For the foreseeable future, aviation will continue to blend human performance and state-of-the-art technologies. It requires staff to follow standards and regulations while using their initiative when necessary.

This balance between following policy and procedure and applying good judgment can be difficult to achieve. Several factors can affect both sides of the equation.

Fatigue, for example, equates to a deterioration in performance. Stuart Fox, IATA’s Director of Flight Operations, noted in his presentation at the Human Factors Technical session that personnel, including those involved in fueling aircraft, can suffer from tiredness. It is not a concept reserved for pilots, cabin crews and engineers.

Fueling requires shift work and this can cause an issue known as circadian desynchronization, essentially putting your body through abnormal patterns of sleep and wakefulness. People don’t realize how their judgement gets eroded and so there needs to be support layers to ensure mistakes aren’t made.

Reporting fatigue is critical. It happens with pilots, cabin crew and engineers but isn’t applied across the board. Reporting is an essential component in Just Culture, a concept that encourages staff to report problems. Just Culture doesn’t protect from gross negligence but allows people to open up about such matters as fatigue.

The importance of this was highlighted by ExxonMobil’s Martin Tippl. He noted that fatigue can also be a barrier to effective safety communication. The aim is to ensure the receiver always takes the correct safety action and Tippl described how to maximize the chances of this happening. He added that it is important to think about the content of the message and also for whom the message is intended.

Combining the three concepts of people, process and performance can be used to balance perspective in any message although any one aspect can dominate depending on the communication. Word choices, emphasis, tone and the workplace environment are factors, but at heart it is about making an emotional connection.
At your service with 32 airports in Panama, Peru, Dominican Republic and Colombia.
Close collaboration between fuel and environmental teams will be critical to ease industry transition to new energy sources.

The work is part of aviation’s commitment to reduce its CO2 impact made a decade ago. Since that time, the average annual fuel efficiency improvement has reached 2.3% largely thanks to vital breakthroughs in engines and airframes.

Moreover, more than 200,000 commercial flights using sustainable aviation fuel have taken place and if the correct government policies and incentives are in place this will increase sharply.

Even so, the journey to achieve a 50% reduction in CO2 compared with 2005 levels by 2050 has reached a critical point with increasing internal and external pressure. A recent story on fuel tankering and the flight shame movement highlight the continuous scrutiny of aviation’s environmental responsibility.

In addition to the Carbon Offsetting Reduction Scheme for International Aviation (CORSIA), the global market-based measure agreed on at ICAO, IATA is working on Waypoint 2050, an initiative that will assess the many components necessary for aviation to hit its 2050 target.

Electric aircraft, for example, depend on improving battery technology. Energy density is the key and a significant advance must be made before commercial electric are seen in the skies. Though this is unlikely in the short term, regionalsized electric aircraft could be flying at some point post-2030.

Hydrogen, meanwhile, might have a limited penetration due to its incompatibility with existing infrastructure.

Most important, however, is ensuring the public and governments are aware of aviation’s efforts so that informed decisions are made to encourage carbon emission reduction. Aviation represents just 2% of total emissions but that is still a significant figure and the industry is taking seriously its responsibility to reduce it.

Time will tell if the 2050 target is enough, but it is a meaningful goal and no other industry has taken such a proactive stance.

“There is also a lot of education to do on aviation’s social and economic benefits,” said Michael Gill, IATA’s Director, Aviation Environment. Aviation supports 65 million jobs and close to $3 trillion in economic generation.
Fuel Forum Networking Evening
IATA AVIATION FUEL FORUM

19–21 May 2020
Berlin, Germany

Save the Date!
Refineries have the keen interest of the airline community as carriers look to ensure jet fuel supply at a competitive price.

But refineries are complex places and have a whole suite of considerations when deciding what to produce from their crude oils.

A session on refinery insights revealed that there are over 250 crudes in the marketplace, so choosing which ones are most appropriate to optimize refinery economics is a challenging task. Crudes vary in price but so too do the final products.

Typically, the more difficult it is to process the crude, the cheaper it is. Brent, for example, is a sweet crude and therefore more expensive than many sour alternatives. The end products, though, tend to be higher in value.

Refineries aren’t created equal, however. Not all can process all crudes and products, so a complicated evaluation is involved.

Delta Air Lines’ refinery provided an example. The carrier is unique in owning the facility. It has done so since 2012 and is reported as a great success by the airline.

There are 144 crude assays—distinctive chemical compositions—at the Delta Air Lines refinery, each with more than 700 properties.

And Delta’s is a simple refinery compared with the mega-refineries of the Middle East and Far East.

Computerized models are used to determine which crudes to buy at what price and then what products to make, as well as volumes and grades. These models are constantly adjusted to accurately reflect crude blends and process requirements. They will even account for planned—and unplanned—outages of various process units.

Refineries have to note that supply and demand varies by region too. The United States, for example, is a net exporter of jet fuel thanks to its oil industry. Generally, competition takes place on a local and global level, further complicating the decision-making process.

Transportation is another element in the mix, both to and from the refinery. Products can usually be moved by pipe, ships, rail and even road. Each have their costs and time to market.

Refinery optimization, and the amount of jet fuel produced, is therefore dependent on a host of factors, any one of which can affect the price of the fuel.
Aviation Fuel Management Training

Develop best practices to better manage one of the key costs for every airline. This course will help you to determine an airline's priorities and improve overall performance through a strong understanding of specifications, cost line items, pricing formulas, and market segmentation. This is a practical course with multiple in-class activities, including a presentation of the IATA Fuel Supply Model Agreement and a simulation exercise on the fuel tender decision making process.

Classroom and In-Company Course (3 days)

Find out more at www.iata.org/training-fuelmgt