



Oil and gas supply, demand, capex, and pricing outlook

Uday Turaga, CEO, ADI



Gas monetization 101: Tutorial on natural gas monetization options and technologies

Ron Sills, Executive Advisor, ADI



Natural gas in power and industrial markets

Elliott Smith, Executive Advisor, ADI



Outlook for LNG and natural gas pipeline exports

Tyler Wilson, Analyst, ADI



Natural gas liquids (NGL) supply, pricing, and monetization options

Brandon Johnson, Analyst, ADI



Opportunities for original equipment manufacturers (OEMs) in the gas value chain

Vikki Dunn, Advisor, Strategic Growth Advisors



Regulatory outlook for natural gas value chain

Tyler Wilson, Analyst, ADI



Tour of ABB Automation and Power Center



Panel Session #1: Small- and mid-scale LNG

Moderated by Uday Turaga, CEO, ADI



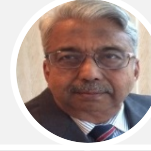
Robert Sammon
*Global EPC Act Mgr
GE Oil and Gas*



W. Blake Roberts
*Director, Bus. Dev.
IHI E&C*



Michael Walhof
*Sales Director, LNGo
Siemens*



Vis Viswanathan
*Executive Advisor
ADI*

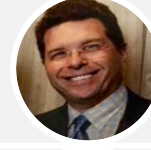


Panel Session #2: Natural gas conversion to fuels and chemicals

Moderated by David Austgen, Executive Advisor, ADI



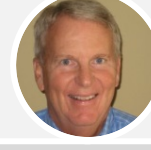
Dmitry Popov
*VP, Commercial
Infra Technology*



Riley Hagan
*Manager
Ethanext*



Joseph Gentry
*VP, Lic. & Tech.
GTC Technology*

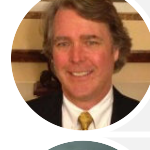


Stephen Sims
*President
NGTS North America*

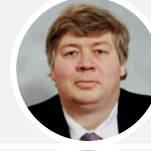


Panel Session #3: New technologies / innovation

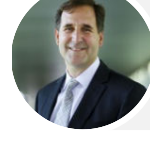
Moderated by Tullio Scacciati, Executive Advisor, ADI



John Oyen
*Manager, Bus. Dev
ABB*



Havard Devold
*Group VP
ABB*



Jim Sledzik
*Partner
Energy Ventures*



Doug Moorehead
*President & CTO
Flexgen Power Systems*

2017 NORTH AMERICA NATURAL GAS & NGL FORUM AGENDA

Tuesday, February 28, 2017
ABB Automation & Power Center
3700 West Sam Houston Parkway South, Houston, TX 77079

- 7:00 am** **Registration and breakfast**
- 8:00 am** **Welcome**
Uday Turaga, CEO, ADI
- Forum logistics**
Ron Sills, Executive Advisor, ADI
- 8:05 am** **Oil and natural gas supply, demand, capex, and pricing outlook**
- Where are global oil and natural gas markets headed?
 - How much further can shale plays reduce well costs and breakevens?
 - How is capital spending on gas and NGL monetization likely to evolve?
- Uday Turaga, CEO, ADI*
- 8:45 am** **Gas monetization 101: A tutorial on natural gas monetization options and technologies**
- What are the major options to monetize natural gas supplies?
 - Which are the key technologies and processes for gas monetization?
 - How are choices around gas monetization options made and why?
- Ron Sills, Executive Advisor, ADI*
- 9:25 am** **Natural gas in power and industrial markets**
- Can natural gas-fired power generation grow further? Where and at whose expense?
 - How will the new presidential administration impact gas-based power generation?
 - Will natural gas demand in the industrial sector pick up steam in the near future?
- Elliott Smith, Executive Advisor, ADI*
- 09:55 am** **Break**
- 10:15 am** **Outlook for LNG and natural gas pipeline exports**
- What is the state of the global LNG market and its outlook through 2020?
 - Which large- and small-scale LNG export projects are best positioned to move forward?
 - How will pipeline flows of gas into the Northeast, Mexico, and Canada change?
- Tyler Wilson, Analyst, ADI*
- 10:45 am** **Panel Session #1: Small- and mid-scale LNG opportunities**
- | | | |
|--|---|---|
| <i>Robert Sammon</i>
Global EPC Act. Mgr,
GE | <i>Blake Roberts</i>
Director, Bus. Dev.,
IHI E&C | <i>Vis Viswanathan</i>
Executive Advisor,
ADI |
|--|---|---|
- Moderated by Uday Turaga, CEO, ADI*
- 11:45 am** **Introduction to ABB Automation & Power Center**

