



# MILESTONES



T W E N T Y   S E V E N T E E N

Methanol Industry  
**In focus**



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A MESSAGE FROM  
OUR CHAIRMAN

## Methanol's Expanding Role

By – **Ben Iosefa**, *Chairman of the Board, Methanol Institute*  
(Vice President, Global Market Development & Stakeholder Relations,  
Methanex Corporation)

2016 was a year of transition for the global methanol industry, and its trade association - the Methanol Institute (MI). Despite facing a challenging business environment in 2016, member engagement and support remained strong, and MI continued to accelerate the evolution of methanol from chemical commodity to global energy resource.

As the representative of the world's leading methanol producers, distributors and technology companies, MI has a multi-faceted mission which includes:

- Building product awareness and ensuring the safe handling of methanol and its derivatives across the global supply chain;
- Promoting the growth of the methanol industry by furthering methanol as an essential chemical commodity and an emerging source of clean and renewable energy; and
- Influencing global regulatory and public policy initiatives that impact the methanol industry.

2016 proved to be an exciting year for MI and the global methanol industry. A great deal was accomplished – including:

- **The exciting expansion of methanol's use in marine applications:** MI inaugurated a new Marine Fuels Committee; participated in the launch of the methanol-powered GreenPilot boat in Sweden; exhibited the first MI-member converted methanol marine engine in China, and much more.
- **Continued growth in methanol's use as a clean burning fuel in cars, trucks and buses:** China's Methanol Vehicle Pilot Project has now expanded to comprise over 1000 vehicles; a new ASTM international standard for methanol fuels was

adopted; MI provided input on a new Israeli national standard for M15 fuels; and MI launched the Global Methanol Research Council, a collaborative of 14 of the world's leading methanol fuel researchers.

- **Methanol's growing use as an energy source for industrial boilers, cook stoves, and electricity generating turbines, as well as a hydrogen carrier for methanol fuel cells.**
- **Continued dedication to combat bootleg alcohol poisoning:** After initial work in Indonesia, MI expanded our effort to save lives through training first responders and medical personnel into Vietnam; we have also begun a broader global focus, joining forces with Médecins Sans Frontières/Doctors Without Borders (MSF), Oslo University Hospital, and fomepizole (poisoning antidote) producers.
- **Improving the World's Leading Methanol Information Resource:** Last fall, MI launched our newly redesigned website - [www.methanol.org](http://www.methanol.org) – reflecting the new branding of MI, and creating a streamlined user experience, with greater mobile device compatibility, and improved navigation and functionality throughout.
- **Extending our Reach:** MI continues to amplify our messages as the voice of the global methanol industry through publications such as our yearly *Methanol Milestones*, hosting and participating in more than 80 conferences across the world, including India, the Middle East, China, North America and Europe; through our wide variety of newsletters; and through our ever-growing social media presence, with platforms on Facebook, Twitter, LinkedIn, YouTube, WeChat and more.

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- In this year's edition of *Milestones*, you will learn more about some of these initiatives. Articles focus on developments in the marine industry surrounding methanol; the GPCA Middle East Forum; India Methanol Economy Seminar;
- China's Methanol Pilot Project; Israel's development of an MI5 standard, and more.

As I enter the second year in my role as Chairman of the Board, I am proud of what we accomplished in 2016, and excited for the work that lies ahead in 2017. This year MI will release a newly updated edition of our signature *Methanol Safe Handling Manual*, expand our

bootleg alcohol poisoning education and prevention efforts; continue to lead the way in the emergence of methanol as a global transportation fuel; and many other important initiatives.

The Methanol Institute and our 40 member companies are making significant contributions to the advancement of the global methanol industry. Great opportunities lie ahead as methanol expands its presence as a global energy resource, and the Methanol Institute is well positioned to advance the interests of our members.

## INDIA'S LEAP INTO THE METHANOL ECONOMY



At the close of September's International Seminar on "India's Leap into the Methanol Economy," Dr. VK Saraswat of India's National Institute for the Transformation of India (NITI Aayog), noted to applause that there was, "A general consensus that India should now move towards a methanol economy." His remarks came after two packed days of presentations in the seminar jointly hosted by NITI Aayog and the Methanol Institute. The opening welcome session had featured remarks by Dr. Saraswat, MI CEO Greg Dolan, the CEO of NITI Aayog Mr. Amitabh Kant, Hon. Shri Dharmendra Pradhan, Minister of Petroleum and Natural Gas, Hon. Shri Natin Jairam Gadkari, Minister of Shipping, Road Transport and Highways, and Dr. Ashutosh Sharma, Secretary, Department of Science and Technology.

Petroleum Minister Pradhan told the 300+ delegates, "The raw material (for methanol) should be coming from the Indian market. If we could monetize the agriculture waste and bio waste in urban areas to

energy, then there would be two benefits - sizable reduction of our health expenditure and our economy can be multi-fold." Transport Minister Gadkari, echoed these sentiments, noting "Surplus fund could be diverted in developing the rural economy. As rural areas are a source of feedstock for methanol, it would provide additional income and also become a source of livelihood for rural folks."

As part of the opening ceremony, Mr. Dolan signed a "statement of intent" establishing a strategic partnership between MI and NITI Aayog (former Planning Commission), a framework for the continuing cooperation between the global methanol industry and the powerful planning arm of Prime Minister Modi's government.

Keynote addresses were provided by Prof. Surya Prakash, George Olah & Judith Olah Noble Laureate Chair, University of Southern California, who's seminal book with Olah - "Beyond Oil and Gas: The Methanol Economy" - provided the intellectual basis for the seminar. Dr. Raghunath Mashelkar, President, Global Research Alliance, discussed the Indian context for the Methanol Economy, and Mark Berggren of MMSA provided the global methanol overview.

