

CO₂ Site Closure Assessment Research

- CO₂CARE -

Collaborative project

Theme: Energy

Project Number 256625



Preliminary

AGENDA

FOR THE

CO₂CARE Annual Scientific Conference 2013

**Joint Meeting of
STEERING COMMITTEE AND GENERAL ASSEMBLY**

- WP Workshops -

Date: 12-13 March 2013

at

**TNO - Nederlandse Organisatie voor Toegepast
Natuurwetenschappelijk Onderzoek, Utrecht**

TNO innovation
for life

GFZ
Helmholtz Centre
POTSDAM

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GA: Informing the Consortium Body – 45 calendar days before (done!)

GA: Sending the agenda: 20 calendar days before

CA- Any agenda item **requiring a decision** by the members of a Consortium Body **must be identified as such on the agenda**.

Any Member of a Consortium Body **may add an item** to the original agenda by written notification to all of the other Members of that Consortium Body **no later than the minimum number of days preceding the meeting**.

General Assembly: fourteen (14) calendar days (ordinary meetings), seven (7) calendar days (extraordinary meetings)

Steering Committee: five (5) working days

1 Date and venue of the meeting

Date: March, 12-13, 2013

Venue: TNO, Princetonlaan 6, NL-3584 CB Utrecht, Room: Auditorium 1,

2 Conference participants

Online registration via the CO2CARE website will soon be enabled at:

<http://www.co2care.org/NewsData.aspx?IdNews=29&ViewType=Actual&IdType=545> or

<http://www.co2care.org/>

2.1 Expected Participants of the Steering Committee meeting

Coordinator: Alex Liebscher (GFZ)

WP-Leader:

WP1	Sevket Durucan	(Imperial College)
WP2	Jean-Pierre Deflandre	(IFPEN)
WP3	Stefan Lueth	(GFZ)
WP4	Jens Wollenweber	(TNO)
WP5	Andy Chadwick	(BGS - NERC)
WP6	Gualtiero Böhm	(OGS)
WP7	Mario Wipki	(GFZ)

Representatives from industry * (according to the GA from 27 March 2012)

Shell	Claus Otto
Veolia	Natalia Quisel
RWE	Thomas Thielemann **
Vattenfall	Wolfgang Rolland **

Representatives from storage site operators who are parties *

Statoil	Rudolf Held (T.H. Hanssen)	(Sleipner)
Univ. at Austin	Susan Hovorka	(Frio)
RITE	Ryozo Tanaka	(Nagaoka) **
CO2CRC	Charles Jenkins	(Otway) **
AirLiquide	Claire Bourhy-Weber	(Montmiral)
TOTAL	Jacques Monne	(Rousse)
PNNL -Battelle	Alain Bonneville	(Wallula) **
GFZ	Alex Liebscher	(Ketzin)
GDF Suez/TNO	Jens Wollenweber	(K12-B)

*Each partner may also nominate other representatives as listed above..

** Apologies received

2.2 Participants of the General Assembly

Representatives of all 23 consortium partners are invited. Each representative of an entity has 1 vote. Moreover, representatives of the European Commission as well as the representatives of the national authorities (Stakeholders Panel) are also invited to participate, but without voting rights.

23 voting members

Participant No.	Representative		Partner	Confirmed	Apologies received
1	Liebscher	Axel	GFZ (Coordinator)	✓	
2	Durucan	Sevket	Imperial College	✓	
3	Deflandre	Jean-Pierre	IFP Energies	✓	
4	Wollenweber	Jens	TNO	✓	
5	Chadwick	Andy	NERC	✓	
6	Böhm	Gualtiero	OGS	✓	
7	Fabriol	Hubert	BRGM	✓	
8	Frykman	Peter	GEUS	✓	
9	Juhlin	Christophe	Uppsala University	✓	
10	Bourhy-Weber	Claire	AirLiquide	✓	
11	Thielemann	Thomas	RWE		★
12	Held	Rudolf	Statoil	✓	
13	Otto	Claus	Shell	✓	
14	Troelsgaard-Sørensen	Ann	Vattenfall	✓	
15	Quisel	Natalia	Veolia	✓	
16	Bachu	Stefan	AITF		
17	Chalaturnyk	Rick	UofA	✓	
18	Tanaka	Ryozo	RITE.		★
19	Hovorka	Susan	GCCC-BEG		★
20	Birkholzer	Jens	LBNL		
21	Bonneville	Alain	PNNL		★
22	Jenkins	Charles	CO2CRC		★
23	Monne	Jacques	TOTAL S.A.		

