It is a great pleasure to welcome you to New Orleans! We are excited to bring the IATA Aviation Fuel Forum back to the United States for the first time in six years.

As has been the trend in recent Forums, we will have a record number of attendees and bring together an increasingly diverse community in terms of representation from all areas of the aviation fuel industry. IATA, together with the airlines and strategic suppliers that make up the Forum Steering Group, choose the locations of the Forum very carefully with your success and enjoyment in mind.

I believe that here in New Orleans you’ll find unique flavors, an accessible city, and a cultural experience that will even leave our domestic guests feeling they have traveled abroad, all at an affordable cost.

As usual, we have a lot of material to cover this week. Key topics will include oil economics, refinery insights, and sustainability as well as a robust technical program. I’m excited to welcome several first-time speakers to the stages this week, as well as a few faces you’ve seen before.

IATA is driving several projects to evolve our industry, and you will hear updates on those this week. I ask that you continue to enquire, challenge, and support our progress.

As I Chair the Forum for the final time, I also want to thank you for the support, the opportunity, the challenge, the incredible attendance, and the kinship. I’ve learned so much from this impressive collection of fuel professionals. The passion for our industry starts with the people, and the Fuel Forum is the premier event to bring all of us together. Have a fantastic week!

Patrick Callan, Chair, Commercial Fuel Working Group
At your service with 32 airports in Panama, Peru, Dominican Republic and Colombia.
Moving to low sulfur jet fuel

Many refineries must choose to either upgrade to deal with low sulfur production or use “sweet” crudes, which require less production work for low sulfur products.

There are cost implications to this decision, as any increase in demand for sweet crude and a corresponding lower demand for sour crude will naturally affect prices.

But aviation may not want to move to low sulfur fuel. Desulfurizing jet fuel could have a detrimental effect on the climate as the process is energy intensive and releases carbon into the atmosphere as CO2. Additionally, low sulfur fuel has reduced lubricity, which must be managed.

The only real driver is a pipeline interface management problem. To avoid the problem of contamination and other issues, pipeline companies could advocate for a move to an ultra-low sulfur jet fuel standard so that their interface transmix losses can be minimized.

“The technical and environmental case to remove sulfur in jet fuel is not as clearly defined as it has been for other fuels such as diesel,” says Rob Midgley, Global Technical and Quality Manager, Aviation Fuels, Shell Aviation.

“This could be solved by moving jet to an ultra-low specification, but we should pause to balance this with the potential impacts: not only price and availability of the fuel and cost for producers, but also increases in greenhouse gas emissions due to the changes in the refinery processes needed.”

In short, the industry will need to carefully balance the end-to-end implications and net benefits before changing jet fuel sulfur levels.
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Fuel infrastructure in North America

Fuel infrastructure bottlenecks at key locations in North America could affect aviation in the longer-term.

Air traffic growth has been outpacing the ability to meet fuel demand, especially on the west coast. “Airports in California have had challenges with supply chain and storage capacity to meet growth,” says Grant Smith, Managing Director, Commercial Fueling and Ramp Services, Burns McDonnell. “At Los Angeles, we have been able to meet the demand but need to plan ahead as more challenges are on the horizon.”

Adding capacity at any location won’t be easy. Challenges include obtaining the necessary permissions and ensuring there is sufficient labor and materials. Space constraints on or near the airport are also a concern as is a lack of transparency surrounding the ownership of any project.

Reaching consensus on future demand changes and intelligently assessing the most efficient ways to address them is made somewhat easier by the US fuel consortium approach. Airlines generally take the lead in a consortium using consultants to evaluate the supply chain and work with suppliers, pipeline and terminal companies, and airports.

This has proven to be a positive method of identifying, planning, and building new infrastructure in a cost-effective manner. But given that the most efficient solutions can take years to develop, time is arguably the most important partner in the process.

At some smaller and medium-sized airports, however, a consortium is not always possible. “A monopoly could be granted by an airport to enable a supplier to safely invest in infrastructure,” says Michael Baer of Energy for Airlines. “Or it could simply be that the market isn’t large enough to attract competing investments. In these cases, the airport must take the lead and hopefully will recognize that they shouldn’t allow anyone to use fuel as a profit center.”