John Oyen, Manager, Business Development, ABB

12:00 Noon Lunch and Exploration of ABB Automation & Power Center

1:00 pm Panel Session #2: Natural gas conversion to fuels and chemicals

Dmitry Popov
*VP, Commercial,
Infra Technology*

Joseph Gentry
*VP, Licensing & Tech.,
GTC Technology*

Riley Hagan
*Manager,
Ethanext*

Stephen Sims
*President,
NGTS North America*

Moderated by David M. Austgen, Executive Advisor, ADI

2:15 pm Natural gas liquids (NGL) supply, pricing, and monetization options

- Where are the first wave of ethane cracker and LPG export projects currently?
- Will there be sufficient ethane supply into the U.S. Gulf Coast?
- What will happen to propane and butane beyond LPG exports?
- How will prices evolve in the medium term and impact NGL demand?

Brandon Johnson, Analyst, ADI

2:45 pm Regulatory outlook for natural gas monetization

- Will there be new or stricter regulations on natural gas flaring?
- What will happen to regulations on fugitive methane emissions?
- How will the regulatory climate impact operators and equipment vendors?

Tyler Wilson, Analyst, ADI

3:15 pm Break

3:45 pm Opportunities for original equipment manufacturers (OEMs) in the gas value chain

- How can OEMs benefit from opportunities in the natural gas value chain?
- Which OEMs are best positioned to succeed in the gas value chain and why?
- How will regulations and new technology impact operators and equipment vendors?

Vikki Dunn, Advisor, Strategic Growth Advisors

4:15 pm Panel Session #3: New technology and innovation

- What new technologies are emerging to leverage surplus natural gas?
- How will distributed power generation drive demand for natural gas?
- Are new innovations or advances in gas conversion for liquid fuels likely?
- Is there a greater role for natural gas as fuels for vehicles and transportation?
- What are promising start-ups and technologies in these areas?

Jim Sledzik
*Partner,
Energy Ventures*

Havard Devold
*Group VP,
ABB*

Doug Moorehead
*President & CTO
FlexGen Power Sys.*

Moderated by Tulio Scacciati, Executive Advisor, ADI

5:30 pm Reception

2017 NORTH AMERICA NATURAL GAS and NGL FORUM Speakers

Tuesday, February 28, 2017

ABB Automation & Power Center, 3700 West Sam Houston Parkway South, Houston, TX 77079



Uday Turaga brings 18 years of industry experience gained at ConocoPhillips, ExxonMobil, Booz & Company, and ADI Analytics. He specializes in corporate strategy, market research, economic analysis, competitive intelligence, and technology assessments with rich domain expertise spanning oil and gas exploration, production, and refining, coal and power, and chemicals. Turaga holds a PhD in fuel science from Penn State and an MBA from the UT Austin.



Ron Sills is an internationally recognized expert on energy conversion technologies in the natural gas/coal/biomass to products value chain. Prior experiences include Gas Conversion Network Leader at BP, manager of Mobil's Research Planning and Evaluation Group, and member of the commercialization team of the Methanol-to-Gasoline process. He co-authored a National Research Council report entitled *Fuels to Drive Our Future*. Sills holds a PhD and M.S. in chemical engineering from MIT and a B.S. in chemical engineering from Columbia. He is the co-inventor for 10 patents.



