# Ethical CORPORATION MACAZINE

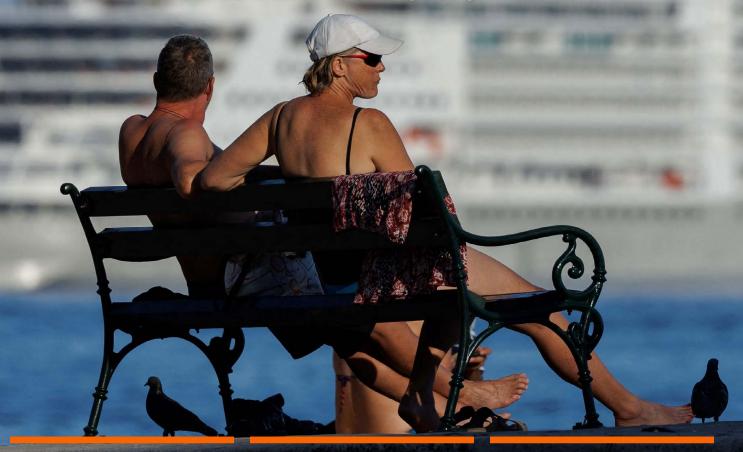
TRAVEL AND TOURISM BRIEFING

June 2022

### CANTOURISM

tread more lightly?

Travel industry pledges to clean up its act as it zooms back post-pandemic



The rocky road to 'guilt-free' travel

Tailwind grows behind tackling aviation emissions

Hotels try to get their house in order





### Welcome to the Summer 2022 issue:

### Travel and tourism briefing

ith the travel and tourism industry roaring back to life after going into hibernation due to Covid, we take a timely look at the state of sustainability in the sector in our summer issue.

We last featured travel and tourism in the magazine in January 2019, just before the pandemic took hold and the world went into lockdown. While many other sectors were able to shift to working online during the pandemic, travel and tourism fell off a cliff after two decades of surging growth, which saw international tourist arrivals hit 1.47 billion, a doubling since 2000.

As the industry cranks up again, the World Tourism and Travel Council (WTTC) has called for it to be rebuilt on a more sustainable and resilient model "that balances the needs of people, planet and prosperity with net-zero commitments and climate action playing a key role" in its recovery.

The sector's climate footprint is substantial, accounting for 8%-11% of global greenhouse gas emissions (GHGs) in 2019. Accommodation comprises 21%, while 75% comes from transport.

According to WTTC, 61% of global travellers say the pandemic has made them want to travel more sustainably, and 69% expect the travel industry to offer more sustainable options.

In this edition of the magazine we check in with each part of the industry to assess how they are responding to the challenge of getting onto a sustainable growth path after two years of lack of revenue.

Mark Hillsdon opens the issue by reporting >

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on the hospitality sector, which has been slow out of the blocks in addressing its impacts in energy and water use and prodigious production of waste. With the launch of the WTTC's Hotel Sustainability Basics initiative, the idea is that no hotel, however small, is left behind in the push to introduce sustainability. He also looks at a bid to bring 'regenerative' tourism to the Red Sea.

Angeli Mehta reports on the drive to turn tourism from prime threat into saviour of global biodiversity by channelling funds from the multi-billion-dollar industry into protecting nature. Nature tourism is already a big contributor to global GDP, generating \$600 billion in income in 2015, but only 2% of that sum was invested in preserving nature, according to the International Union for Conservation of Nature.

Book a flight for business or leisure these days, and you'll likely be given the option of "carbon-neutral" travel by purchasing offsets. With criticisms of voluntary offsetting well-rehearsed, particularly in regards to its failure to account for the true social cost of carbon, Angeli Mehta reports on efforts to make the market more transparent, and deliver tangible benefits for nature and local communities.

With business travel forecast to fully recover by 2024, Mike Scott asks whether companies will heed a campaign by U.S. and European NGO Environment & Transport to reduce corporate travel emissions by 50%, compared with 2019 levels. While one study found that tackling climate change is now the top priority for 88% of the business travel sector, only 14% think the industry is well advanced in adopting greener practices, like alternatives to air travel and taking fewer trips.

He also reports on the tailwinds growing behind tackling aviation emissions. With sustainable aviation fuels in commercial quantities still more than a decade away, the sector is focusing on efficiency improvements and electrification.