Additionally, Mr. Gu Zongqin, Chairman, China Nitrogen Fertilizer Industry Association (CNFIA) discussed China's leadership in developing a methanol economy, while MI members Atul Shah of **Johnson Matthey** and **Clariant's** Norbert Ringer discussed advances in methanol production technology. Vis Viswanathan of ADI Analytics gave a perspective on small-scale methanol production. John Livorness of MI member **SABIC** participated in a panel discussion, MI's Chief China Representative Kai Zhao gave a presentation on China's methanol road transport initiatives, and also gave a talk on behalf of MI member Mr. Koo Kam Pui of China's FiTech. Via video conference link, Massachusetts Institute of Technology researchers

Leslie Bromberg and Wai Cheng provided a look at the US experience with methanol fuels.

Following the first day's presentations, Dr. Saraswat, Prof. Prakash, and Mr. Dolan headed to a studio for India's National Television, where they held a live 30-minute panel discussion, that was reaired during the 9:00 PM primetime hour. Video is available on MI's YouTube page.

Day two began with a keynote presentation by Bengt Ramne of ScandiNAOS on methanol marine fuels, as well as presentations by Indian auto industry leaders Tata and Ashok Leyland. Tata's Dr. Mahesh Murthy announced that Tata's R&D Center in Bangalore had embarked on a three-year project to develop an on-board methanol reformer for a fuel cell range extender for the mini Nano vehicle, providing a 250-kilometer range versus 40-kilometers in EV only mode. Greg Dolan gave a presentation on behalf of Wartsila's Toni Stojcevski on both the use of methanol as a marine fuel and for electric power generation. Harry Stokes of Project Gaia introduced methanol clean cook stoves, which many delegates felt was a "low hanging fruit" for the Indian market where hundreds of millions still cook everyday with solid biomass. Dr. Rebecca Boudreaux, President of Oberon Fuels led an extensive session on a roadmap for DME blending in transport. Dr. Boudreaux also presented during a session looking at emerging business opportunities for methanol in India that included Ms. Ganit Shter Ban Joshua of Dor Chemicals, who discussed Israel's recent adoption of an M15 fuel standard.

Other dignitaries addressing the seminar included Shri Sanjay Mitra, Secretary of Road Transport, Shri Anant Geete, Minister of Heavy Industries and Public Enterprises, and Shri Ananth Kumar, Minister for Chemicals and Fertilizer, as well as the head of the Indian Railways, and leaders of the Indian Oil Corporation, GNFC, Petroleum Federation, and Indian Automobile Manufacturer's Society, along with key academic researchers from across India.

The two-day seminar demonstrated a strong commitment by leading policy-makers in India to pursue the methanol economy. Focused discussions on methanol production from coal and biomass, methanol utilization for methanol fuel blending in gasoline and diesel substitution, marine fuels, power generation, railways, gensets, fuel cells, and cook stoves will all be captured in a roadmap being developed by NITI Aayog's Methanol Economy Expert Group, chaired by Dr. Saraswat.

## METHANOL MARINE FUEL FULL STEAM AHEAD



Methanol Institute's (MI) Marine Fuels Committee (MFC) was formed in 2016 pursuant to regulatory developments in the shipping industry. It coincided with a time when the International Maritime Organisation (IMO) was drafting emission regulations for all seafaring vessels, and also concluded that liquefied natural gas (LNG) would be included as a marine fuel. These developments in the shipping industry brought with them a historic opportunity for the methanol industry, offering the possibility of methanol's application as a marine fuel. This was a completely new and different market for methanol which was traditionally directed into downstream chemical products. In light of these developments, MI decided that it was time to capitalize on ongoing developments and accord greater attention to the development of methanol as a viable marine fuel. The inaugural teleconference of the Marine Fuels Committee was held in March 2016.

One of the first key relationships was the formation of a strategic partnership with ScandiNAOS, a Swedish company focused on maritime energy efficiency and sustainable shipping. ScandiNAOS has considerable experience in working with both LNG and methanol as alternative marine fuels and believes in the benefits that methanol can provide as a marine fuel. Under this strategic arrangement between ScandiNAOS and MI, MI provided funds and supported ScandiNAOS for their GreenPilot Project. The main objective of the project was the conversion of a Swedish pilot boat that would be fuelled by methanol. It also provided a field test platform for various engine suppliers and several engine design concepts. GreenPilot Project saw the conversion of a Scania engine to run on methanol and a marine fuels workshop in Gothenburg, Sweden in June 2016 to kick-off the project. MI member, FiTech (FiT), also contributed to this project by converting a 320 kilowatt WeiChai natural gas engine which will be

installed in the GreenPilot vessel in early 2017.

Apart with working from ScandiNAOS and FiT, MI also supported its Singapore-based member, Billion Miles, in their efforts to launch a methanol-fuelled marine engine in Singapore, to include engaging with Singapore's Maritime Port Authorities (MPA) in obtaining the approval for the project and securing funding through MPA's MINT Fund. The efforts of Billion Miles will culminate in the official launch of the methanol fuelled engine on-board a vessel in mid-2017. This will be the first methanol-related marine project in Singapore, and there is expectation that it will generate substantial interest from the shipping industry in the viability of methanol as a marine fuel.

While it was important for MI to support projects that saw methanol-fuelled vessels hitting the water, it was equally important to develop safe handling and bunkering standards that are necessary in the regulatory and safety aspects for alternative marine fuels. MI collaborated with strategic partners to aid in the aggregation of experience and knowledge in this area. In China, MI worked with China Classification Society (CCS) to come up with methanol safe handling standards in a marine fuel application. The report is expected to be confirmed in mid-2017. MI also concluded a memorandum of understanding (MOU) with International Bunker Industry Association (IBIA) at the end of 2016. This strategic partnership will contribute to the drafting of standards and safe handling for methanol bunkering. IBIA actively participates in IMO's working groups and was able to contribute MI's proposals regarding methanol as an alternative marine fuel. MI and IBIA jointly contributed to the IMO's Correspondence Group for the development of technical provisions outlining safety considerations when using low-flashpoint fuels such as methanol.

