

# Atmospheric Chemistry and Dispersion Modelling of Non-CO<sub>2</sub> Emissions from Carbon Capture

## National Carbon Capture Center & Southern Company Energy Center

November 21, 2024

8:00 – 8:30 AM Check-in and breakfast buffet

*Moderator: Ron Munson (NETL)*

8:30 – 8:45 AM Meeting Objectives and Overview  
DOE-Fossil Energy and Carbon Management (FECM)

8:45 – 9:30 AM Overview Atmospheric Chemistry and Dispersion Modelling of Non-CO<sub>2</sub>  
Emissions Activities across Federal Agencies

8:45 – 8:55 AM Fossil Energy and Carbon Management (FECM) Activities  
Dan Hancu (FECM)

8:55 – 9:05 AM Office of Clean Energy Demonstration (OCED) Activities  
Gokul Vishwanathan (OCED)

9:05 – 9:15 AM Environmental Protection Agency (EPA) Activities  
Andy Gillespie (EPA/ORD)

9:15 – 9:30 AM Questions & Answers

9:30 – 10:00 AM Case Study: Measurements and Modelling of Non-CO<sub>2</sub> Emissions at  
Technology Center Mongstad (Norway)  
Rouzbeh Jafari (TCM) and Armin Wisthaler (University of Oslo)

10:00 – 10:30 AM Case Study: Sustainable Operation of Post-Combustion Capture Plants  
(SCOPE) Project  
Anna Korre (Imperial College London)

10:30 – 10:45 AM Case Study: Amine-based Carbon Capture Secondary Emissions – A Review of  
the Regulatory Landscape  
Rafay Anwar (CCS Knowledge Center)

10:45 – 11:00 AM Refreshment Break

11:00 – 12:00 PM Panel: Non-CO<sub>2</sub> Emission Measurements  
*Moderator: Sara Hamilton (DOE-FECM)*  
Gary Rochelle (University of Texas Austin), Armin Wisthaler (University of  
Oslo), Lauren Burrows (NETL), Tony Wu (NCCC), David Berkowitz  
(EPA/OAQPS)

12:00 – 1:00 PM Lunch buffet

- 1:00 – 2:00 PM**      **Panel: Environmental Chamber Experiments and Computational Modeling of Atmospheric Degradation Products**  
*Moderator: Lynn Brickett (KeyLogic)*  
Sally Ng (Georgia Tech), Claus Nielsen (University of Oslo), Havala Pye (EPA/ORD)
- 2:00 – 3:00 PM**      **Panel: Atmospheric Chemistry and Dispersion Modeling of Non-CO<sub>2</sub> Emissions**  
*Moderator: Jeff Hoffmann (DOE-FECM)*  
Eladio Knipping (Electric Power Research Institute (EPRI)), Tim Canty (University of Maryland), Catheryn Price (Cambridge Environmental Research Consultants (CERC))
- 3:00 – 3:15 PM**      **Refreshment Break**  
  
*Moderator: Tim Fout (DOE-FECM)*
- 3:15 – 3:35 PM**      **Talk: Sensitivity of Predicted Nitrosamine and Nitramine Concentrations to Model Input Parameters in ADMS6**  
Brian Dinkelacker (ExxonMobil)
- 3:35 – 4:00 PM**      **Talk: Environmental and Health Risk Assessments of Non-CO<sub>2</sub> Emissions**  
Matt Woody (EPA/OAQPS), Mark Higuchi (EPA/ORD) and Brian Shrager (EPA/OAQPS)
- 4:00 – 4:25 PM**      **Talk: Evaluation of Atmospheric Chemistry and Dispersion Models**  
Clint Tillerson (EPA/OAQPS) and Rob Pinder (EPA/ORD)
- 4:25 – 4:50 PM**      **Case-Study: Measurements and Modelling of Non-CO<sub>2</sub> Emissions from Different Amine-based CO<sub>2</sub> Capture Plants in Australia, Norway, Canada and China**  
Merched Azzi (Department of Climate Change, Energy, the Environment and Water, Australian Government)
- 4:50 – 5:00 PM**      **Concluding Remarks and Adjourn**