And we end the issue with a look at the cruise industry. Caroline Palmer reports that while the fastest-growing sector of the travel industry is vowing to clean up its outsized environmental and social impact, it faces some choppy seas ahead.





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## Hotels sector strives to make up lost time on sustainability

The industry has been slow out of the blocks in addressing its large and myriad environmental impacts. **Mark Hillsdon** reports on some that are leading the way

**VIEW ONLINE** 

erhaps one day all hotels will be built like Svart, a sustainable haven at the foot of the Svartisen glacier in Norway. Due to open in 2024, it is billed as "the world's first energy-positive offgrid destination" and comes with an exceptional sustainability pedigree.

The circular hotel will sit on stilts above a fjord, explains Ivaylo Lefterov, Svart hotel's managing

director of hotel developments. Its roofscape will make the most of the long Scandinavian summer days, with solar panels harvesting enough energy to power the 94-room hotel, as well as the adjacent farm and fishery. Surplus energy will be fed back into the local grid, ultimately offsetting the energy need of construction.

The hotel is part of the Six Senses brand, a long





time, high-end leader in creating sustainable hotels, and will operate as a total circular economy, with technology that captures waste heat to create energy, and its own waste management and recycling facilities. Ninety percent of everything the hotel needs will come from within a 20-mile radius, explains Lefterov.



### We are aware the tourism sector needs to transform faster. But sustainability is a process

**DR DIRK GLAESSER, UNWTO** 

The company is also looking at ways to offset guests' carbon emissions by investing in local environmental projects, and guests will also be given the opportunity to find out more about the importance of sustainability, says Lefterov.

"Unless the consumer has a change of mindset, it doesn't matter what we do, we are never going to progress," he says. Ultimately, he hopes that the ethos and the technologies at Svart will be seen as a blueprint for others to follow.

While tourism may have been slow out of the

blocks when it comes to sustainability, there are now attempts to galvanise the sector into action. Last year's COP26 climate conference in Scotland saw the launch of the Glasgow Declaration on Climate Action in Tourism, with the now familiar mantra of halving emissions by 2030 and reaching net zero by 2050.

More than 500 travel-related businesses have signed up to the World Tourism Organization (UWWTO) initiative, which is designed to accelerate climate action at every level of the industry, with the emphasis on collaboration between stakeholders. The declaration falls within the framework of the One Planet Sustainable Tourism Programme, and its goal is to increase sustainable consumption and production (SCP) in the sector.

As tourism grows, partly on the back of a post pandemic bounce, says Dr Dirk Glaesser, director for the sustainable development programme at the UNWTO, "we are aware of the needs of the tourism sector to transform significantly faster.

"(But) sustainability is a process, it is not just something you can certify," he continues, which is why the non-competitive sharing of information and best practice, which has grown over recent years, is such an important part of tourism's sustainability push.

Paloma Zapata, chief executive at Sustainable Travel International, agrees that when it comes to sustainability, travel and tourism is "late to the game", but says things are starting to change.

Svart hotel at the foot of the Svartisen glacier in Norway will be energy positive and off grid when it opens in 2024.



"There is a lot of pressure from all sorts of directions," she says, including clients, employees, government regulations and investors, who want to see their money create more than just economic value.

Sustainable Travel International partners with hotels to help them recognise and address their impacts, explains Zapata. Bigger brands are already conscious of their sustainability obligations through accreditation schemes and the bigger ESG (environmental, social and governance) picture, she says, and while smaller luxury hotels may have a higher footprint, "they have the means to be able to innovate".

#### **GETTING DOWN TO BASICS**

That leaves a large rump of medium-sized, often family-run, hotels in the middle, and it's these properties that struggle taking the first step towards sustainability, she says. "We are getting a lot of enquiries from people running hotels saying, 'I know I need to do something in sustainability, but I don't even know where to start'," she explains.

This is the problem that the World Travel & Tourism Council (WTTC) has set out to solve with its Hotel Sustainability Basics initiative. Launched in April, it is based around a set of criteria that

Smaller, often family-run hotels, are lagging behind in terms of sustainability. Inset: Clean the World charity recycles some of the estimated 3.3 million bars of soap used in hotels every day.

all hotels should implement as an absolute minimum, explains Christopher Imbsen, director of sustainability at the WTTC. The idea is that no hotel, however small, is left behind in the push to introduce sustainability, he says.