MI recognises that economic considerations play an influential role in the vessel owners decision to switch to methanol as a fuel. As such, the groundwork was laid in 2016 for a financial and technical model that will address cost concerns for vessel owners who are considering switching to methanol in an effort to comply with IMO's pending low-sulphur cap. The model will assess the competitiveness of methanol fuel, as costs will differ from port to port, globally and take into consideration capex, running costs, replacement cost and alternatives such as LNG, MGO and scrubbing technology.

MI remained very active in 2016, presenting at many high profile, global maritime events to increase

awareness about methanol as a marine fuel. Currently, knowledge of methanol as a marine fuel is limited within the shipping industry. Hence, it was necessary to improve awareness and stimulate interest in considering methanol as a viable alternative fuel. MI presented at events such as SIBCON 2016 in Singapore and SHIPTEC 2016 in Dalian, China. These large, well-established, regional maritime industry events were excellent platforms for MI to increase the public's understanding of methanol as a marine fuel, in addition to allowing MI to establish strong relationships with stakeholders within the marine industry.

## ISRAEL ADOPTS M15 STANDARD



The Technical Committee 310 ("Oil and its Products") of the Standards Institution of Israel in August 2016 approved a new Israeli Standard, SI 90-4 Automotive gasoline: Methanol-gasoline (petrol) fuel blend composed of 85 % unleaded gasoline (petrol) and 15 % methanol (M15).

Israeli Standard SI 90 Part 4 was prepared under the initiative of the Ministry of National Infrastructures, Energy and Water Resources, with the cooperation of the Ministry of Transportation, the Ministry of Environmental Protection and the Prime Minister's Office. This is an original Israeli Standard, the first of its kind in the world (except for Chinese Provincial Standards, there is no relevant standardization in the world for M15).

The Oil Replacement Directorate in the Ministry of National Infrastructures, Energy and Water Resources conducted a pioneering trial together with the Dor Chemical Company within the framework of a demonstration project in the field of oil replacements promoted by the Ministry, and examined the use of a methanol-gasoline mixture in personal vehicles.

The successful trial stimulated much interest that led to representatives of the FCA (Fiat Chrysler Automobiles)

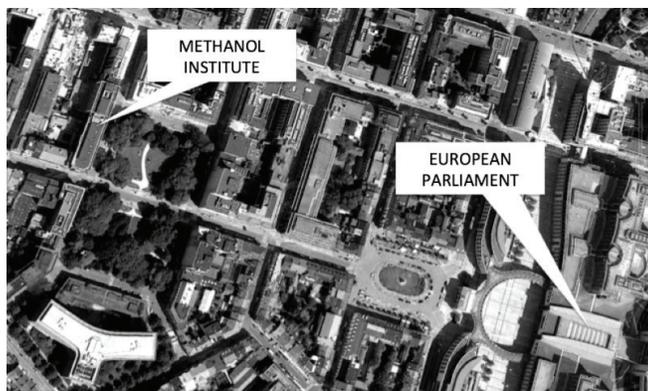
## Fiat Chrysler introduces the first methanol-powered Euro 6 vehicle, the Fiat 500 M15

company coming to Israel to create a joint work program with the Government of Israel. According to the program, FCA will provide personal vehicles for the Israeli market, adapted for the use and refueling with M15.

SI 90 Part 4 covers the M15 mixture intended for use in dedicated vehicles designed in

advance for the use of methanol and are so declared by the vehicle manufacturer, and specifies the requirements and test methods for M15. The objective is to encourage the use of the Standard so that in the future, the use of gasoline with higher percentages of methanol (M70-M85) can be introduced and thereby better exploit the inherent advantages of methanol.

## NEW MI BRUSSELS OFFICE



After renting an office on the outskirts of Brussels for several years, MI has moved to an office just a stones throw away from the European Parliament.

By moving closer to the Parliament and buildings of the European Commission MI raises its visibility toward policy makers and other industry associations. It also enables MI to host onsite meetings with relevant stakeholders more easily.

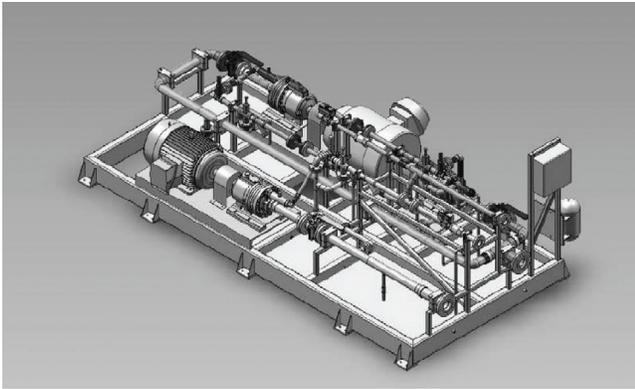
The new office is located on the premises of Multiburo Business Center at the following address:

Methanol Institute Europe  
Square de Meeûs 38/40  
B-1000 BRUSSELS  
Belgium

## MI MEMBER COMPANIES

- Atlantic Methanol Production Companies (AMPCO)
- Azelis
- Billion Miles
- BP Chemicals
- Carbon Recycling International
- Clariant
- Coogee Chemicals Pty. Ltd.
- Ecofuel
- Enerkem
- FITech
- Fuel Freedom Foundation
- G2X Energy
- Haldor Topsoe
- HELM AG
- International-Matex Tank Terminals (IMTT)
- Johnson Matthey Syngas Catalysts
- Lanxess
- Lebzi Halal
- Metafrax
- Methanex Corporation
- Methanol Holdings Trinidad Limited (MHTL)
- Mitsubishi Gas Chemical
- Mitsubishi International Corporation
- Mitsui & Co., Ltd.
- Mitsui OSK
- NW Innovation Works
- OCI N.V.
- Oman Methanol Company
- Oorja Fuel Cells
- PETRONAS Chemical Group
- Qatar Fuel Additives Company Limited (QAFAC)
- SABIC Asia Pacific
- Salalah Methanol Company
- Sipchem
- Solvadis Group
- Southern Chemical Corporation
- Tricon Energy, Inc.
- Vitusa Products, Inc.

