



ECRA/CEMCAP/CLEANKER Workshop

“Carbon Capture Technologies in the Cement Industry”

Brussels, 17 October 2018

Venue:

**Representation of the State of North Rhine-Westphalia to the European Union
Rue Montoyer 47
1000 Brussels**

The workshop will discuss the technological and economic framework for the application of carbon capture technologies in the cement industry. CEMCAP is a project funded by the EU's Horizon 2020 programme addressing CO₂ capture from cement production through the demonstration of different CO₂ capture technologies in an industrially relevant environment (TRL 6) based on the previous work of ECRA and Norcem. ECRA is involved as an industrial advisory group to give guidance to the CEMCAP research consortium and communicate the results within the European cement industry. CEMCAP started in 2015 and will finalise its work in October 2018. The conclusions from CEMCAP's experiments and research will be highlighted in the workshop. CLEANKER is a project that started 2017, also funded by EU's Horizon 2020 program. It addresses CO₂ capture from cement production by demonstrating calcium looping (CaL) technology in the cement plant (TRL 7). Further presentations will encompass options for direct separation capture technology and carbon capture and storage/utilisation (CCS, CCU).

The workshop will focus on and discuss the following presentation and topics:

- EU climate policy agenda, enabling the cement industry to contribute to climate protection in Europe
- Enabling cement carbon capture technology demonstration and enabling the cement industry to meet climate targets
- ECRA's cement carbon capture project
- EU research project CEMCAP
- EU research project CLEANKER
- Technical key note: Industrial solutions for CO₂ utilisation
- Scientific key note: The role of research in realising full-scale CCS
- State of technology development and CEMCAP techno-economic analysis and conclusions
- Perspective on oxyfuel capture technology application in a cement plant
- Calcium looping capture in the cement industry
- Post-combustion technology for cement plants
- Carbon capture in cement production and its reuse

- Carbon capture storage and use for CO₂ mitigation in the cement industry – The public good of CO₂ infrastructure
- Indirect heated calciner technology of LEILAC about to demonstrate competitive carbon capture for cement and lime

It will also include a poster session with discussion, covering the conclusions from CEMCAP's research work packages, the first year achievements of the CLEANKER project on calcium looping in the cement industry, and ECRA's research and development on cement carbon capture technology and CO₂ reuse.

A draft agenda of the workshop with further details is attached. Participation is free of charge with the exception of hotel accommodation, which must be booked by the participants themselves.

Please register via the following link by **15 August 2018**:

<https://events.provisoevent.no/sintefenergi/events/Workshop/register>

You will receive confirmation of the receipt of your registration request and you will be notified shortly afterwards if your registration has been confirmed.

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Draft Agenda

17 October 2018	Venue: Representation of the State of North Rhine-Westphalia (NRW) to the European Union Rue Montoyer 47 1000 Brussels Belgium	
07:45	Registration, meet and greet	
Morning	Room „Macke-Ernst“	<i>Moderator: Martin Schneider</i>
08:30	Welcome address of the Representation of the State of North Rhine-Westphalia	<i>Ralf Kuder, Representation of NRW to the EU, Ministry of Economy NRW</i>
08:40	EU climate policy agenda; enabling the cement industry to contribute to climate protection in Europe	<i>Peter Liese, MEP</i>
09:10	Enabling cement carbon capture technology demonstration and the cement industry to meet climate targets	<i>Jeroen Schuppers European Commission, DG Research and Innovation</i>
09:40	ECRA's cement carbon capture project R&D since 2007, economic and political perspective for carbon capture technology application in the cement industry	<i>Martin Schneider, ECRA</i>
10:00	Coffee break in Room „Beethoven“	
10:40	EU research project CEMCAP Technological achievements and key conclusions	<i>Kristin Jordal, SINTEF</i>
11:00	EU research project CLEANKER Technology, progress and project perspectives	<i>Martina Fantini, LEAP</i>
11:20	Poster session opening	<i>Moderator: Martina Fantini</i>
11:25	Poster pitches	<i>CEMCAP, CLEANKER and ECRA researchers</i>