Elliott Smith has over 20 years of experience in the Power and Energy Industries through a variety of roles including serving as Vice President of Business Development and Strategy for Voith's Power, Oil & Gas division for the Americas region for the multinational technology enterprise. Prior stints included directing Global Engineering Services & Consulting teams for CH2M's Power and Energy division and various roles at Siemens Energy. Smith holds a B.S. in Mechanical Engineering from University of Central Florida, and an MBA from the University of North Carolina.



W. Blake Roberts is a senior energy professional with diversified experience in leadership roles in the global energy and petrochemical industries. Roberts had several leadership roles with operating companies, EPC contractors and consulting companies. Roberts is experienced in management, business development, project development, commercial development, operations, strategy development and value chain financial analysis. Roberts holds B.S. in chemical engineering from UT Austin, and an MBA from Rice University.



Tulio Scacciati is an executive with 20 years of experience in the Energy Industry developing clear strategies with deep domain knowledge in the technology and business models. Scacciati was the VP of Strategy, M&A and Marketing for a Global leader in the O&G equipment and service industry covering, surface pressure control, pressure pumping, drilling and production equipment and services. He has worked previously with GE and Exelon as well. Scacciati holds M.S. in industrial engineering and received an MBA from UT Austin.



Vis Viswanathan brings over 35 years of oil and gas, coal, and chemical industry experience in roles spanning corporate strategy, technology assessments, innovation and R&D, and process economics and modeling. He is renowned for his deep expertise and broad experience in shale gas and unconventional resources, natural gas processing and monetization, coal gasification and utilization, biofuels and bioenergy, chemicals, and materials. Viswanathan holds a PhD from the University of Minnesota and a B.S. from the Indian Institute of Technology, Chennai.



Vikki Dunn has a 30-year career in technology commercialization and marketing within the energy, oil and gas, chemicals. Dunn is an advisor at Strategic Growth Advisors, and has held various roles including EVP at CSA Group, Vice President of Strategic Marketing at Gardner Denver; Chief Marketing Officer for GE Oil & Gas; and numerous executive roles at Royal Dutch Shell. She began her career as an engineer at Ericsson and was a product manager at Compaq Compute. Dunn holds engineering degree from SMU in the U.S., and is a graduate of the IMD Executive Leadership program in Switzerland.



Tyler Wilson brings consulting experience in oil and gas, energy, power, and chemicals. He has led several voice-of-customer research projects for new technologies and has added value in various market research, competitive landscaping, financial modeling, and due diligence projects along with conducting research for ADI's flagship subscription service on natural gas monetization including large- and small-scale LNG, GTL, gas conversion to chemicals, and power. Wilson holds a B.A. in economics and business administration from Coe College.



David M. Austgen brings extensive experience in oil and gas industry. Austgen has held several executive roles including Chief Business Development Officer at Proterro, Chief Development Officer for Luca Technologies, an interim head of business development for both KIOR and American Process Inc., and Senior Business and Joint Venture Manager, VP Technology, Global Technology Manager, Strategic Innovation-Shell Chemicals, Research Manager for Royal Dutch Shell. He is a co-inventor of 6 patents. He received a PhD in Chemical Engineering and an MBA, from the University of Texas at Austin.



Brandon Johnson's expertise includes technology assessments, competitive benchmarking, market size modeling, and risk analysis using Monte Carlo uncertainty analysis in the oil and gas, chemical, power generation, and mining industries. He has utilized these skills to understand the economics, investment attractiveness, and competitive landscape of the engineered pump, wet gas and multi-phase compressor, bearing, seal, and heat exchanger markets. He holds a B.S. in physics from Stephen F. Austin State University.



Dmitry Popov is the VP Commercial for INFRA Technology. He is responsible for Business Development and international projects of the company. Popov joined INFRA in 2011, having spent most of his previous career in corporate finance. He has more than 20 years of investment banking experience, specializing in M&A and private equity fund raising, in particular. Popov has completed a number of international transactions in the oil & gas industry. He had graduated from Moscow State University and received an MBA from the University of Houston.