## METHANOL POWER

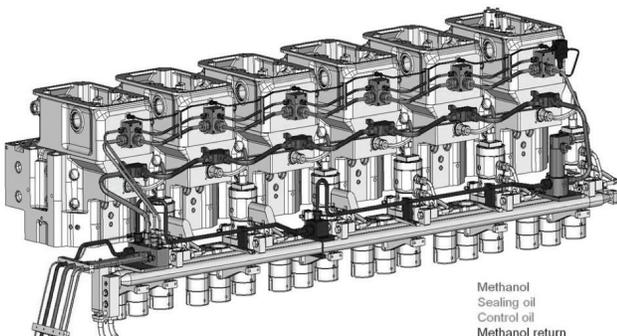


The November–December, 2016 issue of *Gas Turbine World* Magazine features an article on methanol's potential as an alternative fuel in gas turbines and reciprocating engines.

The article, penned by William H. Day, President of Longview Energy Associates, notes that recent global constraints on emissions have prompted a renewed interest in methanol's use as a fuel in these applications, particularly in isolated areas on land, and in near-land areas at sea.

The article sponsored by the Methanol Institute examines in detail both the diesel-to-methanol conversion of a 50 megawatt Pratt & Whitney turbine in Eilat, Israel, and the diesel-to-methanol conversion Wärtsilä combustion engines for the Stena *Germanica*, a large RoPax ferry.

In the case of the gas turbine in Eilat, converted by Dor Chemicals and the Israel Electric Company, test results show reductions of 80–85% in NO<sub>x</sub> emissions vs. diesel fuel, and a 90% reduction in particulate emissions, including the total elimination of sulfur emissions. Previous concerns over air quality in the area had limited the gas turbine operation to short periods, not exceeding 300 hours per year. The substantial reduction in emissions made possible by the conversion to methanol now allows the turbine to operate without restrictions.



The *Germanica*, one of the world's largest ferries, which runs between Gothenberg, Sweden and Kiel, Germany had its engines converted to run on methanol by Stena, with the help of engine manufacturer Wärtsilä, MI member company Methanex, and with the support of the European Commission. Test results from the *Germanica's* conversion demonstrate the need for only minor modification to the engines, show no reduction in efficiency or output from the engines, and much lower NO<sub>x</sub>, SO<sub>x</sub>, GHG and particulate matter emissions, making the ship better equipped to comply with future Emissions Control Area regulations. The full article can be viewed on MI's website at <http://www.methanol.org/power-generation>.

## METHANOL VEHICLE PILOT PROGRAMS MOVING FORWARD IN CHINA



2012, the Chinese Ministry of Industry and Information Technology (MIIT), began its Methanol Vehicle Pilot Project with 150 methanol fueled Geely taxis in Jinzhong, Shanxi Province. The project has since expanded to several more locations and now comprises over 1000 vehicles in total.

Guiyang City, which has the largest fleet of taxis in the program (over 330), continues to build new methanol fueling stations, the newest of which was built according to methanol fueling station standards developed jointly by MI member company **Methanex** and the China Association of Alcohol and Clean Ether Fuels and Automobiles (CAA-EFA). These standards are available in both English and Chinese on MI's [methanolfuels.org](http://methanolfuels.org) website.

In late 2016, MIIT issued a notice on the acceptance review work plan of the methanol vehicle pilot project.

The acceptance review is conducted in 3 phases:

1. Participating cities operating methanol vehicles are required to finish all testing and data analysis and draft their summary report. After submitting the report each city then needs to apply for provincial acceptance review.
2. Provincial MIIT officials then organize an on-site primary acceptance review, reaching a primary review conclusion and then apply for MIIT final acceptance review.
3. MIIT, the National Development and Reform Commission (NDRC), and Ministry of Science and Technology (MOST), organize a national acceptance review of the Pilot Program's findings.

MIIT began initial methanol vehicle pilot acceptance reviews in 2016, and Jinzhong city, Shanxi Province is the first city to complete all the work required by MIIT. In 2017, Shanghai, Changzhi, Xi'an, Baoji and Yulin are expected to complete their projects.

It is anticipated that following the conclusion of the Methanol Vehicle Pilot Program, MIIT will release further policies to promote the use of methanol vehicles.

## MI AND GPCA MIDDLE EAST METHANOL SEMINAR



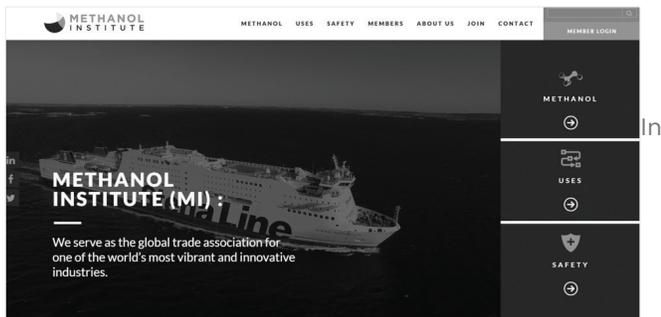
Dubai, UAE – The Gulf Petrochemicals & Chemicals Association (GPCA) and MI co-organized a very successful methanol seminar in Dubai on February 15-16, 2016. MI helped with developing the program, recruiting speakers, and moderating the event that attracted 70 delegates from 17 countries. The aim of the seminar was to address changes and opportunities that the global methanol industry faced. Mohammed Al-Nassar, Global Director in **SABIC** for Methanol Business Unit and Member of MI's Board of Directors, and Dr. Abdulwahab Al-Sadoun, Secretary General

of GPCA, delivered opening remarks that kicked off the two-day seminar. The forum focused on how expected changes in US and Iranian methanol availability could impact methanol trade flows globally. Methanol as a game-changing fuel for land and marine transportation was also a key focus of the discussions.

