



COST Action ES1405

Action Title: Marine gas hydrate – an indigenous resource of natural gas for Europe (MIGRATE)

**Management Committee (MC)
and Working Group (WG) Meeting**

***Geological Survey of Denmark and Greenland (GEUS)
from 29th to 30th September 2016***

Minutes

29th September 2016

09:00: Opening by GEUS' Deputy Director (Flemming Getreuer Christiansen) and by Chair (Klaus Wallmann)

The LOS, John Hopper, welcomes all participants and explains the allocation of the different rooms for the parallel WG meetings.

The GEUS' Deputy Director, Flemming Getreuer Christiansen opens the meeting by explaining that GEUS is not only responsible for Denmark but also for Greenland – as the name says “GEOLOGICAL SURVEY OF DENMARK AND GREENLAND”. The MIGRATE Chair, Klaus Wallmann, welcomes everybody and starts with the explanation of the agenda of the day. The main aim should be: “how do we put gas hydrate on the European agenda?”

09:30: Report by working group 1 (Héctor Marín-Moreno/Adi Neumann)

Héctor Marín-Moreno gives a presentation on “WG1 Decision Making Process”. He starts with the discussed topics: datasets; gas hydrate indicators; data format; platform/software to create, manage and update maps. He continues with the report of the 1st WG1 meeting in Southampton. The future activities of WG1 are:

- To keep updating the maps (all contributions are welcome)

- To discuss and decide on the following topics a) the assessment of the confidence in the data and its interpretation, b) the evaluation of the potentiality of a hydrate reservoir for commercial exploitation, c) the opening of the GIS model to the entire MIGRATE community
- To prepare several datasets to standardize the criteria in order to identify gas hydrate indicators between the WG1 members

Adi Neumann talks about the maps and the future work with these maps. They will be kept updated and they will be available to all MIGRATE Members.

Klaus Wallmann explains that the first scientific drilling for hydrates in Europe will take place in the Bulgarian and Romanian sectors of the Black Sea in 2017. It will be financed and conducted by the German SUGAR project.

10:00: Report by working group 2 (Assaf Klar/Georg Janicki)

Assaf Klar summarizes the goal of Working Group 2: to write a report on European gas hydrate technologies.

11:00: Report by working group 3 (Umberta Tinivella)

Umberta Tinivella presents the WG 3 report which has already been posted on the MIGRATE homepage.

11:30: Report by working group 4 (Klaus Wallmann)

Klaus Wallmann reports on the WG4 meeting which took place in Kiel in November 2015. Various ideas to lobby for gas hydrate R & D were discussed during the meeting. During the subsequent MIGRATE industry workshop in Oberhausen in April 2016, the participants from the private sector concluded that slope failure is the most important hydrate-related topic. Based on the outcomes of the workshop, a paper was written by MIGRATE with the title "Sustainable Use of Europe's Marine Energy Resources". Klaus Wallmann presents the paper at the meeting and asks for feedback. Nick O'Neill says that this theme is not appearing anywhere in Ireland. Mahmut Parlaktuna announces that there is interest in it in his country. Umberta Tinivella explains that Italy would like to support this theme. Valentin Georgiev also approves for Bulgaria. Aleksander Dominiczak says that Poland is interested to go further into this direction; the environment issue is a good aspect. Keith Bateman explains that this topic wasn't on the UK agenda. Stefan Bünz declares that some interest in hydrates as part of the climate system exists in Norway (CAGE project). Klaus Wallmann announces that MIGRATE aims to organize and support a stakeholder workshop at Brussels in spring 2017. This will be jointly organized and held by MIGRATE, IFREMER, and KDM.

12:00: Report on short term scientific missions (Judith Schicks)

Judith Schicks explains the STSM procedures. Four STSMs were financed; three of these are presented in the following by the participants:

Adi Neumann starts with her presentation: “European Gas Hydrate Distribution Map (WG1 STSM, UK)”. The maps produced by her as part of her STSM are published on MIGRATE’s webpage. The STSM at NOC helped building relationships and networking and Adi Neumann expresses the wish to intensify the work in the future.