Although the programme takes three years to complete and involves 12 separate areas, the first eight actions have been designed to be relatively simple, the last four much harder. They include actions to measure and reduce energy, water, waste and carbon emissions, along with measures around reusing linen, using green cleaning products, and eliminating single-use plastic. So far, more than 50,000 hotels have signed up.

"These are criteria that everyone could and should be doing as a bare minimum," says Imbsen. "These are the non-negotiables that can raise the



CLEAN THE WORL

level of sustainability within the whole industry."

He expects more regulation to come in as governments set about meeting their own sustainability targets. "It's about getting ahead of the game. It's much more costly to react to these things than be proactive."

The initiative is seen as a stepping-stone to more in-depth programmes such as the Sustainable Hospitality Alliance's Pathways to Net Positive Hospitality, which takes a holistic view of environmental sustainability and is again focused

on collaboration and sharing tools and resources. Based on industry insights and best practice, the pathway lays the sustainability journey out as four key stages with varying levels of ambition.

The alliance represents 25% of the global hotel industry by rooms. Claire Whitely, the organisation's head of environment, believes that the sector "has woken up more to both the impacts that hotels can have on the environment but also the potential impacts that issues like climate change can have on them".

### Five key areas that the industry needs to address:

### Food waste

ADDRESSING FOOD waste is one of the industry's most pressing priorities. Figures for the UK alone estimated that one in six hospitality meals are thrown away, yet as food waste breaks down it creates methane, a greenhouse gas 25 times more potent than CO<sub>2</sub>.

At Accor, the company is trialling artificial intelligence to analyse leftovers in two of its Netherlands' hotels. The system weighs and scans what is thrown out by kitchen staff, allowing chefs to use the data to adapt menus and save food. So far it has helped to reduce food waste by 25%.

The group also partners with Too Good To Go, an app that connects local people with restaurants offering their unused products at reduced prices. Over 900 of the group's hotels had used the app to save more than 650,000 meals in 17 countries.

Several hotel brands have also worked with food waste specialists Winnow, including the Radisson Blu hotel in Dortmund, where they helped chefs make better decisions and minimise over-production. Over an initial period of 10 months, the hotel managed to reduce its food waste by 34%. Disappointingly, however, many of the projects carried out with the likes of Winnow rarely make it past the pilot or trial phase, showing a lack of ambition from the sector.

In the UK, as part of a goal to



cut food waste in half by 2030, Premier Inns has partnered with food redistribution charity FareShare, diverting millions of tons of excess stock from landfill each year.

Elsewhere, working with WWF and the American Hotel & Lodging Association, Hyatt is producing food waste-prevention training materials, which it has made available as an open-source tool. Later in the year the UNWTO's One Planet programme will launch a global food waste campaign for tourism that will look to advance thinking around circularity, as well as biodiversity protection.



### 2 Sustainable sourcing



LOCAL SOURCING and plant-based menus are among the ways in which hotels are cutting the impact of the food they serve. Soneva, which runs luxury resorts in Thailand and the Maldives, has removed beef from all its menus, cutting its environmental impacts by 7%, while an increasing number of hotels are offering vegetarian and vegan options. Between 35-40% of a typical Radisson menu is now meat-free, while Accor is partnering with the meat-alternative brand Zrou to bring more plant-based alternatives to its hotels.

Accor is also developing local sourcing programmes, and now has urban gardens at more than 1,150 of its hotels. The group is also trailing aquaponics, which uses less water, space and soil compared with traditional gardening, at two Singapore hotels, Swissotel The Stamford and Fairmont.

The brand also has a dedicated ocean strategy and reporting policy based on the Ocean Framework, which uses the international Ocean Approved label. The group has banned six endangered fish, as well as locally

threatened species, from its menus and, where possible, ensures wild and farmed fish products are sourced from sustainable fisheries.

Whitbread, which owns Premier Inn in the UK, sources only cage-free eggs and Marine Stewardship certified (MSC) wild-caught fish. It is also a member of the Roundtable on Sustainable Palm Oil (RSPO), and, as the largest UK buyer of cotton after the NHS, is a member of the Better Cotton initiative, supporting 1,600 farmers in Pakistan in sustainable agriculture in partnership with CottonConnect.