MI's CEO Greg Dolan spoke on emerging applications of methanol in fuel for land and marine vehicles. The increasing demand for methanol as a fuel is revolutionary for the industry, as these are relatively new applications for methanol. As uptake of methanol as a fuel increases, it would represent new markets for methanol producers. Koo Kam Pui, Chairman and General Manager at MI member company **FiTech** gave a presentation on their work on methanol fuelled land transportation vehicles and the viability of methanol as a fuel. **FiTech** has worked on multiple projects, in China and beyond, with various partners to develop methanol-gasoline vehicles and dual-fuel methanol-natural gas heavy-duty vehicles. Ben Iosefa, MI Chairman and Vice President for Global Market Development & Stakeholder Relations at member company **Methanex**, presented on marine fuel applications. His presentation coincided with discussions in the marine industry about alternative fuel options due to impending International Maritime Organization (IMO) regulations on marine vessel emissions. Methanol is seen as a viable alternative fuel for ship owners to comply with new regulations. **Methanex's** Waterfront Shipping took delivery of seven new methanol dual-fuel vessels in 2016.

Nasser Jeham Al-Kuwari, then CEO of MI member **QAFAC**, spoke about his company's carbon dioxide recovery (CDR) to methanol technology applications which has been successful in lowering greenhouse gas emission of their production facilities in Qatar while increasing methanol production simultaneously. MI's Dom LaVigne and Lhani & Tim Davies from the LIAM Charitable Fund shared with delegates about the MI-LIAM Methanol Education Programs in Indonesia and Vietnam. The programs provide medical and community education aimed at saving lives and preventing health risks associated with consumption of bootleg alcohol.

# MI LAUNCHES NEW WEBSITE



September, MI proudly launched our new website at [www.methanol.org](http://www.methanol.org). The redesigned website reflects the new branding of the Methanol Institute, creating a streamlined, user-friendly experience with improved navigation and functionality throughout. Considered with the user experience firmly in mind, the website has been designed using the latest technology so the site is compatible with today's browsers and mobile devices.

The homepage features an uncluttered layout and MI's newly designed logo. The site includes a wealth of information about methanol and has expanded sections detailing methanol's emergence as an energy source for clean-burning marine and vehicle fuel, and electricity generation through turbines and fuel cells. The new site also explores the environmental and social benefits of renewable methanol; methanol's use in waste water treatment and features extensive methanol safe handling resources. Visitors can also learn more about the Methanol Institute itself, our mission and our member companies. Member companies can expect to see enhanced features in the exclusive, member-only protected version of the website.

"As the importance of methanol continues to grow across global markets, we are excited to introduce our redesigned site," said Gregory Dolan, MI's CEO. "**Methanol.org** will continue to be the preeminent source of content for all things relating to methanol on the Internet."

The new website is updated on a regular basis with news of events, association activity, and other developments. Visitors are encouraged to explore the website at [www.methanol.org](http://www.methanol.org).

Stay up to date with the Methanol Institute across our various social media platforms, including Twitter, Facebook and LinkedIn. Visitors looking for further information about methanol as an alternative fuel can visit MI's sister-site, [www.methanolfuels.org](http://www.methanolfuels.org).

## MI STANDING MEMBER COMMITTEES

### LEGISLATIVE/REGULATORY AFFAIRS

*Directs all international public policy advocacies.*

- MI's Legislative & Regulatory Committee is focused on interactions with governments around the globe to ensure that the development of public policy utilize the best available scientific evidence and do not unduly hinder the growth of the methanol industry.
- As the chemical industry globally comes under increasing regulatory scrutiny, the Committee is charged with ensuring that the methanol industry meets every challenge head on.
- The Committee is currently coordinating with the REACH Methanol Consortium on the European Union's review of methanol, and monitoring regulatory initiatives across Asia Pacific and the Middle East.
- The Committee also tracks regulatory challenges to downstream products like formaldehyde and MTBE.

### PRODUCT STEWARDSHIP

*Responsible for methanol health & safety activities.*

- MI's Product Stewardship Committee (PSC) is responsible for overseeing efforts to promote health and safety activities throughout the global supply chain.
- The Committee supervises the development of MI's critical Methanol Safe Handling Manual and related documents that distribute best practice and safety information to producers, distributors and consumers.
- The PSC also is responsible for addressing issues related to methanol health and safety that arise around the globe, including oversight of the Bootleg Alcohol Prevention Subcommittee (BAPS).

### MARKET DEVELOPMENT

*Facilitating the development of methanol applications in a number of emerging markets.*

- From fostering emerging technology companies to promoting the use of methanol as a vital energy solution, the MDC is focused on augmenting methanol markets around the globe.

- The Committee oversees issues related to the use of commercialization of fuel cells and fuel-related technologies, methanol-to-power (MTP), the use of methanol in wastewater treatment facilities, methanol-to olefins (MTO), renewable methanol production, dimethylether (DME), industrial boilers, and cooking applications.

## GLOBAL FUEL BLENDING

*Encourages the growth of methanol fuel blending worldwide.*

- Aggregate all relevant technical & emissions data on methanol fuel blending (low, mid, & high level).
- Identify research needs & fund appropriate testing programs that fill information gaps and share with all members.
- Support & lobby for critical programs and legislation such as the Open Fuels Standard Act

in the U.S., and defend and support methanol inclusion in fuel regulations in the EU and around the world.

