



## **The Research Fund for Coal and Steel (RFCS)**

- The Research Programme of the Research Fund for Coal and Steel (RFCS) has funded research and innovation projects in the EU coal and steel sectors since 2002.
- It goes back a long way, to the very origins of the EU: Protocol (37) to the Treaties, it has its own three legal bases and sits outside the Multi-annual Financial Framework.
- It is funded by revenues from the assets of the **European Coal and Steel Community** (ECSC) in liquidation, exclusively devoted to research on coal and steel.
- RFCS is very modern at the same time. On 16 July 2020, the Commission proposed a revision of the legal bases to align RFCS with the objectives of the **European Green Deal**. On 19 July 2021, the **RFCS modernisation package** was adopted by the European Council.
- Today, and until 2027, the fund can use a portion of the assets to generate an annual RFCS budget of €111 million.
- This budget will be used to fund:
  - large clean steelmaking research and innovation breakthrough projects leading to near zero-carbon steel making by 2030;
  - R&I supporting the just transition of formerly operating coal mines or coal mines in the process of closure, and related infrastructure (Just Transition Mechanism).
- 24 June 2021 marked the launch of the **Clean Steel co-programmed partnership** (in synergy with Horizon Europe), to support research and innovation activities to scale up and speed up the digital and green transformation of the EU steel industry, in line with the European Green Deal.
- The RFCS will support the **EU steel sector**, contributing ~ **€ 700 million** of EU funding to the Clean Steel Partnership for the period of 2021-2027, coming in equal parts from Horizon Europe and from RFCS.
- The RFCS will support the **EU coal sector**. In synergy with the Innovation Fund, the Just Transition Fund and LIFE among others, will contribute to the phase-out of coal so that no region is left behind. Improving health and safety and to minimise the environmental impacts of coalmines in transition are crucial.

- The fund is managed by the European Commission (EC) and implemented by the European Research Executive Agency (REA), in cooperation with dedicated committees and advisory groups: the **Coal and Steel Committee (COSCO)**, the **Coal and Steel Advisory Groups (CAG/SAG)** and **Technical Groups (TG)**.
- General information -> [RTD-STEEL-COAL@ec.europa.eu](mailto:RTD-STEEL-COAL@ec.europa.eu)

## **RFCS Summit 2022 – project success stories**

To mark this new era for the rejuvenated RFCS – as well as the programme’s 20<sup>th</sup> anniversary – the EC and REA, in co-operation with industry, organised the RFCS Summit on 21-22 March 2022. The following projects were showcased during the event.

### **COAL**

#### **CoalTech2051 – 794369**

Title: An RFCS Accompanying Measure on European coal research in light of EU policy objectives to 2050 and future global trends in coal use

EU Grant: € 365,660

Start date: 01/07/2018      End date: 30/06/2020

[CoalTech2051](#) developed a strategic agenda for RFCS aligned with the EU’s Energy Union vision and established a European Network to support the energy transition in the coal regions.

#### **GreenDEALCO2 – 101034035**

Title: Green Deployment of E-fuels and Liquids based on CO2 for closed and end-of-life coal-related assets

EU Grant: € 1,535,886

Start date: 01/08/2021      End date: 31/07/2024

[GreenDEALCO2](#) identifies pathways for the retrofitting of end-of-life coal power plants to biomass, alternative solid fuels and hydrogen, while introducing new business plans for the coal industry.



### **i3upgrade – 800659**

Title: Integrated and intelligent upgrade of carbon sources through hydrogen addition for the steel industry

EU Grant: € 1,991,844

Start date: 01/06/2018 End date: 31/05/2022

[i3upgrade](#) investigated new reactor concepts for direct methanation and methanol synthesis of coal-based by-product gases in order to reduce the overall coal-based CO<sub>2</sub> emissions of steel works.

### **METHENERGY PLUS – 754077**

Title: Methane recovery & harnessing for energy & chemical uses at coal mine sites

EU Grant: € 1,678,137

Start date: 01/07/2017 End date: 30/06/2020

[METHENERGY PLUS](#) proposed integrated approaches for upgrading methane emissions from working shafts and abandoned mines in a potential source of clean energy and chemicals.

