + Steel Evaluations 2013:  
**40+187** proposals submitted  
 → **10+32 proposals funded**

Trends per year since 2003



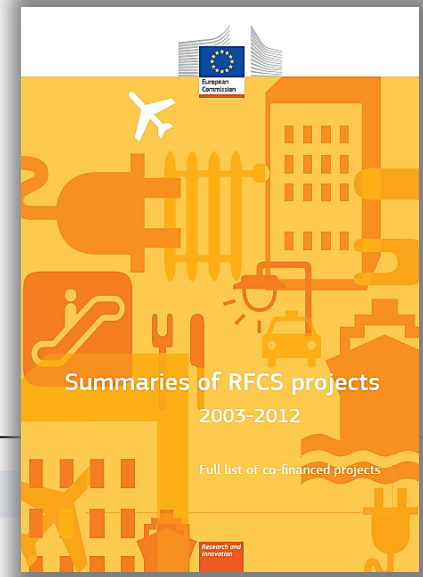
# 3. Some remarks & advice

# 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
- **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€**

# Some remarks & advice

- Make use of the **RFCS projects synopsis** (good overview about recent projects)



<b>RFCR-CT-2003-00008</b>	<b>ASSOCOGS</b>			
<b>Full Title</b>	Assessment of options for CO2 capture and geological sequestration			
<b>Info</b>	Type of Project	Research	Duration (months)	45
	Total Budget	2941793 €	Start Date	1/09/2003
	EU Contribution	1765076 €	End Date (actual)	31/05/2007
<b>State Summary</b>	<p>Research completed, report published on EU Bookshop at <a href="http://bookshop.europa.eu/uri?target=EUB:NOTICE:KINA23873:EN">http://bookshop.europa.eu/uri?target=EUB:NOTICE:KINA23873:EN</a></p> <p>The reduction in overall CO2 emissions to atmosphere is a major goal of the Community. However, technical options for CO2 capture from coal-fired power plants are not readily available. This project will improve understanding of the engineering (and hence financial) practicality of the three main technologies being assessed for CO2 capture (pre-gasification, oxy-fuel combustion and sorption from flue gas) and analyse one of the most potentially attractive mechanisms for economic sequestration (enhanced coal-bed methane). Its successful completion will lead to a significant improvement in the ability of plant operators to assess the viability of abatement options potentially available to them.</p>			
<b>Partners</b>	<i>Organization</i>	<i>Country</i>	<i>Responsible</i>	
	E.ON UK plc	UNITED KINGDOM	Dr. Robin IRONS (Project Coord.)	
	ARTISTOTLE UNIVERSITY OF THESSALONIKI	HELLAS	Prof. George SAKELLAROPOULOS	
	CERAMICS & REFRACTORIES TECHNOLOGICAL DEVELOPM	HELLAS	Dr. Christos DEDELOUDIS	
	CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS	HELLAS	Dr.-Ing. George SKODRAS	
	IMC GEOPHYSICS LTD	UNITED KINGDOM	Mr Peter JACKSON	
	THE UNIVERSITY OF NOTTINGHAM	UNITED KINGDOM	Prof. Colin E. SNAPE	
UNIVERSITAET STUTTGART	DEUTSCHLAND	Prof. Dr. Klaus R.G. HEIN		

# Most common weak points

## On 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

## On 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

## On 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
- Universities: implication in industrial & economic project parts
- Plethoric & redundant partnerships
- « Sleeping » partners without real contribution
- (Real) Participation of industrial partners

- **Workplan**

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

# Most common weak points

## On 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,...)



# 4. Proposal Submission

# 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 or FP7/Horizon2020) → request and validate your PIC as soon as possible
- <http://ec.europa.eu/research/participants/portal/desktop/en/organisations/register.html>
- **Deadline 2015: 15 September 2015**

# Submission and Evaluation Procedure

**The Electronic SEP System facilitates the submission & evaluation procedure in all stages:**

- Electronic submission of proposals
- Remote evaluation of proposals by individual evaluators
- For each proposal, a consensus report is drafted in SEP by one evaluator ("rapporteur") & later updated during the central meeting in Brussels
- Final assessment and scoring is encoded in SEP (confidential)



European



European Commission

# RESEARCH & INNOVATION

## Key Enabling Technologies

European Commission > Research & Innovation > Key Enabling Technologies > RFCS



## Research Fund for Coal and Steel (RFCS)

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### News and events

#### April 2015

You can now download [Information package vol.2](#)

#### March 2015

Information on [Steel](#) and [Coal](#) Priorities available.

#### February 2015

The RFCS is launching a call for applications to include Members of Advisory Groups (CAG and SAG) on a reserve list.

▶ [Instructions](#)

#### January 2015

The submission of proposals for 2014 is closed.

For 2015, the links to the online submission system and to all supporting documents will be available on [June 2015](#).

#### August 2014

The updated version of the [Summaries of RFCS Projects \(2003 - 2014\)](#) is now online.



### Contact

For general information about our programme, if you have queries or you want to share your views please contact us at:

[RTD-STEEL-COAL@ec.europa.eu](mailto:RTD-STEEL-COAL@ec.europa.eu).

- About
- Meetings
- Participate in the RFCS**
- Studies & Publications

### Success Stories

A selection of articles about [EU funded Research & Innovation projects](#) from across Europe.

### European Coal & Steel Research, Progress to Innovation



The Research Fund for Coal & Steel (RFCS) gives funding of over €50 million every year to innovative projects to enhance the safety, efficiency and competitive edge of the EU coal and steel industries.


It was created in 2002 to build on the successes of the European Coal and Steel Community. This visionary

Notification to all applicants of Evaluation Results	March
Commission Decision	April
Signature of Grant Agreement	May to June
Payment of first pre-financing	July
<b>Typical start date of Projects</b>	<b>1st July</b>

### Preparation of the Grant Agreement 2015

The Grant Agreement preparation phase is the last step of the evaluation procedure before the final selection of projects to be funded by the European Union.