We assume that most of the persons named above will attend the SC/GA. However, you can nominate someone else who is going to represent your institution/company.

Please make your online registration: <http://www.co2care.org/Register.aspx?IdEvent=16>

If you cannot attend the meeting, please send us a short note. (wipki@gfz-potsdam.de)

★ Apologies received.

We assume that representatives listed in the table above will attend the SC/GA. However, you can nominate a replacement. Please inform us in time.

2.3 Participants of the Scientific Conference

Status 27 February 2013

CO2CARE members		
1	Sevket Durucan	Imperial
2	Amer Syed	Imperial
3	Ji-Quan Shi	Imperial
4	Axel Liebscher	GFZ
5	Mario Wipki	GFZ
6	Stefan Lüth	GFZ
7	Elisa Klein	GFZ
8	Martin Streibel	GFZ
9	Gunther Baumann	GFZ
10	Tanja Kollersberger	GFZ
11	Alexandra Ivanova	GFZ
12	Jean-Pierre Deflandre	IFPEN
13	Habiba Boulharts	IFPEN
14	Audrey Estublier	IFPEN
15	Andy Chadwick	BGS-NERC
16	Karen Kirk	BGS-NERC
17	Sam Holloway	BGS-NERC
18	Keith Bateman	BGS-NERC
19	Jonathan Pierce	BGS-NERC
20	Gareth Williams	BGS-NERC
21	Jens Wollenweber	TNO
22	Vincent Vandeweyer	TNO
23	Geert de Bruin	TNO
24	Rob Arts	TNO
25	Ton Wildenborg	TNO
26	Bogdan Orlic	TNO
27	Manuel Nepveu	TNO
28	Henk Pagnier	TNO

29	Cor Hofstee	TNO
30	Laura Wasch	TNO
31	Gualtiero Böhm	OGS
32	Rick Chalaturnyk	University of Alberta
33	Hubert Fabriol	BRGM (e-mail confirmed)
34	Chan Quang Vong	BRGM
35	Pierre Wawrzyniak	BRGM
36	Michael Delatre	BRGM
37	Chris Juhlin	Uppsala University (e-mail confirmed)
38	Daniel Sopher	Uppsala University (e-mail confirmed)
39	Auli Niemi (tbc)	Uppsala University (e-mail confirmed)
40	Eva Halland	Norwegian Petroleum Directorate
41	Domenico Gaudioso	ISPRA
42	Rudolf Held	Statoil
43	Matteo Loizzo	Consultant
44	Claus Otto	Shell
45	Andreas Busch	Shell
46	Tim Tambach	Shell
47	Jeroen Snippe	Shell
48	Emilia Liteanu	Shell
49	Peter Frykman	GEUS
50	Tim Dixon	IEA-GHG
51	Ann Troelsgaard-Sørensen	Vattenfall
52	Tim Wolterbeek	Utrecht University
53	Amir Raouf	Utrecht University
54	Claire Bourhy-Weber	Air Liquide
55	Natalia Quisel	Veolia