## MARINE FUEL

*Encourages the growth of methanol fuel blending worldwide.*

- The Marine Fuels Committee will focus on expanding methanol as a marine fuel, by:
  - developing and advocating legislation
  - proving conversion, new build and infrastructure economics
  - addressing supply & demand issues
  - promoting environmental benefits
  - providing best practices and safe handling

## BOARD PROFILES



Atlantic Methanol Production Company LLC (“AMPCO”) runs a world scale methanol plant located on Bioko Island in Equatorial Guinea, West Africa. It is owned by Marathon Oil, Noble Energy, and SONAGAS, the National Gas Company of Equatorial Guinea.

The plant started production in 2001 and produces in excess of 1,000,000 metric tons of methanol per year, or just greater than 1% the global market. With its location in the Atlantic Basin, AMPCO is strategically located to supply markets in the Americas, Europe, and Asia.

[www.atlanticmethanol.com](http://www.atlanticmethanol.com)



Methanex Corporation is a Vancouver-based, publicly traded company and is the world’s largest producer and supplier of methanol to major international markets in North America, Asia Pacific, Europe and South America. Headquartered in Vancouver, Canada, Methanex currently operates production sites in Canada, Chile, Egypt, New Zealand, the United States and Trinidad and Tobago.

Methanex’s global production hubs are strategically positioned to supply every major global market. Its operations are supported by an extensive global supply chain and distribution network of terminals, storage facilities and the world’s largest dedicated fleet of methanol ocean tankers. Responsible Care is the foundation of everything they do and is a key element of its global culture.

[www.methanex.com](http://www.methanex.com)



The company, which is located on the island of Trinidad, has decades of production, marketing and distribution experience in the methanol industry, with an efficient and reliable global supply chain that includes storage facilities in key global locations and a vessel fleet of eleven (11) chemical tankers. The Company's five methanol plants situated on the Point Lisas Industrial Estate in Trinidad have a combined annual production capacity of 4.1 million tonnes of methanol.

In 2010, the company diversified its operations with the start-up of its AUM operations in Trinidad producing annually 647,500 tonnes of Ammonia for use as feedstock for its downstream operations which comprise a UAN plant producing 1.48 million tonnes of UAN (32%) solution and two (2) Melamine plants with a combined capacity of 60,000 tonnes of melamine.

As a leading player in the petrochemical industry, MHTL continues to pursue avenues for growing production and exploring new uses and markets for its products. MHTL also focuses on maintaining global competitiveness, together with the highest standards for efficiency, reliability, safety and environmental management in its operations.

[www.ttmethanol.com](http://www.ttmethanol.com)

# mitsubishi gas chemical america



Mitsubishi Gas Chemical America has been leading the way in the fields of basic chemicals to specialty and advanced materials in the United States since 1984. As a subsidiary of Mitsubishi Gas Chemical Company, Inc. in Tokyo, MGCA follows the same company motto, "To offer unique products through original technology." With Tokyo leading the charge and developing innovative new technologies and materials, MGCA strives to bring that excellence to the shores of the United States of America.

MGCA serves all of North and South America with a variety of services from natural gas chemicals to IT and technological raw materials to food and pharmaceutical support applications. Combining our management policy, "To contribute to the development and peace of society through the creation of a diverse range of value based on chemistry," with spectacular customer service is what MGCA is all about.

While MGC focuses on specializing, differentiating and creating high performance products that can respond to the demands of an every changing market place, we are able to focus on you, the customer. Through customer service, logistical knowledge, technical assistance and superior products, MGCA is here to help and guide you and your company into the future.

[www.mgc-a.com](http://www.mgc-a.com)

# mitsui & co. (U.S.A.), inc.



Incorporated in the state of New York in 1966, Mitsui & Co. (U.S.A.), Inc. ("Mitsui USA") is engaged in business investment, project development and management, and capital goods leasing and technology transfer, in addition to traditional businesses of a Sogo Shosha (general trading company) such as import, export, off-shore trade and domestic wholesale.

Mitsui USA operates in 10 business areas including: Iron & Steel Products, Mineral & Metal Resources, Infrastructure Projects, Integrated Transportation Systems, Chemicals, Energy, Foods & Retail, Consumer

Service Business, IT & Communication Business, and Financial & New Business. The Company maintains nine offices, with a head office in New York City and others in Chicago, Cleveland, Houston, Los Angeles, Nashville, Seattle, Silicon Valley, and Washington, D.C., and has nearly fifty affiliated group companies in various industries across the U.S.

Mitsui USA utilizes its unique business engineering capabilities to develop new business models aimed at solving challenges, generating new opportunities and improving existing business processes and portfolios to meet the market's needs. Mitsui USA's group and affiliated companies operate in specific industries and are supported by in-house service capabilities in information and research, financial arrangements, risk management, investment and transportation logistics.

Mitsui USA is committed to sustainable growth and good corporate citizenship. Reflecting Mitsui & Co.'s management philosophy, the Company's operations are guided by its distinctive Corporate Social Responsibility (CSR) policy, which emphasizes environmental and social accountability, and respect for stakeholders and the community.

[www.mitsui.com/us](http://www.mitsui.com/us)

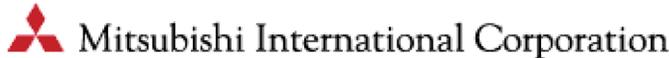
# OCI N.V. **OCI**

OCI N.V. is a global producer and distributor of natural gas-based fertilizers & industrial chemicals based in the Netherlands, with 3,000 employees around the world.

OCI produces nitrogen fertilizers, methanol and other natural gas based products, serving agricultural and industrial customers from the Americas to Asia. OCI ranks among the world's largest nitrogen fertilizer producers, and can produce more than 8.4 million metric tons of nitrogen fertilizers and industrial chemicals at production facilities in the Netherlands, the United States, Egypt and Algeria.

