美國華人石油協會
Chinese American Petroleum Association

2023 CAPA Annual Technical Forum

Balancing Fossil Fuels and Clean Energy for Sustainable Future

能源平衡以及持續共存

DATE: Friday, Oct. 6, 2023
Location: Surge Energy, 11330 Clay Rd Suite 200, Houston, TX 77041

The shift towards renewable energy is a crucial step towards a sustainable future, while challenges such as economics and sustainability exist. As governments, organizations, and individuals invest in the renewable energy industry, there is still a long way to go before renewable energy becomes the primary energy source worldwide. We invite experts in fossil fuel and renewable energy for their insights in this forum. The agenda is as follows:

08:15 AM - 08:45 AM	Check-in and Breakfast Social
08:45 AM - 09:00 AM	Opening Remarks and CAPA Introduction
	ChingWen Chen, Technical Forum Chair & Mei Yang, 2023 CAPA President
Morning Session Keynote Speaker (9:00 am to 12 pm) – Overview and History	
09:00 AM - 09:30 AM	From surviving to thriving in the pandemic world
	Linhua Guan, CEO of Surge Energy
09:30 AM - 10:00 AM	Natural gas as a transitional fuel?
	Shangyou Nie, PhD
10:00 AM -10:30 AM	Fueling Through the Pandemic: Reflections on the Oil and Gas Industry in 2020
	Meisong Yan, PE
10:30 AM – 11:00 AM	**Break**
11:00 AM - 11:30 AM	Underground Storage in the Emerging Hydrogen Economy
	Wang Qing
11:30 AM - 12:00 PM	Impacts of New Environmental Regulations on the Oil and Gas Industry
	Dr. Wei Liu
12:00 AM - 13:00 PM	Lunch
Afternoon Session Keynote Speaker (1:00 pm – 3:00 pm)— Renewable Energy	
13:00 AM - 1:30 PM	Challenges and Opportunities in Large-Scale Carbon Capture Storage (CCS)
	Zach Liu, PE, CFA Bio
01:30 PM–2:00 PM	Infrastructure in a Mature Hydrogen Economy
	Mr. Frank Frey
02:00 PM- 2:30 PM	Being the partner of choice for the transition of offshore energy from today towards a sustainable future
	David Y Du, P.E.
02:30 PM- 3:00 PM	Energy Transition: OTEK - From a conventional energy service provider to a leading renewable energy service provider within two years
	Mingquan Matthew Liu, CEO of OTEK Group

CAPA 2023 Symposium Committee: Mei Yang (CAPA 2023 President), ChingWen Chen (Technical Forum Chair), Qi Zhang, Cecilia Jing Cui, Vivian Xiong

Abstracts and Presenter Bio

From surviving to thriving in the pandemic world

Mr. Linhua Guan

Abstract:

Mr. Guan will share his personal perspectives on the oil & gas industry and talk about Surge Energy's growth story from a small company since its inception in 2015 to the youngest Chronicle Top 20 firm and the largest private E&P in greater Houston area according to Houston Chronicle June 2023 ranking, as well as its decarbonizing progress and how key milestones were reached by talented workforce through creativity, innovation, and operational excellence.

Bio:

Linhua Guan is the CEO of Surge Energy (www.SurgeEnergyA.com), an independent oil company headquartered in Houston, Texas. Before he joined Surge Energy in 2018, he worked for Star Energy International Corp., Statoil, Chevron, and CNPC, respectively. Mr. Guan is a registered petroleum engineer in Texas, and served on numerous technical and management committees in the petroleum industry and published more than 30 papers in the past 25+ years.

Mr. Guan received a BE degree in Petrophysics and an MS degree in Geology from China Petroleum University. He also received an MS degree in Petroleum Engineering from Texas A&M University and an MBA degree from Rice University.

Natural Gas as a transitional fuel?

Dr. Shangyou Nie, Non-Resident Fellow Center for Global Energy Policy Columbia University

Abstract:

In many parts of the world, natural gas has been considered a key transition fuel to bridge the current and the future world dominated by renewable energy. This view has certainly been shared and perhaps encouraged by traditional oil and gas companies worldwide.

The Ukraine crisis in Europe and the accelerating renewable energy development in China and California have strengthened the voice of the environment activists that natural gas is anything but part of the fossil fuels industry that is to be blamed.

This presentation will present the data and arguments on both sides of the debate and highlight the potential opportunities for investors and energy workers in Texas.

Bio:

I have been in the oil and gas industry for 25 years, including experiences in oil and gas major and consulting companies. I am particularly interested in identifying growth opportunities in upstream businesses that can benefit my company and yours for the benefit for the broader community.

