

Hydrogen Emissions and Environmental Impacts Workshop

McDonnell Douglas Engineering Auditorium, University of California, Irvine
16 – 17 September 2024

Organized by the U.S. Department of Energy's Hydrogen and Fuel Cell Technologies Office in collaboration with the European Commission

Workshop Objectives

- Coordinate efforts among international governments, industry, and environmental stakeholders to understand and mitigate potential atmospheric impacts of hydrogen releases
- Share the latest advances in climate science, modeling and detection, mitigation, and measurement technologies
- Identify remaining R&D gaps and priorities for next steps

Agenda

Day 1: Hydrogen Behavior and Climate Science

08:00 – 08:30 *Breakfast*

08:30 – 09:00 Welcome & Overview of Workshop Objectives

- Beatriz Acosta Iborra (European Commission Joint Research Centre)
- Christine Watson (U.S. DOE HFTO)
- Hendrik Louw (DFFE / IPHE)

09:00 – 10:00 Morning Session #1: Measurement and Modeling of Atmospheric Hydrogen Levels

- John Patterson (University of California, Irvine)
- Fabien Paulot (NOAA)

10:00 – 10:15 *Break*

10:15 – 12:00 Morning Session #2: Sources and Sinks of Atmospheric Hydrogen

- Matteo Robino (SNAM) – virtual
- Matteo Bertagni (Politecnico di Torino) - virtual
- Linta Reji (University of Chicago)

12:00 – 13:00 *Lunch*

13:00 – 14:30 Afternoon Session #1: GWP Modeling and Climate Impacts of Increased Hydrogen Production and Use

- David Stevenson (University of Edinburgh)
- Didier Hauglustaine (LSCE) – virtual

- Ramon Alvarez (EDF)
- Amgad Elgowainy (Argonne National Laboratory)

14:30 – 14:45 *Break*

14:45 – 16:00 Afternoon Session #2: Breakout Session

16:00 – 16:30 Concluding Remarks

Day 2: Detection, mitigation, and measurement technologies

08:00 – 08:30 *Breakfast*

08:30 – 10:00 Morning Session #1: Detection and Quantification Technologies

- Daniel Cherney (ExxonMobil Technology & Engineering)
- William Buttner (National Renewable Energy Laboratory)
- William Hoagland (Element One, Inc.)

10:00 – 10:10 *Break*

10:10 – 11:00 Morning Session #2: Pipeline Leak Detection

- Kandilarya Barakat (U.S. DOT PHMSA) - virtual
- Ruishu Wright (National Energy Technology Laboratory)

11:00 – 12:30 Morning Session #3: Modeling and Measurement

- Rosella Urganani (Warrant Hub) - virtual
- Mungal Shah (National Renewable Energy Laboratory)
- Ramon Alvarez (EDF)

12:30 – 13:30 *Lunch*

13:30 – 15:00 Afternoon Session #1: Mitigation Technologies

- Lee Gardner (Canadian Nuclear Laboratories)
- Barry Prince (Fabrum) – virtual
- Cullen Hall (GenH2) - virtual

15:00 – 15:15 *Break*

15:15 – 16:00 Afternoon Session #2: Breakout Session

16:00 – 16:30 Concluding Remarks