### **3** Plastics



WASTE PLASTIC is a huge issue for the hotel sector, and with around 80% of tourism taking place in coastal areas, stopping plastic getting into the sea is a major challenge. For instance, marine litter in the Mediterranean increases by 40% during the peak tourist season.

At Radisson alone, changing to larger dispensers for soap and shampoo is set to remove 57 million miniature bottles from circulation, and eliminate the use of almost 500 tons of plastic a year. Linked to this, over 8,000 hotels, including several major chains, work with the charity Clean the World, which is recycling some of

the estimated 3.3 million bars of soap used in hotels every day.

Another programme under the UNWTO's One Planet Network is the Global Tourism Plastics Initiative. It requires organisations to make a set of commitments, which include eliminating problematic or unnecessary plastic packaging items by 2025, moving away from singleuse plastic items and working with suppliers to ensure 100% of plastic packaging is reusable, recyclable or compostable.

In 2020, members including Club Med, The Hongkong and

Shanghai Hotels, and Iberostar, eliminated more than 108 million plastic items and packaging, totalling over 800 tons.

While brands such as Accor have pledged to eliminate single-use plastics at hotels by the end of 2022, others such as Soneva were ahead of the curve, first banning plastic straws in 1998, with plastic bottles following suit 10 years later. Bathroom amenities are now provided in ceramic dispensers, too, while the next step is to eliminate plastic in the supply chain, and slash the use of Styrofoam boxes, which are a huge challenge in the Maldives, by 99%.

### 4 Water



CURBING WATER USAGE is one of the most critical issues for hotels. According to the Sustainable Hospitality Alliance, countries forecast with the highest water stress in the coming years are also amongst those with the greatest tourism growth "putting hotel companies at the forefront of current and future water challenges".

The Sustainable Hospitality Alliance has a free resource, the Hotel Water Measurement Initiative, providing a methodology for hotels to measure and communicate their water consumption. It is used by over 18,000 hotels globally.

The alliance says a hotel can use an average of 1,500 litres per room per day, which in some locations can be over eight times more water than that used by local people.

It is not uncommon for hotels in remote locations to develop their own water supply and using a mixture of reservoirs, deep boreholes and a process called reverse osmosis (RO), Soneva bottles its own water on site, and avoided using an estimated 2 million plastic bottles.

At the Radisson Blu Hotel Waterfront in Cape Town, the hotel's fresh water now comes through its own desalination plant. A borehole sunk underneath the hotel allows it to harvest sea water, which is pumped through a reverse osmosis plant to keep the hotel's freshwater tank full, allowing it to operate completely separately from the municipal water supply.

The water management plan in Radisson Blu Resort Fiji Denarau Island involves the use of sustainable water supplies such as rainwater, storm water and treated wastewater. Dual flush toilets have been installed in bathrooms, while taps and shower heads are fitted with low-flow water inhibitors.

Nordic specialist Scandic has gone back to basics in its hotels, using stickers to remind guests that simply turning off the tap while they brush their teeth can save 25 litres of water per guest a day.

Water use is also a big contributor to a hotel's carbon footprint, with that of a hotel with a golf course and spa as high as 125kg of CO₂ equivalent per occupied room per night, compared with 5kg at an eco-hotel, according to Jason Long of travel management firm HRS. (See also Can business adopt a more sustainable flight-path post-Covid) ▶

### **5** Energy



THE HOTEL SECTOR accounts for around 1% of global carbon emissions, with onsite energy use being the biggest single reason for the sector's contribution to climate change.

Later this year, two Iberostar properties in Spain and Montenegro will become fully electric, with kitchens, heating systems and hot water boilers all switched from gas. This year will also see all the company's Spanish properties moved to a renewable energy tariff.

Fifty-six properties in the Radisson portfolio now run on 100% renewable energy, while the group has also installed 500 electric vehicle charging stations. The Radisson RED Dubai Silicon Oasis hotel has received the LEED Platinum certification from the U.S. Green Building Council for its environmentally friendly building design. Sustainable highlights include solar panels for heating water, SMART hot water mixing, and occupancy and motion sensors to control lighting and temperature in guestrooms.