[www.oci.nl](http://www.oci.nl)

# OUR 2017 MEMBERS



## OMAN METHANOL COMPANY LLC.



The Company was formed in 2004 as a Joint Venture with the current shareholding now between Oman Methanol Holding Company LLC (OMHC) at 40%, a division of Omar Zawawi Establishment (Omzest), and Methanol Holdings International Limited (MHIL) at 60%. The OMC Plant is located in the Sohar Port complex on the Gulf of Oman with access to global markets by sea. The methanol plant and facilities commenced operation in December 2007 and currently produce more than 3,000 tonnes of refined methanol per day.

The Company is staffed and operated by a team of highly trained and competent professionals with extensive experience in the Petrochemical Industry. The majority of the staff at OMC are Omani nationals who are provided with extensive training programs which are developed specifically for each individual. The sales and marketing of our products is managed by Helm AG. In the global Chemicals markets, Helm is one of the leading sales and marketing Companies supplying the Methanol produced by OMC to industrial consumers in markets around the world. OMC also has long term Time Charters for two vessels, the Gulf Elan and the Gulf Esprit and the Company's marine logistics are coordinated by SPI Marine Asia based in Singapore.

[www.omanmethanol.com](http://www.omanmethanol.com)

# PETRONAS



Petroleum Nasional Berhad (PETRONAS) established in 1974, is Malaysia's fully integrated oil and gas multinational ranked among the largest corporations on FORTUNE Global 500®. As the custodian for Malaysia's national oil and gas resources, we explore, produce and deliver energy to meet society's growing needs. The growing demand for energy inspires and strengthens our purpose to steadily drive for new solutions and push boundaries towards a sustainable energy future.

We apply innovative approaches to technology which helps us unlock and maximise energy sources from even the most remote and difficult environments. Our fully integrated value chain spans from exploration to marketing, logistics to technological infrastructures, with operations in over 50 countries around the world. Throughout our rapidly expanding network and steady growth trajectory, PETRONAS has consistently and successfully implemented various social, environmental and community programmes, guided by its larger Corporate Sustainability Framework, in carrying out business in a socially responsible and holistic manner for the benefit of both the present and future generations.

[www.petronas.com.my](http://www.petronas.com.my)

# QATAR FUEL ADDITIVES CO. LTD.



Qatar Fuel Additives Company, popularly known as QAFAC, is an outcome of the Nation's far-sighted strategic plan to diversify its petrochemical base and expand its downstream industries. The Company aims to optimize the utilization of the country's vast hydrocarbon resources through producing and exporting Methanol and MTBE.

Established in 1991, QAFAC is a joint venture between Industries Qatar, OPIC Middle East Corporation, International Octane LLC and LCY Middle East Corp. The Company commenced operations in 1999. The QAFAC plant is designed to produce 982,350 TPA of Methanol and 610,000 TPA of MTBE. The Methanol plant design is based on ICI technology whereas MTBE design is based on UOP technology.

[www.qafac.com.qa](http://www.qafac.com.qa)

# SABIC



SABIC is a global leader in diversified chemicals headquartered in Riyadh, Saudi Arabia. We manufacture on a global scale in the Americas, Europe, Middle East and Asia Pacific, making distinctly different kinds of products: chemicals, commodity and high performance plastics, agri-nutrients and metals. We support our customers by identifying and developing opportunities in key end markets such as construction, medical devices, packaging, agri-nutrients, electrical and electronics, transportation and clean energy.

SABIC has more than 40,000 employees worldwide and operates in more than 50 countries. Fostering innovation and a spirit of ingenuity, we have significant research resources with innovation hubs in five key geographies - USA, Europe, Middle East, South East Asia and North East Asia. The Saudi Arabian government owns 70 percent of SABIC shares with the remaining 30 percent publicly traded on the Saudi stock exchange. At SABIC, we combine a rich track record of doing what others said couldn't be done with a deep understanding of our customers. But our true impact is as a collaborative partner who can help our customers achieve their ambitions by finding solutions to their challenges. We call this 'Chemistry that matters™'.

[www.sabic.co](http://www.sabic.co)

# MEMBERSHIP TIERS

" W H E R E Y O U F I T I N "

## T I E R 01

Major Methanol  
Producers

## T I E R 02

Methanol  
Producers

## T I E R 03

Associate  
Members

## T I E R 04

Affiliate Members  
(non-producers)

## T I E R RA

Reciprocal  
Members

### CRITERIA

Major producers of methanol (over 1.5 MMT per year).

### BENEFITS

- Appoint two voting representatives to the Board of Directors
- Membership on the MI Executive Committee
- Ability to serve as Board Officer, including Chairman & Vice Chairman
- Ability to Chair Standing Committee(s)

### CRITERIA

Organizations which are producers of methanol or are otherwise interested in promoting the interests of the methanol industry

### BENEFITS

- Appoint one voting representative to the Board of Directors
- May be invited to participate in Executive Committee meetings (non-voting)
- Ability to serve as Board Secretary or Treasurer
- Ability to Chair Standing Committee(s)

### CRITERIA

Minimum level of membership for methanol producers. Also includes non-producers and sellers of methanol who are interested in promoting the interests of the methanol industry.

### BENEFITS

- May participate in Board of Directors meetings (non-voting)
- Ability to Chair Standing Committee(s)

### CRITERIA

Organizations that are interested in promoting the interests of the methanol industry.

### BENEFITS

- Ability to participate in Standing Committee(s)

### CRITERIA

Allied trade associations and other non-profit organizations who are interested in promoting the interests of the methanol industry.