Sourav Sahoo explains that he performed his STSM “Validating use of Archie’s law for hydrate quantification” at GFZ in Potsdam. The results of his STSM would benefit WG 1 and WG2. His work in Potsdam was very fruitful and helped him to broaden his expertise.

Ovi E. Eruteya explains that he accomplished his STSM “Seismic characterization of gas hydrates in the Vøring Basin, offshore Norway” at University of Tromsø/CAGE in Norway. The place was a good venue for young scientists and he learned a lot from Stefan Bünz. However, two months seemed to be too short for him.

Judith Schicks points out that at present there is a max. budget of € 2,500.-/STSM. The question that should be posed to the COST Association would be if the funding could exceed € 2,500 for the new funding period. The recent STSM budget amounts to € 13,536.00. Klaus Wallmann declares that there will be allocated more money for STSMs within the new funding period.

14:00: Parallel working group meetings (WG 1 – 3)

WG1

Presentations:

- 1) Klaus Wallmann: “Gas hydrate dissociation at the continental margin off Svalbard induced by glacial rebound rather than global warming”.
- 2) Eric Attias: “Gas hydrate chimney characterization using CSEM, seismics and coring”.
- 3) Atanas Vasilev: “Geothermal 4D study of gas hydrate deposits”.
- 4) Victor Magalhães & Luis Pinheiro: “Fluid escape structures and gas hydrates”.
- 5) Héctor Marín Moreno: “Development of Gas Hydrate Distribution Map for the European Waters”.

WG3

Presentations:

- 1) Valentin Georgiev (GeoMarine Ltd., Bulgaria): “Bulgarian Environmental and Maritime Legislative Framework Relevant to the Gas Hydrates Exploration and Production”.
- 2) Thomas Mosch (Kongsberg, Germany): “Modular Subsea Monitoring Network (MSM) – Realizing integrated Environmental Monitoring Solutions”. He explains the concept of Kongsberg’s environmental monitoring.

Umberta Tinivella announces the discussion points of the WG3 meeting taking place in Trieste, 13th-14th December 2016: modelling and environmental baseline assessment as well as research regarding legal framework.

16:00: Poster Presentation

<u>Author</u>	<u>Title</u>
Dr. Srikumar Roy	“Natural Gas Hydrates and fluid flow: implications from Irish offshore”
Dr. M. Pilar Mata & Dr. Ricardo León Buendía	“Potential hydrate assessment in European continental margins: Funding opportunity in GeoERA”
Sunny Singhroha	“High resolution seismic velocity analysis of multicomponent OBS data in gas hydrate saturated sediments of Vestnesa Ridge, western Svalbard margin”
Dr. Jasmina <u>Obhodaš</u>	“The use of alpha particle tagged neutrons for the in-situ inspection of methane hydrate”

16:30: Parallel working group meetings (WG 1 – 3)

WG3

Presentations:

- 1) AleksanderDominiczak (Institute of Geology, Adam Mickiewicz University, Poland): “Gas hydrate research in Poland”.
- 2) Anh Minh Tang (University of Paris): “The HYDRE project: Mechanical behavior of gas-hydrate-bearing sediments”.

3) Arnaud Desmedt (University of Bordeaux): “Molecular sciences: from geo- to astrophysics”.

Umberta Tinivella declares that “monitoring procedure” will be the focus for the next WG3 meeting. Livio Ruffine adds that the discussion on hydrate destabilisation and dissolution might be put on the agenda, too.

18:00: End of the meeting day

19:30: Conference dinner at Copenhagen organized by LOS (“Restaurant Kultorvet”)

30th September 2016

09:00: Reports by working groups 1-4 to plenum

WG1 meeting activities (Héctor Marín Moreno)

Héctor Marín Moreno reports on the presentations of the previous day. Furthermore he announces the activities planned for 2016/2017.