Another brand recognised by LEED is ITC Hotels, whose Grand Chola

hotel, Chennai, has received Zero Carbon certification. The vast 600-room hotel officially has no carbon footprint, generating power through its own wind and solar farms, while using steam from its boilers to power laundry services. A process called atmospheric distillation also means that the hotel's primary water source is the atmosphere.

Last year, IHG Hotels & Resorts (InterContinental) collaborated with design consultancy Arup, and energy management specialist Schneider Electric, to produce a report on how existing hotels can become net zero mainly through reducing on-site energy consumption. With 80% of the buildings that will be standing in 2050 already in existence today, retrofitting of existing buildings has to be a key focus for the sector, the report said.

Among its recommendations were better controls and monitoring, improvements in building fabric to improve energy efficiency, upgrading of air conditioning, as well as onsite renewable energy generation.

Simon Gill, global lead of Arup's hotels and leisure business, said in a forward to the report that hotel owners' decision-making is typically influenced by factors like asset value and rentable income, rather than decarbonisation. Yet "there are signs that some institutional investors are divesting carbon intensive hotel assets as the likelihood of global carbon regulation mounts, creating uncertainty for long-lived carbon-intensive hotels."



Mark Hillsdon is a Manchesterbased freelance writer who writes on business and sustainability for The Ethical Corporation, The Guardian, and a range of nature-based titles including CountryFile and BBC Wildlife.



audi Arabia's coast with the Red Sea sprawls 28,000 sq km, and is punctuated by an archipelago of nearly 100 untouched islands, dormant volcanoes and huge desert dunes backed by mountains and wadis.

By 2030, 70 new hotels will be welcoming guests as part of the Red Sea Development Project, an initiative that describes itself as a new regenerative approach to tourism, and has so far received little or no criticism from conservation-based non-governmental organisations (NGOs).

According to the project's chief environment and sustainability officer Raed Albasseet, the aim is to achieve a 30% net conservation benefit by 2040, which will be achieved by rehabilitating biologically diverse habitats including mangroves, seagrass, corals and land vegetation.

"Such an ambitious target must be met by innovative means, and we've explored new technologies such as 3D coral printing and coral farming processes to boost coral populations," he explained.

The project has partnered with scientists from the King Abdullah University of Science and Technology (KAUST) who undertook a huge marine spatial planning simulation to assess the potential impact of

development on marine ecosystems and habitats.

KAUST's professor of marine science Carlos Duarte has argued that the study shows that "development verses conservation is a false dichotomy" and that by embracing conservation as a primary goal, they can "deliver a net positive economic, social and conservation impact".

As well as the marine environment, a 100-hectare nursery will provide 25 million indigenous plants to landscape the development.

Once operational, the project will be powered solely by renewable energy and will feature the world's largest battery storage facility, capable of holding 650,000 megawatt hours (MWh) of energy and saving nearly half a million tons each year. There will also be a "zero waste to landfill" policy that will be met by a circular waste management system, alongside zero discharge to sea and zero single-use plastics.

Eventually employing 35,000 people, project developers have also launched an Elite Graduate Program, offering local graduates on-the-job training in departments such as hospitality, smart destination and sustainability.

Mark Hillsdon



# The drive to turn tourism from a prime threat to saviour of global biodiversity

Angeli Mehta reports on the delicate balancing act required to channel funds from the multi-billion dollar industry into protecting nature, rather than destroying it

ou might have thought that when the pandemic brought tourism to a sudden halt, it would have been good for nature. Some areas overrun by tourists fell quiet, and animals roamed more widely, while trampled flora began to recover. But the impact on species and ecosystems wasn't all positive.

"What we saw very clearly, when tourism had evaporated, was that people really started to wake

up to how important the sector was," suggests Anna Spenceley, an independent researcher and chair of a specialist working group on protected areas for the International Union for Conservation of Nature (IUCN).

"Conservationists realised: hang on ... communities are no longer getting any benefit from (tourism). And now they're going to start hunting whatever we have tried to protect in our >

conservation area, because they've got no money coming in," says Spenceley.