### **RAFF – 847299**

Title: Risk Assessment of Final Pits During Flooding

EU Grant: € 2,050,532

Start date: 01/06/2019 End date: 31/05/2022

[RAFF](#) develops model-based methodologies and guidelines for a safer exploitation of pit lakes dedicated to recreational purposes, the common reclamation method of open-pit mines.

### **RECOVERY – 847205**

Title: RECOVERY of degraded and transformed ecosystems in coal mining-affected areas

EU Grant: € 1,188,196

Start date: 01/07/2019 End date: 30/06/2023

[RECOVERY](#) applies quantitative assessments of ecosystem services for sound decision-making of land rehabilitation and ecological restoration of underground and opencast coal mining-affected areas



## **SUMAD – 847227**

Title: Sustainable Use of Mining Waste Dumps

EU Grant: € 2,022,399

Start date: 01/07/2019      End date: 30/06/2022

[SUMAD](#) develops an operational computer-based risk management tool for the reuse of mining waste tips for better, safer, economical solutions for post-mining spoil waste dumps.

## **STEEL**

### **CrashTough – 800693**

Title: Towards high crashworthiness parts through the investigation of microstructural effects on fracture toughness of 3<sup>rd</sup> generation AHSS

EU Grant: € 1,138,162

Start date: 01/07/2018      End date: 31/12/2021

[CrashTough](#) sought to understand and optimise the micro-structures of third generation advanced high-strength steels for use as lightweight automotive parts for increased vehicle efficiency.

### **DROMOSPLAN – 710066**

Title: Drones for autonomous monitoring of steel plants

EU Grant: € 962,338

Start date: 01/07/2016      End date: 31/12/2020

[DROMOSPLAN](#) aimed at improved health and safety by replacing workers with unmanned aerial vehicles for steel mill monitoring and maintenance, included testing in two steel plants.



## **FAILNOMORE – 899371**

Title: Mitigation of the risk of progressive collapse in steel and composite building frames under exceptional events

EU Grant: € 958,413

Start date: 01/07/2020      End date: 30/06/2022

**FAILNOMORE** will produce design guidelines for mitigating the risk of progressive collapse of steel and composite structures subjected to exceptional events such as impact and explosions.

## **REENEAF2 – 00003**

Title: Biochar for a sustainable EAF steel production

EU Grant: €1,001,182

Start Date: 1/07/2014      End Date: 30/06/2016

**GREENEAF2** undertook further R&D of using biomass char instead of coal in electric arc steel furnaces, especially the field validation of char injection & the effects on productivity.

## **GreenSteel – 882151**

Title: Green Steel for Europe

EU Grant: € 1,247,612

Start date: 01/01/2020      End date: 31/10/2021

**GreenSteel** aimed at: developing a steel industry decarbonisation technology roadmap, including pathways; identifying funding opportunities; broad impact assessment of EU-level policy options; as well as dissemination & stakeholder engagement.



### **MACO Pilot – 709694**

Title: Optimisation of the mixed acid online monitoring and control in stainless steel pickling plants

EU Grant: € 960,181

Start date: 01/07/2016      End date: 31/12/2019

**MACO Pilot** sought to increase the EU's steel industry production flexibility whilst maintaining highest quality. This pilot project aims to optimise the innovative online concentration measuring technique concerning set-up, long-term reliability and operative range.

### **ROBOHARSH – 709553**

Title: Robotic workstation in harsh environmental conditions to improve safety in the steel industry

EU Grant: € 962,339

Start date: 01/07/2016      End date: 30/06/2019

**ROBOHARSH** wished to increase steel workers' health and safety by using robots for potentially dangerous ladle sliding gate maintenance.

### **SteelWind – 14018**

EU Grant: € 1,135,317

Start Date: 1/07/2014 End Date: 31/12/2017

**SteelWind** explored the design and development of a new high nitrogen bearing steel for offshore wind turbines with improved surface fatigue, wear and corrosion properties for increased lifespan.