### BENEFITS

- Cross-listing in membership directories and websites
- Sharing of newsletters and informational resources
- Joint legislative/regulatory activities
- Co-sponsored research initiatives

# 2017 METHANOL INSTITUTE CALENDAR OF EVENTS

## JANUARY, 2017

Jan 3<sup>RD</sup> - Jan 6<sup>TH</sup>

### **4th Indian Science Congress**

📍 Tirupati, India

🌐 [www.isc104.com](http://www.isc104.com)

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## FEBRUARY, 2017

Feb 9<sup>TH</sup> - Feb 10<sup>TH</sup>

### **IMPCA Mississippi Conference America**

📍 New Orleans, Louisiana, USA

🌐 [www.impca.eu/IMPCA](http://www.impca.eu/IMPCA)

Feb 21<sup>ST</sup> - Feb 23<sup>RD</sup>

### **ME-TECH 2017: 7th Middle East Technology Forum for Refining & Petrochem**

📍 Dubai, UAE

🌐 [www.europetro.com/en/metech2017](http://www.europetro.com/en/metech2017)

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## MARCH, 2017

March 14<sup>TH</sup> - March 15<sup>TH</sup>

### **4th Annual European Petrochemicals Conference**

📍 Dusseldorf, Germany

🌐 [www.platts.com/events/emea/european-petrochemicals/index](http://www.platts.com/events/emea/european-petrochemicals/index)

March 20<sup>TH</sup> - March 22<sup>ND</sup>

### **CT Maritime Association 2017**

📍 Connecticut, USA

🌐 [www.cmashipping2017.com](http://www.cmashipping2017.com)

March 26<sup>TH</sup> - March 28<sup>TH</sup>

### **AFPM International Petrochemicals Conference**

📍 San Antonio, Texas, USA

🌐 [www2.afpm.org/forms/meeting/Microsite/IPC17](http://www2.afpm.org/forms/meeting/Microsite/IPC17)

March 29<sup>TH</sup>

### **MI Board Meeting**

📍 San Antonio, Texas, USA

✉ [sg@methanol.org](mailto:sg@methanol.org)

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## APRIL, 2017

April 4<sup>TH</sup> - April 6<sup>TH</sup>

### **CIS Petrochemicals Conference**

📍 Moscow, Russia

🌐 [www.globuc.com/cispetrochemicals](http://www.globuc.com/cispetrochemicals)

April 25<sup>TH</sup> - April 27<sup>TH</sup>

### **Sea Asia 2017**

📍 Singapore

🌐 [www.sea-asia.com](http://www.sea-asia.com)

April 26<sup>TH</sup> - April 27<sup>TH</sup>

### **CEFIC Methanol Sector Meeting**

📍 Lucerne, Switzerland

🌐 [www.cefic.org](http://www.cefic.org)

April 26<sup>TH</sup> - April 28<sup>TH</sup>

### **Singapore Maritime Technology Conference**

📍 Singapore

🌐 [www.smtcsingapore.com](http://www.smtcsingapore.com)

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## MAY, 2017

May, 8<sup>TH</sup> - May 10<sup>TH</sup>

### **International Methanol Conference 2017**

📍 Taastrup, Denmark

🌐 [www.dti.dk/specialists/international-methanol-conference/k29019](http://www.dti.dk/specialists/international-methanol-conference/k29019)

**JUNE, 2017****June 6<sup>TH</sup> – June 7<sup>TH</sup>****Argus Methanol & MTBE Forum**

📍 Singapore

🌐 [www.argusmedia.com/Events/Argus-Events](http://www.argusmedia.com/Events/Argus-Events)**June 7<sup>TH</sup>****MI Board Meeting**

📍 Hamburg, Germany

🌐 [www.impca.eu/IMPICA/IMPICA/Future-Conferencesx](http://www.impca.eu/IMPICA/IMPICA/Future-Conferencesx)**June 13<sup>TH</sup>****2017 Washington Methanol Policy Forum**

📍 Washington D.C., USA

🌐 [methanol.wildapricot.org/event-2481398](http://methanol.wildapricot.org/event-2481398)**JULY, 2017****July 9<sup>TH</sup> – 12<sup>TH</sup>****JM International Methanol Technology Operators Forum (IMTOF)**

📍 London, United Kingdom

🌐 [www.jmprotech.com/IMTOF](http://www.jmprotech.com/IMTOF)**SEPTEMBER, 2017****Sept 12<sup>TH</sup> – Sept 14<sup>TH</sup>****Argus Methanol Forum**

📍 Houston, Texas, USA

🌐 [www.jmprotech.com/IMTOF](http://www.jmprotech.com/IMTOF)**Sept 29<sup>TH</sup> – Sept 30<sup>TH</sup>****35<sup>TH</sup> IHS World Methanol Conference**

📍 Berlin, Germany

🌐 [www.ihs.com/events/index.html](http://www.ihs.com/events/index.html)**OCTOBER, 2017****Oct. 4<sup>TH</sup> – Oct. 6<sup>TH</sup>****Malaysia International Marine Expo**

📍 Kuala Lumpur, Malaysia

🌐 [www.marine-malaysia.com](http://www.marine-malaysia.com)**Oct. 22<sup>ND</sup> – Oct. 28<sup>TH</sup>****SNAME Maritime Convention 2017**

📍 Houston, Texas, USA

🌐 [www.sname.org/smc/home](http://www.sname.org/smc/home)**NOVEMBER, 2017****Nov. 7<sup>TH</sup> – Nov 9<sup>TH</sup>****20<sup>TH</sup> IMPCA Asian Methanol Conference**

📍 Singapore

🌐 <http://www.impca.eu/IMPICA/IMPICA/Future-Conferences>**Nov. 10<sup>TH</sup>****MI Board Meeting**

📍 Singapore

✉ [sg@methanol.org](mailto:sg@methanol.org)**Nov. 15<sup>TH</sup> – Nov 17<sup>TH</sup>****8<sup>TH</sup> Gas Fueled Ships Conference 2017**

📍 Grand Elysee Hotel, Hamburg, Germany

🌐 [www.motorship.com/gfsconference](http://www.motorship.com/gfsconference)**DECEMBER, 2017****Nov. 5<sup>TH</sup> – Nov 8<sup>TH</sup>****MARINTEC China 2017**

📍 Shanghai, PRC

🌐 <http://www.marintecchina.com/en-us>



WWW.METHANOL.ORG

WWW.METHANOLFUELS.ORG