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11:40	<p>Poster session in Room “Beethoven”</p> <p>Conclusions from CEMCAP research work packages on carbon capture technologies in the cement industry</p> <p>Calcium Looping capture in the cement industry, the CLEANKER project’s first year achievements</p> <p>ECRA’s research and development of cement carbon capture technologies and CO₂ reuse</p>	<p><i>CEMCAP researchers</i></p> <p><i>CLEANKER researchers</i></p> <p><i>ECRA CCS project</i></p>
12:20	Light buffet lunch, continued poster session and discussion in Room „Beethoven“	
Afternoon	Room „Macke-Ernst“	<i>Moderator: Kristin Jordal</i>
13:20	Technical key note: Industrial solutions for CO ₂ capture and utilisation	<i>Georg Locher, thyssenkrupp Industrial Solutions</i>
13:40	Scientific key note: The role of research in realising full-scale CCS	<i>Nils Røkke, SINTEF</i>
14:00	State of technology development and CEMCAP techno-economic analysis and conclusions	<i>Mari Voldsund, SINTEF</i>
14:20	Perspective on oxyfuel capture technology application in a cement plant CEMCAP prototype testing, retrofitting, and ECRA oxyfuel technology demonstration	<i>Volker Hoenig, Johannes Ruppert, VDZ</i>
14:40	Calcium looping capture in the cement industry CLEANKER prototype engineering, CEMCAP conclusions	<i>Giovanni Cinti, Italcementi, Matteo Romano Politecnico di Milano;</i>
15:00	Coffee break and continued poster session in Room „Beethoven“	

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Afternoon	Room „Macke-Ernst“	Moderator:
		<i>Johannes Ruppert</i>
15:40	Post-combustion technology for cement plants	<i>N. N., CEMCAP researcher and NORCEM project at Brevik (TBC)</i>
16:00	Carbon capture in cement production and its reuse	<i>N. N. University of Mons</i>
16:20	Carbon capture storage and use for CO ₂ mitigation in the cement industry – The public good of CO ₂ infrastructure	<i>Jonas Helseth, Bellona Europa</i>
16:40	Indirect heated calciner technology of LEILAC about to demonstrate competitive carbon capture for cement and lime	<i>Jan Theulen, HeidelbergCement</i>
17:00	Final discussion in plenum: Carbon capture technologies in the cement Industry Innovation in European projects and their synergy	<i>Moderators: Rob van der Meer, HeidelbergCement, Nils Røkke, SINTEF</i>
17:40	Closing drink and continued discussion	
18:00	End of the workshop	

HOTEL ACCOMMODATION IN BRUSSELS

Special room rates are available for workshop participants at the following two hotels in Brussels for the night of 16 October as follows.

Sofitel Brussels Le Louise

40 Avenue de la Toison d'Or

1050 BRUSSELS

Tel: +32 2 5142200

Website: <http://www.sofitel.com/gb/hotel-1071-sofitel-brussels-le-louise/index.shtml>

Rate: 215 EUR

How to book: Please follow the instructions on the attached booking form.

THON Hotel EU

Rue de la Loi 75

1040 Brussels

Tel. +32 2 204 3911

Website: <https://www.thonhotels.com/our-hotels/belgium/brussels/thon-hotel-eu/>

Rate: 240 EUR

How to book: Please use the following reservations link:

<https://www.thonhotels.com/event/european-cement-research-academy-gmbh/>

ROOM RESERVATION FORM

To be sent to the following email: H1071-RE1@sofitel.com

Attention: Karim Aarab

Tel: +32 2 549 61 15



RÉF. 62914448

Room type

Rate: 16/10/18: **Classic Room**
215.00 EUR/night - Single occupancy

17/10/18: **225.00 EUR/night** - Single occupancy

+20€ for double occupancy

Arrival date:

Check-in time: as from 15h00 : 16/10/2018

17/10/2018

Departure date:

Check-out time: until 12h: 17/10/2018

18/10/2018

Buffet breakfast is included

WIFI is offered

The city Tax of 4.24 EUR per room per night is not included in the bedroom rate

Early Check-in & Late Check-out options : please contact us if you are interested

TITLE / FIRST NAME / SURNAME _____

ADDRESS _____

CITY / COUNTRY _____

PHONE _____ **EMAIL** _____

All accommodation requests must be submitted by:

11/09/2018

After the **11TH of September 2018** the reservation is not modifiable not cancellable

The entire stay will be charged in case of no-show or cancellation. Any other request will be upon availability.

Card holder _____

Credit card number _____

Expiry date _____

Date:

Signature for approval on the conditions & authorization to debit the card:

Booking is according to availability.

No booking can be accepted without credit card details and authorization to debit the card.