

Innovative Environmental Solutions in Our New World

AN AECOM ENVIRONMENTAL WEBINAR SERIES
FEBRUARY WEBINARS

Thursday, February 10th, 2022 • 4:00 p.m. ET

Natural Source Zone Depletion: Incorporating Nature-based Solutions into Petroleum Site Management

Natural source zone depletion (NSZD) refers to the reduction in mass of hydrocarbons within light nonaqueous phase liquid (LNAPL) source zones through naturally occurring processes. Improved understanding of NSZD processes and refinement of measurement methods in recent years has shown that microbial activity within the LNAPL source zones is typically much higher than previously thought. As a result, NSZD measurements are more frequently included in the characterization and remediation of LNAPL sites to achieve a variety

of objectives, from evaluating the relative benefit of engineered remedies to mapping LNAPL distribution and demonstrating source zone stability. The presentation will provide an overview of NSZD concepts and a description of current measurement methods. Case studies will be presented to highlight potential strengths and weaknesses of different techniques, and to provide example scenarios where NSZD has been successfully incorporated into site management.

OUR SPEAKERS: Jon Smith and Steven Gaito



JON SMITH. Mr. Smith has worked in environmental site investigation and remediation since 2003, specializing in characterization and remediation of sites with nonaqueous phase liquids (NAPLs). His experience includes the planning and execution of site investigations using a diverse set of innovative and traditional characterization and data evaluation techniques, development of conceptual site models, NAPL mobility and recoverability assessment, evaluation of natural source zone depletion (NSZD), and remediation technology screening and implementation. He has provided technical training on NAPLs to several regulatory agencies in the U.S. and Canada and has provided technical leadership on NAPL projects in the U.S., Canada, Europe, Australia, and Western Asia. Jon maintains his technical expertise through participation in innovative research in cooperation with clients, presenting at technical conferences, contributing to ITRC documents, and serving as a trainer for the ITRC LNAPLs Team.

STEVEN GAITO. Steven Gaito is a technical expert on nonaqueous phase liquid (NAPL) site assessment and remediation strategies with twenty years of

experience in subsurface investigations, conceptual site models, remedial strategies, and stakeholder management related to NAPL projects conducted at hundreds of sites across the US, Europe, and Australia, including over 50 oil and gas refineries and terminals, 10 pipeline, 20 rail, and multiple airport sites. Over his career, he has reduced environmental liabilities for his clients by 100s of millions of dollars through effective remedial decisions, transitions, and site closures. He participates in educational advocacy and research initiatives related to LNAPL, including supporting ITRC LNAPL related projects since 2016, contributed to ASTM guidance documents, conducted research for American Petroleum Institute, and leads LNAPL training workshops. Mr. Gaito has successfully designed and implemented NSZD evaluations in the United States, Canada, Europe, Caribbean, and Australia, with NAPL ranging from gas condensate to creosote, and as deep as 300 feet below ground. Mr. Gaito's vast experience evaluating NSZD results in programs designed to collect the necessary data and develop scientifically defensible programs to facilitate regulatory acceptance.



Tuesday, February 15th, 2022 • 12:00 p.m. ET
The Circular Economy – Being Green with Brown



Dan will provide a review of the current U.S. political and economic drivers of the waste-to-energy economy. Discussion includes a review of prevalent technologies and the unique needs in reaching a sustainable energy future.

