

Program

CRC WORKSHOP ON LIFE CYCLE ANALYSIS OF TRANSPORTATION FUELS

Virtual

October 19-22, 2021



WORKSHOP SPONSORS

**Argonne National Laboratory
Canadian Fuels Association
National Biodiesel Board
Renewable Fuels Association**

**U.S. Department of Energy - BETO
Union of Concerned Scientists
U.S. Environmental Protection Agency**

WORKSHOP ORGANIZERS

Robert De Kleine* Ford Motor Company
Babak Fayyaz Chevron
Heather Hamje* ExxonMobil
Xiaoyi He Phillips 66
Keith Kline Oak Ridge National Lab
Sari Kuusisto Neste
David Lax API
Aaron Levy* U.S. Envir. Protection Agency

Jeremy Martin Union of Concerned Scientists
Anil Prabu California Air Resources Board
Tony Radich U.S. Dept. of Agriculture
Scott Richman RFA
Matt Herman National Biodiesel Board
Stephanie Searle Intl. Council on Clean Transport.
Diep Vu Marathon Petroleum
Michael Wang Argonne National Laboratory

The purpose of the workshop is for the free exchange of ideas, research, data etc. Sponsorship of or participation in the workshop by CRC and others does not reflect any endorsement of information presented at the workshop.

* Workshop Co-Chairs

Specific Workshop Goals

- Outline technical needs arising out of policy actions and ability of LCA analysis to meet those needs.
- Identify research results and activities that have come to light in the past two years that have helped to close data gaps previously outlined as outstanding issues.
- Identify data gaps, areas of uncertainties, validation/verification, model transparency, and data quality issues.
- Establish priorities for directed research to narrow knowledge gaps and gather experts' opinions on where scarce research dollars would best be spent.

Tuesday, October 19, 2021			
10:00 AM	Welcome from Workshop Chairs: Aaron Levy (US EPA), Robb De Kleine (Ford), and Heather Hamje (ExxonMobil)		
10:10 AM	CRC Sustainable Mobility Committee Introduction	Heather Hamje, Dominic DiCicco, Chris Tennant	ExxonMobil, Ford Motor Co., CRC
Session 1	Policy Updates		
Chairpersons: Aaron Levy, Michael Wang			
10:30 AM	U.S. RENEWABLE FUEL STANDARD UPDATE	Aaron Levy	US EPA
10:50 AM	CARB UPDATE	Cheryl Laskowski	CARB
11:10 AM	CANADA UPDATE	Don O'Connor	Consultant
11:30 AM	EU UPDATE	Jacon Teter Elizabeth Connelly	IEA
11:50 AM	Break		
12:20 PM	BRAZIL UPDATE	Marcelo Morandi	Embraba Environment
12:40 PM	DECARBONIZING SHIPPING: HOW THE INTERNATIONAL MARITIME ORGANIZATION MAY USE LIFE-CYCLE ANALYSIS IN POLICYMAKING	Bryan Comer	ICCT
1:00 PM	ICAO UPDATE	Jim Hileman	FAA
1:20 PM	LCA AND LUC MODELING APPLICATIONS IN LOW CARBON POLICIES	Stephanie Searle	ICCT
1:40 PM	Policy Q&A		
2:00 PM	End of Main Session Day 1		
2:30 PM	Interactive Session		

Wednesday, October 20, 2021				
10:00 AM	Welcome from Workshop Chairs: Aaron Levy (US EPA), Robb De Kleine (Ford), and Heather Hamje (ExxonMobil)			
Session 2	Biofuel			
Chairpersons: Zia Haq, Anil Prabu, Scott Richman				
10:10 AM	LCA OF CO-PROCESSING IN REFINERIES		Joule Bergerson	University of Calgary, Canada
10:30 AM	LCA OF ENERGY PRODUCTS FROM FOREST RESIDUES IN CALIFORNIA		Kevin R Fingerman	Humboldt University, California
10:50 AM	QUANTIFYING, MANAGING AND REDUCING UNCERTAINTY IN AGRICULTURAL SOIL C STOCK CHANGE ESTIMATES FOR BIOFUEL LIFE CYCLE ANALYSES		Stephen Ogle	Colorado State University
11:10 AM	TBD		David Babson	U.S. Department of Energy
11:30 AM	Biofuel Q&A			
11:50 AM	Break			
Session 3	Sustainable Farming			
Chairpersons: Diep Vu and Heather Hamje				
12:20 PM	CDFA HEALTHY SOILS PROGRAM		Amrith Gunasekara	California Department of Food and Agriculture
12:40 PM	OUR ROADMAP TO SCALABLY QUANTIFY FIELD-LEVEL CARBON INTENSITY & CARBON CREDIT - ARPA-E SMARTFARM INITIATIVE		Kaiyu Guan	University of Illinois
1:00 PM	SOIL ORGANIC CARBON MODELING TO SUPPORT A FEEDSTOCK-LEVEL BIOFUEL LCA		Hoyoung Kwon	ANL
1:20 PM	SUSTAINABLE FARMING AND SOIL ORGANIC CARBON MODEL INTEGRATION - A ROUND TABLE DISCUSSION WITH THE AUDIENCE AND PANEL SPEAKERS		Jan Lewandrowski	USDA
2:00 PM	End of Main Session Day 2			
2:30 PM	Interactive Session			