Riley Hagan is the manager of WRT which now owns the former CEC operations. Hagan brings to WRT vast experience in a number of industries including petroleum engineering, oil and gas operations, banking, non-banking finance and administrative experience in each of these industries. Hagan was a reservoir engineer at Exxon Company in Houston. Hagan is a cum laude graduate of Louisiana Tech University with a B.S. in petroleum engineering; a graduate of the Southwestern Graduate School of Banking – Southern Methodist University.



Joseph C. Gentry is the Vice President of Technology, R&D and Engineering, for GTC Technology US LLC. He previously worked for ARCO Chemical Co. and Lyondell Petrochemical Co. in the olefins and aromatics areas. Gentry earned a B.S. degree in chemical engineering from Auburn University and an MBA from the University of Houston. He is the inventor of several patented separations technologies and has specialized in their applications for the petrochemical industry.



James Sledzik brings 25 years of worldwide oil and gas industry experience. Sledzik is a Partner at Energy Ventures AS. Sledzik has held several executive positions at WesternGeco, Schlumberger Ltd., Oxane Materials Inc, and ARKeX Ltd. He has also served as Director of Ingrain, Inc. Sledzik holds B.Sc in Geosciences from Pennsylvania State University, and an MBA in International Business from University of Pittsburgh.



John Oyen brings over 35 years of experience in process engineering, operations, and automation. He has spent the last ten years with ABB in business development on greenfield projects in the oil, gas and petrochemical markets specifically floating production, LNG and GTL. His background includes H.B. Zachery, Honeywell, Rockwell Automation and Yokogawa. He is a member of AIChE, SPE and ISA. He holds a B.S. in chemical engineering from the University of Texas at Austin.



Robert Sammon is currently Global EPC Account Manager at GE Oil & Gas focusing on the natural gas processing value chain. He brings nearly 10 years of experience in various roles at GE including the company's transportation and oil and gas businesses. Sammon's prior experience includes stints with the U.S. Agency for International Development, U.S. Peace Corps, and Gotham City Online. He holds a bachelor's degree from the United States Military Academy at West Point and an MBA and a M.S. in International Studies from the University of Pennsylvania.



Stephen Sims is the President of NGTS North America with the objective of introducing the Russian research developed Methaforming process to the international market. Stephen's career has been with major international oil companies including ConocoPhillips in technical, operations, strategy and business development. He is also an independent energy consultant recently engaged in several projects for the World Bank, and an energy advisor at the Houston Technology Center. Stephen holds an MBA from the University of Houston and B.S. and M.S. in chemical engineering from Virginia Tech and post graduate studies in intellectual property law.



Michael Walhof has over 25 years of experience working in the oil & gas and energy sectors. Walhof serves as the Sales Director, Distributed LNG Solutions for the Dresser-Rand business, part of Siemens Power and Gas. Prior to joining Dresser-Rand, he served as Global Sales Director for a cryogenic equipment manufacturer and North American Director of Sales for a European compressor manufacturer. He holds a BBA in Management and Marketing from the University of Texas at Tyler, and an MBA in Management from LeTourneau University.



Håvard Devold is a Country Technology Manager and has been with ABB since 1982, Experience in multidiscipline ECIT projects, Mechanical Integration, Process, Subsea and Offshore Electrification, Renewable and Alternate energies, Digital Oilfield, Well and Process Productivity and Condition Based Maintenance. Prior experiences include EB Industri AS, EB Industri og Offshore AS, ASEA Per Kure AS, ASEA AB, and Royal Norwegian Air Force. Devold holds M.Sc. in engineering from Norwegian University of Science and Technology and graduated from ABB SLDP Program.



Doug Moorehead serves as Chief Operating Officer and President in FlexGen Powers Systems. Moorehead is the Board Advisor at Earl Energy. Prior experiences include Automotive Business director at A123 Systems, Inc., nine years as a Naval Special Warfare officer, deploying to the Middle East, South America, and Asia. Moorehead earned his B.S. in Chemistry from the United States Naval Academy, a M.S. in Materials Science and Engineering from the Massachusetts Institute of Technology and an MBA from Harvard Business School.