

City Talk

In our hot pursuit of carbon neutrality in 2030 and zero carbon in 2050, the transport sector is doing its best to achieve this goal.



Nuts and bolts

Edmund Leung

The rapid replacement of internal combustion engine vehicles by electric vehicles has allowed marked improvements in reducing roadside air pollution, no doubt helped by government action to reduce road tax and provide subsidies for purchase, as the financial incentive can attract a lot of new users.

For marine applications, battery-driven vessels are still not common, but the use of low-sulphur diesel has helped to reduce air pollution with less sulphur dioxide and trioxide emission, though it does not help to reduce carbon emissions.

For air transport, the Airport Authority, working together with airline companies,

is doing its best to pursue the carbon-reduction goal, which aims to achieve net-zero carbon emissions by 2050.

Apart from various initiatives such as experimenting with renewable diesel fuel for landside operations, replacing conventional vehicles with EVs and many other innovative moves, the AA is promoting the use of SAF – or sustainable aviation fuel – which has seen increasing usage by airlines and airports worldwide.

In the 2025-26 budget, SAF received special mention, with Financial Secretary Paul Chan Mo-po advising that, following the completion of a study by the AA, the

Sustainable aviation fuel helping HK achieve multiple goals



Fuel oil tank farm at HK International Airport. PHOTO: AIRPORT AUTHORITY

government will announce its consumption target this year.

We are all aware that aircraft use a large amount of fossil fuel. Worse than that, the amount used at takeoff is a large proportion of the total amount used in a journey, as a lot of energy is consumed to provide the necessary lift from the ground to reach the flying altitude.

Once in flight, with the rarified atmosphere at 3,000 meters, fuel consumption is vastly reduced as air resistance then becomes much smaller.

Because of this, there is a relatively large amount of carbon emission at or near the airport, which we should manage, as it would affect our ability to achieve the carbon-reduction goal.

It is obvious that, when we have already achieved sizable reduction in carbon emission on land, we should focus on other areas to reach the reduction targets with effective actions for marine and air transport.

International research estimates that, with application of SAF, carbon emission can be reduced as much as 80 percent.

So, how can we proceed to achieve that?

Aircraft engines, mainly using gas

turbines instead of internal combustion engines, are less sensitive to fuel types, and most modern aircraft can burn a mixture of kerosene and SAF of up to about 50 percent without affecting longevity and reliability of their power train.

But the present issue is the limited supply of SAF.

SAF can be manufactured in a variety of ways, but the production volume is constrained mainly by supply of feedstock.

To comply with the sustainability goal, the source must either be from renewable source, non-fossil fuel, or from waste. In a busy city like Hong Kong, there is a large potential of waste oil available to be converted.

We have a large quantity of waste oil from restaurants, apart from industrial and land transport applications.

There are already many established methods for upcycling waste oil. Biodiesel is one of the known applications, but its production is confined to only certain types of waste oil, mainly lubrication oil.

Ecoceres, a subsidiary of Towngas in Hong Kong, is established to produce SAF.

Though waste fats, oils and greases, agricultural waste and non-food crops can

all be used to manufacture SAF, Ecoceres mainly use waste cooking oil and wood biomass due to limited supply of other waste products.

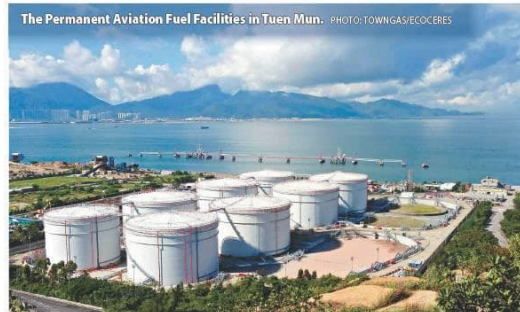
The amount it can collect from local sources is small, limiting its production volume but, hopefully, with wider publicity, it would help if the public collect waste oil and waste wood products for this purpose, significantly reducing risks of waste oil polluting our sewage systems and waste wood being dumped in landfills.

At this time, the production quantity is still small and can only supply a small percentage of the current aviation fuel used by airlines, but the room for growth is huge as we have not yet fully explored its potential.

It will take time before this initiative receives good attention for a much wider application.

Carbon reduction is now a clear goal for us, but when we are able to devise an eco-system to achieve it, we can also help to reduce air and water pollution at the same time.

Veteran engineer Edmund Leung Kwong-ho casts an expert eye over features of modern life



The Permanent Aviation Fuel Facilities in Tuen Mun. PHOTO: TOWNGAS/ECOCERES

Plenty more to see in festival underlining city's role as global arts hub

The much-anticipated 53rd Hong Kong Arts Festival opened in late February and will run until March 29. It features over 1,300 local and international artists in over 125 performances across 45 programs.

This year's festival emphasizes Hong Kong's unique cultural identity and role as a global arts hub, offering an eclectic mix of world-class orchestras, opera, contemporary dance, experimental theater and more.

Beyond the performances, HKAF engages with the community through over 300 outreach events.

These include educational programs for students, activities for community groups, and the popular PLUS events, including exhibitions, masterclasses, workshops, backstage tours, artist talks, film screenings and cultural tours.

These initiatives promote deeper engagement, ensuring the arts remain accessible to everyone.

The festival is deeply rooted in Hong Kong's heritage. It celebrates Chinese opera and local traditions while forging a connection between tradition and modernity.

Last week's breathtaking performance of Austrian composer and conductor Gustav Mahler's (1860-1911) monumental Third Symphony by the Hong Kong Philharmonic Orchestra stood out as a festival highlight.

CULTURAL EXCHANGE

BERNARD CHARNWUT CHAN



Under the masterful baton of esteemed Italian conductor Daniele Gatti, the performance showcased the remarkable talents of Canadian mezzo-soprano Michèle Losier, along with the Ladies of the Hong Kong Philharmonic Chorus and the Hong Kong Children's Choir.

With over 200 performers on stage, this awe-inspiring production captivated a full-capacity audience, emphasizing the grandeur and emotional depth of Mahler's masterpiece.

As the festival concludes, audiences still have time to experience outstanding performances like Malevo, Argentina's explosive all-male ensemble.

Malevo combines traditional malambo folk dance with a bold, modern twist to deliver a high-energy spectacle that captures the passion and strength of Argentina's gaucho spirit.

Their electrifying performances have garnered rave reviews and sold-out shows worldwide, including in Las Vegas, New York, London, and Sydney. They have also captivated millions of fans online.

The 53rd Hong Kong Arts Festival is more



Argentina's explosive all-male ensemble Malevo, which combines traditional malambo folk dance with a bold, modern twist, has garnered rave reviews and sold out shows worldwide, including in London. AFP

than just a festival; it celebrates creativity, connection, and international cultural exchange.

As it approaches its conclusion, it leaves an indelible mark on Hong Kong's cultural landscape, inspiring both audiences and artists. Don't miss the opportunity to experience this

extraordinary showcase of global talent. Visit the official HKAF website for tickets and the final program lineup.

Bernard Charnwut Chan is chairman of Tal Kwun Culture & Arts Co Ltd