3 Conference Agenda

Scientific Conference (CO2CARE members and external researchers) Tuesday, March 12, 2013 - 10:00 – 17:55 Auditorium 1		
Time		Speaker
10:00	Reception and Registration, Coffee	
10:30	Opening and Welcome	NN, TNO Axel Liebscher, GFZ
Regulatory Session Chairperson: Claus Otto		
10:40 - 11:40	Presentations by representatives of the National Authorities 4 presentations á 15 min (including discussions) 10:40-10:55 “Regulatory requirements for CO ₂ storage site closure in Norway” 10:55-11:10 “Implementation of EU Directive 2009/31/EC on the Geological Storage of Carbon Dioxide in Italy” 11:10-11:25 “Recently released bi-national standards on geological storage of CO ₂ in Canada” 11:25-11:40 “Closure requirements for CO ₂ storage sites in the “United Nations (FCCC’s) Clean Development Mechanisms”	Eva Halland (NPD) Domenico Gaudiso (ISPRA) Rick Chalaturnyk (UoA) Tim Dixon (IEA-GHG)
Recent Developments at Project Sites Chairperson: Claus Otto		
11:40 - 12:25	Presentations by CO2CARE industry partners and site operators providing an overview of recent activities at each project site: 15 minutes each K12-B Vincent Vandeweyer (TNO) Sleipner Rudolf Held (Statoil) Ketzin Axel Liebscher (GFZ)	
12:25-13:25	Lunch break	

“Technical” Session		
Chairpersons: Matteo Loizzo/Rick Chalaturnyk – presentations 15 min + 5 min discussion		
13:25-13:45	Database of first abandoned CCS/CO ₂ -exposed wells: Relevant practices and characteristics	Sevket Durucan (Imperial College)
13:45-14:05	Near-wellbore characterization of CO ₂ migration at Ketzin using PNG and DTS measurements	Gunther Baumann (GFZ)
14:05-14:25	Pore-scale modelling of reactive transport in wellbore cement under CO ₂ storage conditions (CATO-2 research)	Amir Raof (Utrecht University)
14:25-14:45	Investigation of long term processes at injection wellbore and its impact on CO ₂ storage integrity	Amer Syed (Imperial College)
14:45-15:05	Finite element simulation of wellbore stresses prior to well abandonment: application to the Sleipner well)	Habiba Boulharts (IFPEN)
15:05-15:25	Tea/Coffee Break	
15:25-15:45	Geomechanical modelling of intentional wellbore clogging	Bogdan Orlic (TNO)
15:45-16:05	CO ₂ dissolution kinetics in deep saline aquifers	Cor Hofstee (TNO))
16:05-16:25	Assessment of long-term performance - Reactive transport simulations for Sleipner: 3D simulation in Utsira and 1D vertical simulation in the caprock	Audrey Estublier (IFPEN)
16:25-16:45	Long-term stability assessment by mineral trapping at the Ketzin pilot site	Elisa Klein (GFZ)
16:45-17:05	Remediation of non-conformal flow of CO ₂ in subsurface reservoirs: Application of polymer gels	Amer Syed (Imperial College)
19:00	Conference Dinner	Stadskasteel Oudaen Oudegracht 99 3511 AE Utrecht

Scientific Conference (CO2CARE members and external researchers) Wednesday, March 13, 2013 - 09:00 – 13:30 Room: Auditorium 1		
Time		Speaker
8:45-9:00	Reception and Coffee	
	“Technical” Session Chairperson: Chris Juhlin	
09:00-09:20	Status update of seismic acquisition with the TNO permanent seismic array installed at Ketzin	Rob Arts (TNO)
09:20-09:40	Comparison of two seismic sources at the Ketzin CO2 storage site, Germany	Daniel Sopher (Uppsala University)
09:40-10:00	Seismic monitoring at Ketzin: update on field surveys and comparison between latest observations and simulations	Stefan Lueth (GFZ)
10:00-10:20	Approaches to quantitative interpretation of 3D seismic data at Ketzin	Alexandra Ivanova (GFZ)
10:20-10:45	Tea/Coffee Break	
10:45-11:05	Risk management and abandonment plan for the K12-B site	Ton Wildenborg (TNO)
11:05-11:25	CO2CRC Otway reservoir modelling, caprock fracture characterisation and geomechanical failure assessment	Ji Quan Shi (Imperial College)
11:25-12.30	Sleipner dry run session (incl. a short break)	Andy Chadwick, Sam Holloway (BGS-NERC)
12:30-13:00	Round Table Review of the Project Progress and Recommendations by Industrial Partners	Moderation: GFZ
13:00	Lunch and End of Scientific Conference	