Coming out of the pandemic, conservation groups, governments and some tour operators are trying to promote a more sustainable approach to tourism, reframing relationships with nature to encourage biodiversity rather than degrade it. And surveys suggest travellers do want to take a more sustainable approach.

But it's a delicate balancing act. Brian O'Donnell, director of the Campaign for Nature, acknowledges that "tourism can be both one of the biggest drivers of biodiversity loss, or a vehicle for biodiversity conservation. And it all comes down to the policies in place from governments, and the approaches that the tourism operators, and the tourists themselves take."

There is plenty of guidance for those multiple actors, from a framework drawn up by the Convention on Biological Diversity, guidelines from the IUCN, and criteria developed by the Global Sustainable Tourism Council. The latter sets out minimum requirements for both governments and tourism businesses to sustain natural resources. A hotel industry grouping, the Sustainable Hospitality Alliance, has an environmental action planner covering biodiversity impacts such as chemicals use or informing guests about the local environment.



### Tourism can be one of the biggest drivers of biodiversity loss, or a vehicle for biodiversity conservation

**BRIAN O'DONNELL, Campaign for Nature** 

Getting the balance right is even more important as we stand on the threshold of tipping points that will see irreversible loss of biodiversity. Negotiations on a post-2020 global biodiversity framework centre on getting agreement to protect 30% of land and oceans by 2030. Previous targets have come and gone, unmet over the years, and the so-called 30x30 is a last-ditch attempt to stop the rot. But time is tight. It's still not clear when the U.N. COP15 Convention on Biological Diversity summit to ratify the framework will take place. It was originally planned for 2020 in Kunming in China – and after several moves is now mooted to take place in October this year.

Is tourism compatible with the 30x30 vision? It's certainly possible that having an expanded range of protected areas might help disperse tourism



away from some of the most crowded places on the planet to others that are overlooked. However, tourism might not be compatible with all forms of protected areas, such as strict nature reserves or wilderness areas, says Spenceley.

That will mean funding for conservation will have to be found from other quarters such as debt for nature swaps (where a portion of developing nations' debt is forgiven in exchange for local environmental or conservation measures), or state funds, or philanthropy. Alternatively, she adds, "governments will need to decide to leave those areas alone completely, keep them isolated and keep people out of them, which also is a good option in many circumstances".

So far, tourism has been raised in the negotiations only in terms of closing the multi-billion funding gap for biodiversity that exists, because of a lack of government finance. Where and how big a role the tourism sector will play won't be addressed until countries formulate national biodiversity and finance plans after the COP 15 biodiversity conference.

#### **NATURE TOURISM**

But researchers who looked at the economic implications of the proposed 30% target found that such conservation efforts can lead to tangible economic gains. In the nature sector, much of the anticipated growth in revenues comes from an increase in nature tourism. For example, wildlife watching in Africa is expected to drive expansion of the continent's tourism. >

A Thai wildlife department officer stands guard at Maya Bay in Thailand after a threeyear closure to allow its ecosystem to recover from overtourism.





### Tens of thousands of tourists go to see these natural wonders, and so the profits are directly related to biodiversity and nature

#### **BRIAN O'DONNELL**

Nature tourism is already a huge contributor to global GDP, but the IUCN has found that while global protected areas generated over \$600 billion in income in 2015, just 2% of that sum was invested in preserving them.

"Tens of thousands of tourists go to see these natural wonders, and so the profits of these companies (that take the tourists) are directly related to biodiversity and to nature. But you don't see a reinvestment from those companies into maintaining, sustaining and conserving that nature," says O'Donnell. "You can look at that as extractive tourism where we are taking from the reef, taking from the glaciers or the inlets in order to make a profit, but what is the reciprocal relationship to ensure that those places endure?"

One example is the previously unspoilt setting for the film "The Beach", which catapulted Maya Bay on the Thai island of Phi Phi Leh into a tourist destination. Those visitors generated some £9.5 million in revenues, but coral reefs were destroyed, reef sharks disappeared from their nursery waters and rubbish piled up. So Thai authorities closed the bay to visitors in 2016, reopening earlier this year with strict rules and limits on visitor numbers.

Governments could look at entrance fees to park and cruise ship and lodging taxes – already used in different destinations. But the income those measures generate needs to stay in the locality, says O'Donnell, so communities see the benefit and the money can be used to manage the environment and safeguard the very ecosystems that visitors have come to enjoy.

