

FINAL Minutes of August 12, 2021 Ethylene Producers' Environmental Sub-Committee Meeting
(August 12, 2021, Rev. 0)

Following are the minutes of the August 12, 2021 Ethylene Producers' Environmental Sub-Committee Meeting, held via teleconference with Walter Postula, Shell Global Solutions (US) Inc., as host.

Present: Rick Beleutz, LyondellBasell
Ahmad Hamad, Siemens-Energy
Dan Lutz, Ineos
Andrés Muñoz Gandarillas, Neste
Walter Postula, Shell Global Solutions (US) Inc.
Gerardo Ruiz-Mercado, US EPA (AIChE Environmental Division)
Mark Ulrich, Linde Engineering Americas
Gary Wojnowski, BASF

Absent: Troy Boley, Spectrum Environmental Solutions, LLC
Benjamin Burns, LyondellBasell?
Ted Heron, The Catalyst Group
Jacob Hilbrich, ChevronPhillips
Patti Long, Eastman
Arijit Pakrasi, Edge Engineering and Science
Jennifer Port, ExxonMobil Chemicals
Mark Schmidt, Dow
Jeffrey Seay, University of Kentucky (AIChE Environmental Division)
Edward Soliz Jr., LyondellBasell
Jason Trembly, Ohio University (AIChE Environmental Division)

The teleconference began at 9:02am with Walter Postula reading the Ethylene Producers' Committee (EPC) anti-trust statement:

No activity of the committee shall involve the exchange, collection, or dissemination of information among competitors for the purpose of bringing about or attempting to bring about an understanding or agreement, written or oral, formal or informal, express or implied, among competitors, with regard to costs, prices, pricing methods, terms or conditions of sale, distribution, production quotas or other limitations on either the timing or volume of production or sales, or allocation of territories or customers.

The meeting agenda was published in advance and is included below:

- 1) Reading of Anti-Trust Statement [9:02 AM]
- 2) Chair/Co-Chair for 2022 session [9:04 AM]
- 3) Follow-up on attendance for 2021 Session(s) [9:08 AM]
- 4) Discussion of Potential Topics (List from 6/17 Telecon below) for 2021 Environmental Session [9:12 AM]
 - CO₂ reduction by existing (through 2035) versus emerging (through 2050) technologies [Rick]
 - Water treatment, reuse/recycling [Gerardo]
 - CO₂ industrial engineering and R&D approaches [Gerardo]
 - Carbon capture (design/optimization) [Gerardo]
 - Plastics recycle, how to close the loop [Gerardo, and is willing to organize]
 - Technology and Sustainability [Themes suggested by Andrés]
 - Decarbonization [Mark S., also AIChE keynote themes]

- Compliance with waste-water discharge (microplastics) [Dan]
 - Topics from Academia? [Andrés, e.g. Ghent University]
- 5) Date for Potential Face to Face [9:45 AM]
 - 6) Review of Action Items [9:50 AM]
 - 7) Important Date Reminders
 - June 28, 2021 – Call for abstracts opens
 - November 1, 2021 – Call for abstracts closes
 - December 6, 2021 – Papers accepted or rejected
 - January ??, 2022 – Program goes live
 - March ??, 2022 – Paper submission closes
 - April 10-14, 2022 – Spring Meeting – San Antonio, TX
 - 8) Adjourn [10:00 AM]

Chair/Co-Chair for 2022 Session: As follow-up to the previous mention that Andrés agreed to move into Session Chair role, Walter communicated to the subcommittee that Gerardo agreed to serve as Session Co-Chair.

Follow up on attendance for 2021 Session(s): As mentioned in the Final Minutes for June 17th telecon, Walter stated that the attendance numbers for the initial papers of the 2021 conference were vastly inflated because of initial connectivity problems that caused attendees to “jump” in/out of session multiple times. When only “unique” visitors were counted the numbers were more in line with other sessions (and with previous conferences). Paper 8a went from 645 to 218 attendees.

Discussion of Potential Topics for 2021 Environmental Session: The topic list included in the agenda was discussed. No specific headway was made on identifying an author for any of the topics. Andrés mentioned he had reached out to Ghent but has not received a response. Rick shared an email from Aivars Kruminis’ (Technology Subcommittee) stating that they are open to partnering for a joint session with either Environmental or Operations. In this same email was the suggestion to cover the topic of ISCC certification. Rick also shared an email from Jake Berret (NOVA Chemical) that listed potential topics from Consultant (All4 – Eric Swisher), all around EMACT. Dan stated that All4 are knowledgeable about the proposed subjects, having consulted with ACC/AFPM in the EMACT rule development process. Walter mentioned that Eric presented in 2021 (145c - Flare Monitoring and Data Management Challenges). Mark U. asked Rick if Steve Smith might be interested in an EMACT related presentation. Ahmad proposed the subject of benefits of “Oil to Ethylene” on the environment. Mark U. asked for a short, written summary of idea (Post telecon note: see Appendix). Walter suggested that producer experience with processing of pyrolysis oil from plastic waste or bio-feeds could be of interest.

There was some discussion on what we should pursue for our session(s). A “General Environmental” session has been held during most years (no theme). This year we probably do not have a theme that could generate six papers on a topic only relevant to environmental. Seems like there is potential for joint sessions with both Technology and Feedstock.

Date for Potential Face to Face: Nothing certain yet. The December meeting may make the most sense and Linde would be willing to host (assuming COVID concerns are minimal). Will be discussed again during the October telecon.

Review of Action Items: Below are the action items (responsible in **bold**)

- **Andrés:** Reach out to ISCC and/or RSB contacts about presenting on certification process
- **Andrés:** (Re)Connect with Ghent on their willingness to present
- **Rick:** Talk with Steve Smith about EMACT update (basis list from All4)

- **Rick:** Contact Eric Swisher (All4) about presenting
- **Producers:** Check internally on appetite to present on experience with processing pyrolysis oils or Bio-based feeds (includes **Rick, Jennifer, Jacob, Mark S., Walter, Dan, and Gary**)
- **Ahmad:** Send short write up on topic idea (**DONE**)
- **Rick/Walter:** Discuss appetite for joint sessions during Main Committee meeting (**DONE**)
- **Rick/Walter:** Find out if Spring meeting is in-person or virtual (or mix) during Main Committee meeting (**DONE**)
- **Rick/Walter:** Inquire about missing Conference deadline dates during Main Committee meeting (**DONE**)

Post telecon note: Some discussion on joint sessions took place during Main Committee meeting, but a separate discussion with interested parties will occur (set up by Rick). Spring Meeting is still planned as in-person. AIChE is constantly monitoring situation. Two dates presented during the Program Chair report are January 10 (Draft Program for Review) and January 24 (Final Acceptance/Rejection letters).

Important Date Reminders: The dates listed in item 8 of the agenda were reviewed. Some are still to be finalized.

Adjourn: The meeting/teleconference was closed at 9:53 am.

APPENDIX

Idea for "Oil to Chemicals" presentation (from Ahmad)

The Environmental Impact of the New Integrated Petrochemical Plants

Integrating petrochemical plants within refineries or going straight from crude oil to chemicals through steam cracking is the future for and could be the game changer for the chemical & petrochemical industries. Besides being economically attractive, this approach is environmentally advantageous. CO2 emissions can be reduced by more than 50% when the refineries are bypassed. The footprint and area covered by several facilities will be reduced to one facility leading to substantial community and environment safety.

See also two additional PDF files provided by Ahmad) attached to minutes email.