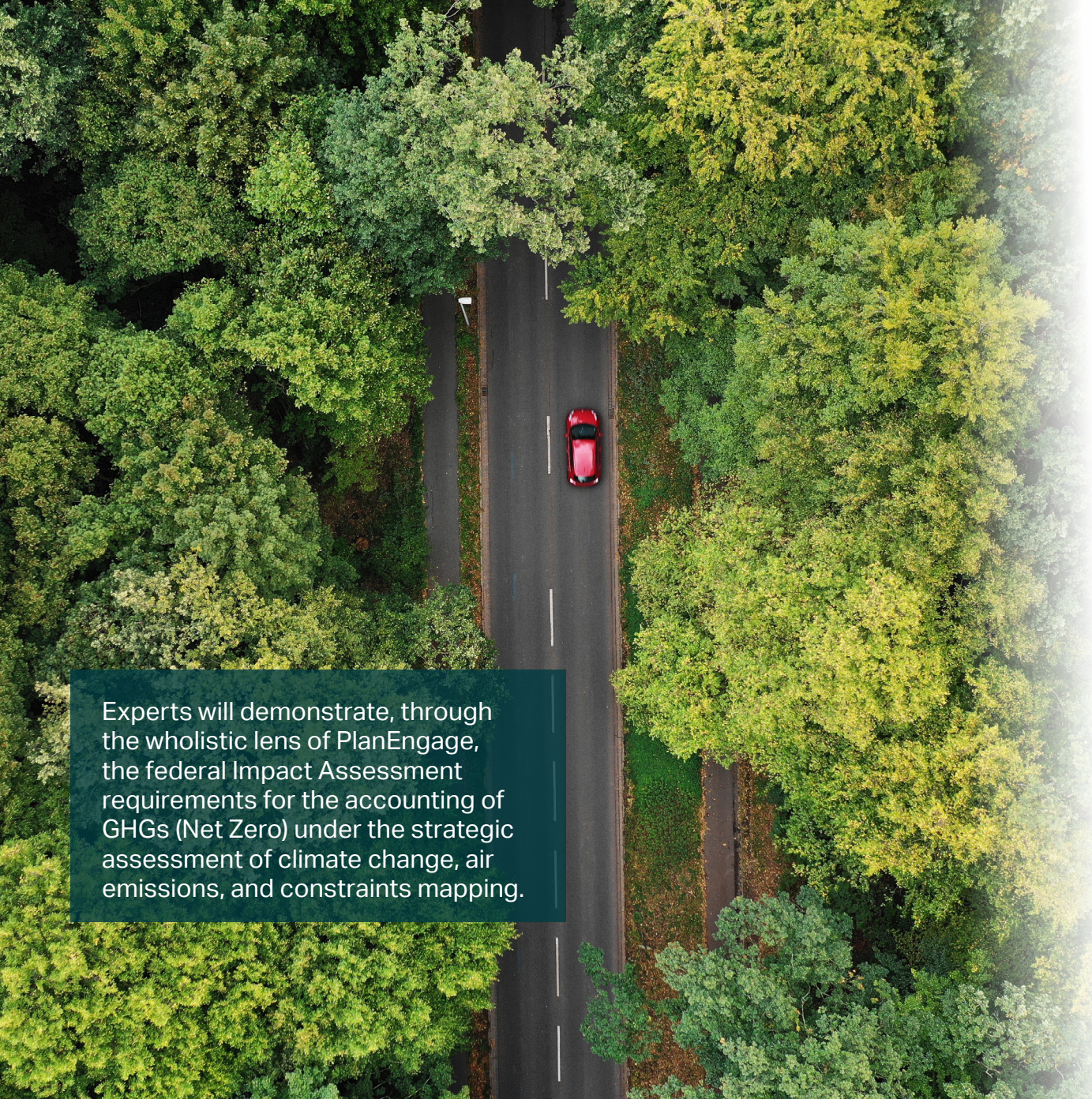
OUR SPEAKER:
Daniel Huben



DANIEL J. HUBEN, PE. Dan is responsible for helping to grow AECOM's presence in the waste-to-energy and biofuels spaces. He has over 24 years of engineering, project, and program management experience in wide-ranging applications within manufacturing, upstream oil production and downstream refining oil, chemical plant construction, gas pipelines, and commercial power design. Dan is a registered professional engineer in Louisiana, Georgia, and Colorado and holds degrees in both energy engineering and mechanical engineering.

 **REGISTER**

Thursday, February 24th, 2022 • 12:00 p.m. ET
Net Zero Accounting: Wholistic Digital Impact Assessment



Experts will demonstrate, through the wholistic lens of PlanEngage, the federal Impact Assessment requirements for the accounting of GHGs (Net Zero) under the strategic assessment of climate change, air emissions, and constraints mapping.

OUR SPEAKERS: Sarah Palmer, Jennifer Routhier, P.Eng., and Rayna Carmichael



SARAH PALMER, SENIOR PROJECT MANAGER/TECHNICAL LEAD. Sarah is a Senior Project Manager with 26 years of experience in Impact Assessment, permitting/approvals, due diligence, social performance/corporate social responsibility, indigenous consultation, stakeholder engagement, and policy development/analysis. She manages extensive multi-year environment and society assessments and is a subject matter expert for the power generation, mining/mineral refinery, chemical, transportation, waste management, and commercial industries. Sarah works with diverse functional teams to integrate environmental and social requirements, track issues and risks, and implement project requirements.

JENNIFER ROUTHIER, P.ENG. AIR QUALITY SPECIALIST. Jennifer specializes in air quality compliance, environmental assessment, and greenhouse gas analysis for diverse clients throughout Canada. She is certified in GHG organizational and project level quantification, monitoring, and reporting/verification under ISO 14064. She is a specialist in GHG inventory/mitigation assessment and is the air quality technical lead for transportation infrastructure EAs under provincial and municipal jurisdictions and strategic assessment of climate change guidance for federal Impact Assessment.

RAYNA CARMICHAEL, GIS SPECIALIST. Rayna is the GIS manager for most of Canada within AECOM's Impact Assessment and Permitting group. She has over 15 years of experience using ESRI ArcGIS software, AutoCAD and database management systems. Rayna strongly advocates for the use and development of digital technologies, such as ESRI web mapping and PlanEngage, to help lower client costs and streamline project communication and decision making.





About AECOM

AECOM (NYSE: ACM) is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle – from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy, and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a Fortune 500 firm and its Professional Services business had revenue of \$13.3 billion in fiscal year 2021.

See how we are delivering sustainable legacies for generations to come at aecom.com and [@AECOM](https://twitter.com/AECOM).