Some countries in Africa, such as Kenya and Namibia, have taken a conservancy-based approach, where responsibilities are devolved to local communities who have intimate knowledge of the land.

Take the Northern Rangelands Trust, a grouping of 43 conservancies covering 11% of Kenya's arid landscape. Opportunities for commerce are limited, and a changing climate means it's challenging to make a living from livestock farming. But tourism, here centred on wildlife, brings job opportunities within the accommodation and facilities, says lan Craig, director of conservation and founder of the

Ranger Sophia
Abdalla and
a community
member
from the
Pate Marine
Community
Conservancy,
a member of
the Northern
Rangelands
Trust, harvest
mangrove
seeds in
Kenya.



trust. "That raises awareness of the value of wildlife within a local community that may have lived with wildlife forever, but had never seen any financial or economic incentive to protect it."

Now there are community-run sanctuaries for endangered species such as black rhino; degraded land is being restored and mangroves planted in coastal areas.

But one critical aspect of the trust's work is "bringing communities into coordinated forums to enable investment", says Craig. "I don't think there are good standards yet, for the tourist industry investing with, in (and) through local communities."

Understandably, operators want to maximise profits, but multiple layers of costings and payments can be opaque. "There are good and bad and there are different standards," says Craig. "But the narrative that this is a community project, so they're the people making the money ... they might be, but there's no transparency on how the money flows".

There are a raft of guidelines and examples of best practice in supporting livelihoods, but these don't necessarily tackle inequities in wealth distribution head on. As the industry recovers from the pandemic, the Future of Tourism Coalition has set out a series of guiding principles including a call for policies that counter unequal tourism benefits within destinations and maximise retention of revenues for communities there. Operators should "take a holistic view of sustainability and conservation, which includes the social and economic wellbeing of the local community," says Gregory Miller, executive director of the U.S.-based Center for Responsible Tourism and one of the coalition's founders. It's about "really looking at what it takes to be a good destination steward".

He acknowledges that often communities have no leverage, so "it's very important that the responsible traveller, and responsible travel companies, know where the responsible operations are, and are not. They have to begin to ask those questions in a thoughtful, critical and informed way. We should be demanding that every operation is transparent, and that they understand that people are looking at them for their footprint and their impacts." Attitudes are starting to change, but it needs to be amplified, he adds.

In another forum, the 500-plus signatories to the Glasgow Declaration on Climate Action in Tourism this decade have committed to restore and protect ecosystems, including safeguarding biodiversity. They've also undertaken to support the communities at risk from climate change through adaptation measures and building resilience. Indeed, some of the most biodiverse regions – often those most attractive to tourists – are found in areas of the planet that are themselves particularly vulnerable to the impacts of climate change.

It's an impact travel may only exacerbate through ballooning emissions from aircraft.

Squaring that circle is the challenge for the tourism industry.



Angeli Mehta is a former BBC current affairs producer, with a research PhD. She now writes about science, and has a particular interest in the environment and sustainability. @AngeliMehta.

Tourist boats, carrying whale watchers, surround a pod of resting sperm whales off the coast of southern Sri Lanka.

ook a flight with an airline these days and you may have the option to offset your share of the carbon dioxide emissions from that journey. It may be a route to guilt-free flying, but is it a route to emissions reduction?

Tourism is an emissions-intensive industry – responsible for around 8% of global carbon dioxide emissions. Since last November's COP26 climate summit in Scotland, more than 500 companies have signed up to the Glasgow Declaration on

Climate Action in Tourism, which commits them to decarbonise tourist operations and restore and protect ecosystems.

What could be more attractive then, than mitigating the impact of travel while contributing to nature or local communities? In theory, each offset represents an amount of carbon dioxide that has either been removed from the atmosphere (for example, by trees) or avoided by, for instance, providing clean cookstoves, which also improve >



indoor air quality and reduce local deforestation. Avoiding or reducing emissions elsewhere doesn't, however, tackle the CO<sub>2</sub> that is entering the atmosphere as a result of the activity you're offsetting.

Criticisms of the voluntary offsetting market are well-rehearsed. Issues centre on whether they provide carbon removals that are in addition to what would have happened anyway, and crucially, are permanent. This was dramatically illustrated last summer, when wildfires tore through forest projects on the U.S. west coast that had generated offsets bought by the likes of BP and Microsoft.