I have a combined commercial (MBA) and technical (PhD in Geophysics) background. And lived and worked in three continents of Asia, N America and Europe.

Fueling Through the Pandemic: Reflections on the Oil and Gas Industry in 2020

Meisong Yan, PE

Abstract:

The talk will cover the impact of Covid-19 on the fossil fuel industry including orphan wells, force majeure, shut-in and reopen the wells, government bailout vs. market correction, energy demand, and more. Then survival strategies and transferable skills for O&G industry professionals would be reviewed including tips on re-establishing oneself after a layoff, the future of employment, and essential skills for success after Covid-19. This talk will cover the innovations and adaptations in the industry, such as AI/ML, automation, and the upcoming economic recession.

The presentation will be customized according to the duration of the time slot allocated for the keynote speech.

Bio:

Meisong Yan is a Texas licensed Professional Engineer in Petroleum Engineering. She has 20+ years' in-depth oilfield experience gained from small PE-backed teams to major E&P operators on data-driven oil and gas asset development, merger & acquisition & divestiture, and CCUS. She published 4 SPE papers and held one UK patent.

Meisong is active on diversity and inclusion in both corporate and community by volunteering at various local organizations. Currently she serves as a committee member at the Data Science and Engineering Analytics Technical Section in the Society of Petroleum Engineers (SPE). Meisong received her bachelor's degree from East China University of Science and Technology and her master degree from Texas Tech, both in Chemical Engineering.

Underground Storage in the Emerging Hydrogen Economy

Mr. Chet Wang

Abstract:

Hydrogen is one of many potential energy resources that will be a future alternative to fossil fuels. However, many of the challenges of the hydrogen economy are the high cost of hydrogen production, transportation, and storage. Viable large-scale underground hydrogen storage is one of the key factors that can improve the hydrogen economy. This presentation will discuss the advantages of using hydrogen as a future energy resource, the history of underground hydrogen storage, and the technical challenges in large-scale storage of hydrogen underground.

Bio:

Joined WSP USA in October 2017, Mr. Wang is currently serving as a business development manager for underground storage, reserve, and valuation (oil and gas). He has coordinated and managed several underground storage site selection projects in the past five years.

Mr. Wang also worked as a subsurface manager and a board member of reserve committee for many international oil and gas field development projects while with Chevron and CNOOC from 1982 to 2016. Reserve projects he has worked including several world-class oil and gas field development projects such as Gorgon in offshore NWS Australia, Loran-Manatee offshore Venezuela, Agbami offshore Nigeria, unconventional oil and gas assets in Gulf of Thailand, SZ36-1 in Bohai Gulf and oil and gas assets in Texas, Utah, Wyoming USA. His specialties include reserve report, reservoir characterization and rock physics analysis.

Impacts of New Environmental Regulations to the Oil and Gas Industry

Dr. Wei Liu

Abstract:

The forever changing landscape of federal regulations has a profound impact on oil and gas industry. Especially, in recent years, more stringent requirements have been implemented or proposed. These rules, coupled with state requirements, require special attention from oil and gas operators. Furthermore, other agencies outside the traditional environmental realm have implemented rules relating to the oil and gas industry. This presentation will address these challenges and strategies that an oil and gas operator can utilize.

Bio:

Dr. Wei Liu has been working in the environmental field for 18 years. At the early stage, he worked as a consultant and mainly focused on air permitting for various industries. Later, he joined oil and gas industry and worked in the environmental, health and safety (EH&S) division with an emphasize on air permitting and compliance. Currently, he is working as with Apache Corporation as an advisor in the EH&S. Dr. Wei Liu graduated with a chemical engineering degree from Tsinghua University, a master degree in chemical engineering and PhD in environmental engineering from University of Pittsburgh.

Challenges and Opportunities in Large-Scale Carbon Capture Storage (CCS).

Zach Liu, PE, CFA

Abstract:

Large-scale CCS deployment is imperative to reach the global average 2-degC temperature as outlined in the Paris Agreement. While momentum is building on some CCS pilots and small-scale commercial initiatives, large-scale commercial facilities remain scarce.

Cost is a barrier. Despite government incentives, the economics of CCS remain profitable for few projects. Implementation of most CCS projects remain uneconomical or marginally profitable. The capture cost remains high. Hefty upfront CapEx for transportation and storage infrastructure burdens the economics. Lower return cannot meet the risk adjusted return requirements of funding sources.