Thursday, October 21, 2021			
9:00 AM	Morning Interactive Session - All Speakers Invited		
10:00 AM	Welcome from Workshop Chairs: Aaron Levy (US EPA), Robb De Kleine (Ford), and Heather Hamje (ExxonMobil)		
Session 4	Carbon Capture and Utilization		
Chairpersons: Robb De Kleine, Babak Fayyaz, Xiaoyi He			
10:10 AM	CCUS IN CLEAN ENERGY TRANSITIONS	Mathilde Fajardy	IEA (International Energy Agency)
10:30 AM	PAPER: A LIFE CYCLE ASSESSMENT OF GREENHOUSE GAS EMISSIONS FROM DIRECT AIR CAPTURE AND FISCHER–TROPSCH FUEL PRODUCTION	Joule Bergerson	University of Calgary
10:50 AM	CARBON INTENSITY OF BLUE HYDROGEN PRODUCTION	Jan Gorski	Pembina Institute
11:10 AM	CONSEQUENTIAL LIFE CYCLE ASSESSMENT OF CARBON CAPTURE AND UTILIZATION TECHNOLOGIES WITHIN THE CHEMICAL INDUSTRY	Nils Thonemann, Massimo Pizzol	
11:30 AM	Carbon Capture and Utilization Q&A		
11:50 AM	Break		
Session 5	Electrification		
Chairpersons: Jeremy Martin, Robb DeKleine			
12:20 PM	TRENDS IN LIFE CYCLE GREENHOUSE GAS EMISSIONS OF FUTURE LIGHT DUTY ELECTRIC VEHICLES	Hanjiro Ambrose	CARB
12:40 PM	DETERMINING THE ENVIRONMENTAL IMPACTS OF CONVENTIONAL AND ALTERNATIVELY FUELLED VEHICLES THROUGH LIFE CYCLE ASSESSMENT	Nikolas Hill, Sofia Amaral	Ricardo
1:00 PM	A GLOBAL COMPARISON OF THE LIFE-CYCLE GREENHOUSE GAS EMISSIONS OF COMBUSTION ENGINE AND ELECTRIC PASSENGER CARS	Georg Bieker	ICCT
1:20 PM	CRADLE-TO-GRAVE GREENHOUSE GAS AND COST ANALYSIS OF CURRENT AND FUTURE LIGHT-DUTY VEHICLES	Amgad Elgowainy	ANL
1:40 PM	Electrification Q&A		
2:00 PM	End of Main Session Day 3		
2:30 PM	Interactive Session		

Friday, October 22, 2021			
10:00 AM	Welcome from Workshop Chairs: Aaron Levy (US EPA), Robb De Kleine (Ford), and Heather Hamje (ExxonMobil)		
Session 6	Land Use Change		
Chairpersons: Keith Kline, Stephanie Searle			
10:10 AM	EU HIGH-ILUC PROJECT (DIRECT LAND USE CHANGE)	Michele Koper	Guidehouse
10:25 AM	CAUSAL ANALYSIS OF CORN USE FOR ETHANOL	Gbadebo Oladosu	ORNL
10:40 AM	ILUC MODELING USING GCAM	Farzad Taheripour	Purdue U
10:50 AM	INDUCED LAND USE CHANGE IMPACTS OF BIOFUELS: LESSONS FROM LATEST GLOBIOM MODELLING	Hugo Valin	IIASA
11:00 AM	CHOICES IN LAND REPRESENTATION MATERIALLY AFFECT BIOFUEL CARBON INTENSITY ESTIMATES	Rich Plevin	Independent
11:15 AM	Land Use Change Q&A		
12:00 PM	End of Workshop, Closing Remarks from the Chairs		
1:00 PM	Interactive Session		