In Canada, meanwhile, there is an increasing dependency on jet fuel imports to satisfy demand. Projects supporting this change include the Toronto Tank Farm, Vancouver Marine Terminal and Montreal Jet Fuel Terminal.

“Airports must take the lead and not allow anyone to use fuel as a profit center”

Michael Baer,
Energy for Airlines

For a detailed discussion of infrastructure challenges in North America, attend the session Thursday 14th November at 11:05am
Multi-product pipelines (MPP) are an important and efficient means for transporting hydrocarbon fuels such as gasoline, diesel, and jet fuel over long distances.

There is a particularly extensive network in the United States where the major source of supply in the Gulf of Mexico is connected to demand along the east coast and mid-west.

“They are a big deal in the United States and the scale is really impressive,” informs Mike Farmery of fuel consultancy, Clear and Bright. “For example, the Colonial Pipeline that travels up the east coast is over 3,000 miles long.”

In Europe, there are also many MPP but typically measured in hundreds of miles rather than thousands. The biggest network is the Central European Pipeline System, which is based on the old NATO pipeline system built during the Cold War.

Managing quality is an important issue with MPP, not only for jet fuel but for other users. Ground fuels such as ultra-low sulfur diesel (ULSD), which has a maximum sulfur content of 10 parts per million (ppm) require particularly close attention. Contamination of ULSD by jet fuel is a real risk given that jet fuel has a maximum sulfur content of 3,000 ppm.

Accordingly, single grade pipelines are often used to provide reliable, safe and efficient delivery of jet fuel into large airports. However, with the continued growth in airline activity, several of these pipelines are reaching their capacity limits and means to increase supply are being investigated.

Alternatives are not easy to find because building new pipelines is a very expensive solution and may, in many cases, be impractical. Trucking, meanwhile, is a poor solution for large volumes because of the reliability, safety and environmental issues that large numbers of trucks create.
New aviation propulsion systems continue to hit the headlines. Electric aircraft and even hydrogen are beginning to hint at their viability. And though a great deal of research remains to be done in both areas, electric may be a possibility for short-haul operations in 15–20 years.

“For mid- and long-haul flying, an energy transition away from fossil-based fuels and towards sustainable sources of liquid fuel is needed,” says Michael Gill, Executive Director of the cross-industry Air Transport Action Group.

“Luckily, the industry has already been hard at work in this area. Over 200,000 commercial flights have now taken place since we gained certification for the use of sustainable aviation fuel (SAF) in 2011. It is in regular use at five global airports, but the percentage of total fuel use is still very small.”

In fact, SAF represent about 0.01% of total fuel uptake. Clearly, the production of SAF needs to increase dramatically to encourage greater use. There are 11 sustainable aviation fuel production facilities in operation, under construction, or in the final stages of financing.

But, says Gill, “we need to double that production stream and then double it again to start making a noticeable impact on our carbon footprint.”

Governments must accelerate the energy transition to SAF through policy measures that will support the industry’s ambition of halving aviation’s CO2 emissions by 2050.

At the 40th ICAO Assembly in October 2019, governments supported the prioritization of work on developing a long-term goal for aviation CO2 emissions, with that work to be completed for presentation at the next ICAO Assembly in 2022.

“The aviation industry has been very successful in significantly improving fuel efficiency of our operations in the past—with an overall efficiency improvement of 17.3% since 2009—and we expect that to continue,” says Gill.

“But we also recognize the need to do more and for us to start bringing down net CO2 emissions from the sector in the coming decades. The work on a long-term goal, backed up by individual government policy measures to help with the energy transition away from fossil fuels, will provide a coordinated approach to achieve this.”

“Aviation has been very successful in significantly improving our fuel efficiency in the past”

Michael Gill, Executive Director, Air Transport Action Group
Data standards for the entire fueling cycle were developed with airlines and industry partners through the Fuel Data Standards Group. These standards allow a paperless fueling cycle to be conducted, and are available for free download at IATA’s website.

https://www.iata.org/whatwedo/ops-infra/fuel/Pages/data-standards.aspx

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