Transport and storage constraints. A great divergence exists between the capture capacity and the transportation and storage capacity. Low-cost CO_2 sources suitable for capture are relatively small and scattered. Low-cost CO_2 storage sites are typically centralized CO_2 hub with large storage capacity and requires large upfront CapEx to develop.

Risk perception and tolerance. Alignment of risk perception and risk tolerance of a CCS project is an ongoing issue. For example - an O&G company building a CO_2 storage facility has a vastly different prospective on the risk of carbon storage from that of a dairy farmer along the CO_2 pipeline. When risk perception and tolerance are not aligned, or even pitted against one another other for social and political purpose, it greatly increases the risk of CCS projects not coming to fruition.

Decarbonization alternatives. CCS funding is competing with other decarbonization technologies such as renewable electricity, hydrogen, geothermal, and nuclear. Some have advantages over CCS but also have their limitations.

Bio:

Zach is a registered Professional Petroleum Engineer and CFA charter holder with 20+ years upstream O&G experience in CO2/EOR/CCS, current Subsurface Director of at Harvestone Low Carbon Partners. Served as 60th SPWLA president. Over the last two decades, has applied multidimensional skillsets in disciplines of Petrophysics, Geology, Geomechanics, and Finance developing regions of Permian Basin, Eagle Ford, Rockies, conventional/unconventional operation and A&D business development. Holds a BS Electrical Engineering/Beihang University. BS Petroleum Land Management/MS Petroleum Geology/ University Houston, and an MS Petroleum Engineering/University of Texas-Austin. Holds 3 U.S. patents, published 25+ papers in various SPE, SIG, SPWLA symposiums, journals and trade publications.

Infrastructure in a Mature Hydrogen Economy

Mr. Frank Frey, Principal at GHD

Abstract:

In this presentation, we examine the hydrogen demand of a mature hydrogen economy, assuming hydrogen as a primary energy carrier. Challenges to hydrogen at scale are discussed. We review the basics of hydrogen characteristics. Requirements for production of blue and green hydrogen, transmission, and storage are presented for various levels of hydrogen demand.

Bio:

Mr. Frank Frey, based in Houston, Texas, has been designing a broad range of oil & gas facilities for over 30 years. His experience includes design at refining and petrochemical facilities, as well as midstream and upstream projects. Frank has a strong background in underground storage facilities, brine infrastructure, terminals, and pump / compressor stations.

Mr. Frey is currently supporting GHD's Future Energy Program by assisting the oil & gas and midstream industries with the energy transition. He has developed projects in Hydrogen blending, pipeline change of service, carbon sequestration, and renewable natural gas.

Being the partner of choice for the transition of offshore energy from today towards a sustainable future.

David Y Du, P.E.

Abstract:

Renewable energy has become an important part of our business and we aim to support our clients to accelerate the energy transition and to provide their consumers with increasing volumes of affordable wind power. We utilize our skilled people and their wealth of marine construction expertise together with our construction vessels, equipment and facilities to develop and deliver the best and most cost-efficient offshore wind farm solutions. We have many years of experience in heavy lifting and cable lay in harsh marine environments that is invaluable for the installation of offshore wind farms. Over time we expect that this will result in a growing proportion of our activity coming from renewable energy services. The energy transition is changing the energy landscape, driving a change from traditional Oil and Gas to lower carbon solutions and renewables as key sources of power for the world.

Bio:

Global demand for energy continues to grow and, as a preferred partner of choice to the offshore energy industry, we Subsea 7 will play a proactive role in the construction of sustainable offshore energy developments around the world and will support the transition of supply towards lower-carbon sources of energy. We play an important role in helping supply that energy, from both renewable and non-renewable sources.

Energy Transition: OTEK- From a conventional energy service provider, becoming a leading renewable energy service provider within two years.

Mr. Mingquan Matthew Liu

Abstract:

Mr. Liu will share OTEK's successful growth in the renewable energy business in the past two years and case studies in Battery Energy Storage System (BESS) applications.

Bio:

MINGQUAN LIU is the CEO of OTEK Group, Inc. (www.otekenergy.com) , a fast growing renewable energy service company based in Houston TX. Mr. Liu 's working experience including Cameron International, A Schlumberger company as global field service lead from 2012- 2018, and led total of over 100M USD projects in globally.; PE & PM in H2O INNOVATION 2009-2012; PE & PM in Siemens Water, 2007-2009; R & D Engineer of GE Water, 2006-2007; Production Engineer of Petro China, 2001-2000.

Mr. Liu's educational background including Master of Environmental Engineering of Guelph, ON, Canada and a Bachelor of Petroleum Engineering degree from the Petroleum Institute of Xian, Shannxi Province, China. He also holds PMP certificate since 2008.

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