WG2 summary (Assaf Klar)

There have been different presentations by Sourav Sahoo, Björn Kvamme, Neill English, Jasmina Obhoda, Anh Minh Tang and Assaf Klar during the WG2 meeting. The next WG2 meeting is planned at Kiel from 7th-8th November 2016. A change of place – maybe Potsdam - might be possible. Anh Minh Tang has made experiences with another COST project. Thus, he proposes to publish one paper of each working group in a journal. Georg Janicki suggests to publish an extract on the homepage and to publish the whole paper in a journal, e.g. Elsevier publications would be suitable. Klaus Wallmann explains that each working group paper will be published on the MIGRATE homepage and that each WG should decide at the occasion of their meetings what should be prepared and what should be published.

WG3 summary (Umberta Tinivella)

Umberta Tinivella summarizes the WG3 meeting of the previous day. Furthermore, the participants of the WG3 discussed about the next WG3 meeting in Trieste, 13th-14th December 2016.

11:00: Plenum discussion on future work

Klaus Wallmann would like to know whether Bulgaria is interested in gas hydrates as a potential resource of natural gas. Valentin Georgiev answers that this is the case. Klaus Wallmann proposes that MIGRATE should help to inform Bulgarian policy makers on the gas hydrate occurrences in the Bulgarian sector of the Black Sea and their resource potential. Umberta Tinivella agrees to discuss the point to go into the Bulgarian direction in WG3. Valentin Georgiev points out that a paper should be prepared in WG3 regarding the environmental aspect of gas hydrate exploitation in the Black Sea.

Ricardo León gives an introduction of the “GeoERA co-funded call for transnational proposals”. Keith Bateman adds that GeoERA is an organization that might be interested in hydrates and is admitted in H2020. The GeoERA grant would amount to 10 million EUR. The timeline would be 27th June – 6th December (invitation to the EC Grant Agreement), which means that the proposal should be forwarded in September 2017 so that it could start in mid-2018. The deadline would be 31st October 2016. GeoERA funding is for geological surveys, only. MIGRATE partners from national geological surveys will jointly ask for gas hydrate R & D under the GeoERA umbrella.

Nick O’Neill says that in Horizon2020 a popular topic is “Blue Growth” (= blue energy/marine mineral resources). He explains that Ireland will verify with the national delegate how reasonable it would be to ask for hydrate-related research under the topics “Marine Mineral Resources” and “Blue Growth”. Umberta Tinivella, Klaus Wallmann and Livio Ruffine declare that they will ask their national representatives to push for hydrate-related research under “Blue Growth”.

12:15: Lunch and end of meeting for non-MC members

13:30: MC meeting

Klaus Wallmann addresses the participants and then asks who like to serve as the next LOS. Maria De Fátima Carvalho proposes to be the next LOS (Beja, Portugal). Vitor Magalhães also proposes to be the next LOS (Lissabon, Portugal). His institution IPMA would just need to contact the administration. Also Aleksander Dominiczak proposes to be the next LOS (Posnia, Poland). Livio Ruffine also proposes to be the next LOS (Brest, France). Valentin Georgiev proposes to be the next LOS (Varna or Sofia, Bulgaria) as well. For Bulgarian politicians it’s easier to travel to Varna.

Klaus Wallmann summarizes:

- Lissabon, Portugal
- Posnia, Poland
- Brest, France
- Varna (lobbying aspect) or Sofia (Meteor is in Varna in October), Bulgaria

The MC votes:

Varna (or Sofia, but without visiting the Meteor): 12 votes

Lissabon: 9 votes

France: 1 vote

Poland: 0 votes

and decides to have the next MIGRATE MC/WG Meeting in Bulgaria.

The MC also votes to confirm the rule of not spending more than € 800 travel money per person and occasion: 21 confirmations, 1 against (out of 22).

16:00: End of MC meeting