Applicants will be informed only in March 2015 about the final results of the proposal evaluation and selection process. Only at that stage it will be possible to know which proposals will be considered for funding, pending the formal adoption by the implementing Commission's decision in April.

Guidelines for the preparation of all necessary forms and documents are given in communications sent directly to shortlisted applicants and in the [Information package vol.2](#) .

### Information and documents required for the projects

All necessary forms and documents are available on the [Participant Portal](#).  
(scroll down to "Research Fund for Coal and Steel")



European

- 📁 Research Fund for Coal and Steel
  - 📁 RFCS legislation
    - [RFCS legal basis](#) >
  - 📁 Work Programme
    - [2014 Priorities for Coal](#) >
    - [2015 Priorities for Coal](#) >
    - [2014 Priorities for Steel](#) >
    - [2015 Priorities for Steel](#) >
  - 📁 Grant agreements and contracts
  - 📁 Guidance
  - 📁 Templates & forms
    - 📁 Proposal templates
      - [Proposal template RFCS-RPJ](#) >
      - [Proposal template RFCS-PDP](#) >
      - [Proposal template RFCS-AM](#) >
      - [Proposal template RFCS 2015](#) >
    - 📁 Evaluation forms
      - [Self-evaluation form RFCS-RPJ-PDP](#) >
      - [Self-evaluation form RFCS-RPJ-PDP 2015](#) >
      - [Self-evaluation form RFCS-AM](#) >
      - [Self-evaluation form RFCS-AM 2015](#) >
    - 📁 Grant preparation forms
      - [Editable versions of the Grant Agreement Preparation Forms](#) >
    - 📁 Reporting templates
      - [Templates for reporting requirements](#) >
      - [Templates for financial reporting - Cost statements forms](#) >

# Information Package 2015

- *Update of admissibility and eligibility criteria*
- *Update of evaluation criteria for different types of projects*
- *Update of 2015 priorities*
- *Update on Model Grant Agreement*
- *New deadlines, time planning*
- *Updated submission forms in line with H2020*

## RFCS Planning 2015-2016

- Signature of 2015 Grant Agreements: June 2015
- Start of most new projects: 1 July 2015
- Deadline for the Call 2015: 15 September 2015 (Tuesday)
- Remote evaluations: September/October 2015
- Central evaluation sessions: October/November 2015
- SAG meeting: 19th January 2016 (tentative)
- COSCO Meeting: 16 February 2016



# > 10 years Experience within RFCS

Monitoring Report presented in Luxembourg in September 2012 for comments (10<sup>th</sup> Anniversary RFCS)

Assessment Report prepared following on site visits and detailed assessment running throughout 2012

Final M & A report was published in 2013 in accordance with Article 38 of the RFCS legal basis



**Both reports are available in electronic format on our website**

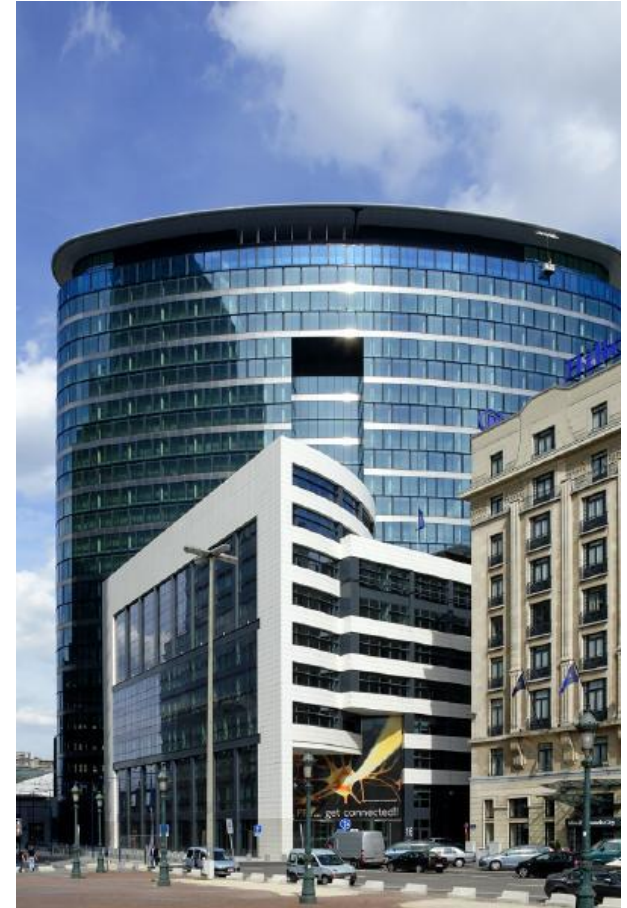
# 2015 Evaluations

Location: Covent Garden in Brussels

- **October 2015 (Coal)**
- **November 2015 (Steel)**

## How can you take part?

- By submitting a proposal
- As an expert evaluator
  - Help us evaluate proposals.
  - Register on the expert web site



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# Web Links / RFCS Info

- **RFCS website:** [http://ec.europa.eu/research/industrial\\_technologies/rfcs\\_en.html](http://ec.europa.eu/research/industrial_technologies/rfcs_en.html)  
*(new website!)*
- **Latest published technical reports:**  
<http://bookshop.europa.eu/>
- **Register as Technical Expert:**  
<http://ec.europa.eu/research/participants/portal/desktop/en/experts/index.html>



**Thank you for your attention**

**Questions?**

**Contact:**

**[bjorn.debecker@ec.europa.eu](mailto:bjorn.debecker@ec.europa.eu)**