4 Combined WP4/WP5/WP6 Workshop

Wednesday 13 March 2013 - 15:00 – 17:00

Main topics:

- Current status of the WPs (TNO, BGS, GFZ)
- Risk assessment and abandonment plans for K12-B, Sleipner and Ketzin (TNO)
- Best Practice and Regulatory compliance (BGS)
- Dissemination activity in the remaining project time (GFZ)

Joint session of the
Steering Committee & General Assembly

Wednesday, March 13, 2013 – 14:00 – 15:00 GMT | Room 1 (Zaal 1)

Chair: Axel Liebscher, Mario Wipki

Agenda will be sent separately in due time



5 Excursion

14. March 2013 – Excursion to



Maasvlakte Power Plant 3, Rotterdam

“We are going to enjoy a guided visit of one of the most modern coal power plants worldwide including its CO₂ capture unit. When going up the chimney people need to wear personal protection equipment: helmets, shoes, etc. EON can provide these, but they will need clothing and shoe sizes (we want to prepare this well in advance, to make sure we have all items available).” Please note that the excursion will take place on Thursday, March 14th. Departure in Utrecht will be at 9.30 a.m. (bus shuttle). Lunch will be provided by EON. End: ~2.30 p.m.. Since most participants will need a connection to high-speed trains or flights for their travel back home a bus shuttle to Rotterdam Central Station will be organized (arrival ~15.30 at Rotterdam Station).

Name	Organisation	Passport-Id-No.	Need safety shoes	Show size	Need a helmet	Need cloth	Clothing size
Mario Wipki	GFZ		No				
Gualtiero Böhm	OGS						
Ton Wildenborg	TNO						
Chan Quang Vong	BRGM						
Jean-Pierre Deflandre	IFPEN						

6 Accommodation

NH Hotel - 4*:

<http://www.nh-hotels.nl/nh/nl/hotels/nederland/utrecht/nh-utrecht.html>

NH Centre Hotel – 3*

<http://www.nh-hotels.nl/nh/nl/hotels/nederland/utrecht/nh-centre-utrecht.html>

Grand Hotel Karel V - 5*

<http://www.karelv.nl/en>

Hotel Dom. – 4*

<http://www.hotels.nl/utrecht/hoteldom/>

Sandton Mali Hotel - 4*:

http://www.sandton.eu/nl/utrecht/?gclid=CO2p2bGVI7QCFcG_3godUDIAHA

Hotel Mitland 5*

http://www.mitland.nl/home_d.htm

7 How to get there

Please follow the description attached to the invitation email or refer to TNO Website for all essential information and directions. ***The parking at this location is limited. Visitors can use the paid parking places. We advise you to travel by public transport.***

http://www.tno.nl/content.cfm?context=overtno&content=overtno_locatie&laag1=38&item_id=29&Taal=2

How to get to Utrecht from Schiphol Airport

After arrival at Schiphol Amsterdam Airport, you can take a train to Utrecht Central Station.

The train station is part of Schiphol Plaza, just follow directions for 'trains'. Train tickets are available from the yellow ticket machines near the platforms at Schiphol Plaza or from the ticket offices. There is a **direct train to Utrecht** Central Station every 15 minutes (after 21:00 every 30 minutes) and the journey takes about half an hour. Buy a one way ticket (enkele reis) to Utrecht Central Station (about €7,80). When in doubt, you can always ask someone at the ticket office. You will soon notice that almost everyone in the Netherlands speaks English fairly well. For journey advice and time tables you can also check: www.ns.nl.