



European Commission  
Research Programme of the Research Fund for Coal and Steel

Technical Group: TGA2

Grant Agreement 101057930



**DissHEAT – Dissemination of the heating technology research results for emission minimization and process optimization towards today's fossil-free heating agenda**

Deliverable: D4.1

Title: Schedule of the dissemination events

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Type: Report

Date of delivery: 31.12.2022



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## 1 Choice of the main dissemination event

To promote the dissemination of the identified topics of main interest, seminars and webinars have to be planned in the context of the dissHEAT project. During the project meeting held during the month of October 2022 with all the partners, various opportunity proposals were reviewed for the carrying out of the seminars and workshops envisaged by the project itself.

The main event chosen for the realization of the dissemination activities related to the topics of the dissHEAT project was the 6-th METEC&ESTAD conference: in particular, the ESTAD (European Steel Technology and Application Days, now in its sixth edition, will be held in Düsseldorf (Germany) from 12 to 16 June 2023 at the CCD (Congress Center Düsseldorf), with the accompaniment of the METEC trade fair, organized by the Steel Institute VDEh.



*Figure 1. – METEC&ESTAD 2023 conference banner*

The ESTAD conference (<https://metec-estad2023.com/>) is suitable for the development of the dissHEAT topics identified and for the Roadmap Workshop; moreover, the date of the event is compatible with the time needed to better organize the participation.

## 2 Topics

A preliminary individuation of significant RFCS/HEU projects has been performed, starting from the following suggested main topics:

- ✓ General (incl standards, regulations, research activities, policies, today's big research initiatives/projects both private/EU)
- ✓ Measurement (emissions, SO<sub>x</sub>, NO<sub>x</sub>, CO, CO<sub>2</sub>, temperature, heat transfer, oxidizer levels etc., control)
- ✓ Models (CFD; Steeltemp/FOCS, furnace control systems, COMSOL, FEM)
- ✓ Materials (effect of atmosphere, H<sub>2</sub>, decarburization, oxidation, refractories etc.)
- ✓ Heating and combustion (special focus on low carbon alternatives electrical, H<sub>2</sub> etc.)

It is important to remember this preliminary classification because the topics are base subject of discussion during seminars and events and are a fundamental introduction to the workshop about the

roadmap for future research activities on low CO<sub>2</sub> alternatives. Therefore, starting from the above-mentioned suggestions, the dissHEAT main topics has been developed as it follows:

1. Heating and burner technology
2. Modeling of entire furnace, model based control (Level 2)
3. Measurement and sensors and furnace control (Level 1), standards, regulations
4. Materials in the furnace and product quality
5. Heat transfer, heat recovery, productivity, economy

A digital flyer was created and shared with the partners, in order to be published and displayed during the conferences preceding the ESTAD, as well as to be shared on social platforms such as LinkedIn, in order to inform people potentially interested in the topics and the workshop.



The flyer features the dissHEAT logo on the left, a central text box with the title "Dissemination of the heating technology research results for emission minimization and process optimization towards today's fossil-free heating agenda", and a list of project activities on the left. A photograph of a steel furnace is positioned to the right of the text. A vertical column of partner logos is on the far right.

**dissHEAT** Dissemination of the heating technology research results for emission minimization and process optimization towards today's fossil-free heating agenda

- **dissHEAT** project aims to elevate and promote the research performed within heating technology in the steel industry, through the activities of
  - a) A critical review of past projects (RFCS, H2020), classified in different topics and valorization of the findings (KPIs).
  - b) Sharing, promoting and discussing the knowledge in a seminar series
  - c) Develop a roadmap for future research activities
- Seminar series in the spring of 2023 (May) within:
  - ✓ Heating and burner technology
  - ✓ Modeling and control of entire reheating furnaces
  - ✓ Sensors and control, standards, regulations
  - ✓ Materials in the furnace and product quality
  - ✓ Heat transfer, heat recovery, productivity, economy
- Future workshop on development of a roadmap for future research activities on low CO<sub>2</sub> alternatives

Partners: Bfi, CRM GROUP, RWTH AACHEN UNIVERSITY, SWERIM, RIFA, Research Fund for Coal and Steel, European Commission

Figure 2 – dissHEAT project and event flyer

### 3 Choice of the guest speakers

For the Roadmap Workshop, the hypothesis was made of involving experts from the world of research and industry as speakers, being interested in suppliers' point of view. For reasons of time and opportunity, it was decided to involve three speakers to stimulate debate.

A list of people was proposed and voted on by the partners to individuate the speakers, coming from the world of combustion and heating technology, reheating furnaces and combustion equipment, combustion technology and furnaces, oxyfuel technologies, iron and steel technical area in the field of furnace and energy technology.

Selected people will be contacted and involved in time to prepare their speeches.

## 4 Draft Agenda for dissHEAT Roadmap Workshop

A draft agenda for the dissHEAT Roadmap Workshop has been discussed and agreed between the partners.

In the following, the draft agenda is proposed in detail.

Venue: 6-th ESTAD 12 - 16 June 2023, Congress Center Düsseldorf, Germany

Workshop Date and Room: to be decided with ESTAD-organization

- 1:00 pm Welcome and general overview dissHEAT  
(20 minutes presentation, 5 minutes discussion)
- 1:25 pm           5 dissHEAT topics presentations: Findings, analysis and outlook  
(5 minutes presentations of each topic in one flow, 10 minutes discussion)
- 2:00 pm           dissHEAT draft roadmap for future research (10 minutes presentation)
- 2:10 pm           Pause + coffee
- 2:25 pm           3 guest presentations: current questions in research on industrial heating and outlook (15 minutes presentation, 5 minutes discussion)
- 3:25 pm           Panel discussion:
  - future research
  - research gaps in industrial heating during
  - questions from dissHEAT and audience
- 4:30 to 5:00 pm           End of workshop; internal summary

In table, a general planning/timing of the workshop is shown in the following.

*Table 1 – General workshop planning and timing*

<b>Time (4h total, from 13:00 to 17:00)</b>	<b>Notes</b>
13-13.15 Introduction and welcome	Project coordinator/workshop leader
13.15-14.15 Topic presentations	1 each topic
14.15-14.30 break	
14.30-15.45 invited speakers + mentimeter+questions	20+5. Subjects focusing on future research and industrial needs in a 5 - 10-year perspective
15.45-16 break	
16-16.45 panel discussion	One or more workshop leader with subjects to comment from partners and questions from audience connected to gather relevant feedback to a future Road Map. 3 invited speakers + Leader of WP5 (Road map).
16.45-17 closing and summary	Leader of WP5 (Road map) speech

[www.dissheat.eu](http://www.dissheat.eu)



### Acknowledgement



This project has received funding from the Research Fund for Coal and Steel under grant agreement No 101057930.

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