A report in May from investment bankers Credit Suisse, described the voluntary market as the "wild west" with "poor transparency" and "low (if any) correlation between price and credit quality".

Environmental campaigners also fear offsetting allows companies to delay the deep emissions cuts needed to avoid catastrophic warming. The Science Based Targets initiative (SBTi), which defines best practice in line with climate science, only allows companies to use offsets to go beyond their science-based or net-zero target.

Adventure travel company Explore Worldwide has just been through the detailed process of trying to measure emissions from all its trips, as well as the office, to start the process of cutting emissions



### It's got the whole team asking 'is this the best routing (or) can I use a different vehicle here?'

**HANNAH METHVEN, Explore Worldwide** 

as eany

Wildfires

on the U.S.

west coast

destroyed

by the likes

of BP and

Microsoft.

offsets bought

by 50% by 2030. The numbers will get refined as methodologies improve, but it's given the company a starting point, says sustainability specialist Hannah Methven. "It's got the whole team looking at trips and asking; 'is this the best routing (or) can I use a different vehicle here?' "

Offsetting is included in the cost of each trip (excluding the flights customers booked themselves – a challenge Methven is wrestling with) but she sees it as "the bottom of the rung". Reduction "has to be our biggest priority. And then we look to mitigate, to support initiatives that are trying to help nature and biodiversity and use (those) to draw down carbon."

These include projects with Rewilding Britain, and Cool Earth (which works to stop rainforest >



A recent economic analysis suggested that the social price of carbon should be over \$250 a tonne

deforestation). For offsetting "we look for projects that are focused on preventing emissions in the first place and supporting renewable energies."

Explore is sourcing its offsets through Climate Impact Partners. Mark Griffiths, managing director for Europe, insists his firm rigorously assesses potential projects to validate carbon-removals claims and make sure there are back-up plans in the event of forest fires, for example. It's also investing in artificial intelligence and satellite technologies to provide ongoing monitoring. "It's our reputation that we are risking if we are promoting something that is not delivering according to its claim."

Explore's website states that the cost of offsetting is less than £10 per person, though that will inevitably change as increasing demand is pushing up the price of offsets, says Methven.

Clean cookstoves cost between \$6 and \$15 a tonne of CO<sub>2</sub> avoided.

### **OFFSETTING COSTS**

Griffiths estimates offset projects such as clean cookstoves cost between \$6 and \$15 a tonne of CO₂ avoided; mangrove or peatland restoration costs up to \$30 a tonne, while renewable energy projects may attract less than \$10 a tonne.

That's a big contrast to the price of carbon on compliance markets such as the European Union's emissions trading system (EU ETS), which has been as high as 96 euros (\$102) a tonne this year.

And it certainly doesn't reflect the social cost of carbon, which is defined as the economic impact of emitting a tonne of carbon. The U.S. >

government uses a figure of \$51, while a recent economic analysis that took temperature-related mortality into account suggested it should be over \$250 a tonne.

Last year, Forest Trends' Ecosystem Marketplace initiative reported that the voluntary market exceeded \$1 billion for the first time, covering almost 300 million tonnes of CO<sub>2</sub>. Forestry and land credits dominated, followed by renewable energy credits.

Now, demand is outstripping supply, particularly for "quality" projects. The reason, says Griffiths, is that companies are beginning to understand what their exposure would be were they to be taxed on carbon.

So, for those hard-to-abate emissions, they're now willing to pay more. And they will have to. A new focus for carbon markets is so-called blue carbon. A major project in Colombia to restore coastal mangrove forests has already seen the price of credits triple to \$30-\$40, according to the outgoing Colombian President, Iván Duque Márquez, who recently told the World Economic Forum in Davos that he expected credits sold in the next couple of years to fetch more than \$100 per tonne.

Whether travellers will be prepared to pay more, however, remains to be seen.

#### **SUSTAINABLE AVIATION**

According to Credit Suisse's analysis, airlines were some of the biggest users of offsets, due to preparations for the industry's Carbon Offsetting

and Reduction Scheme for International Aviation (CORSIA) scheme, which aspires to make sure any growth in aviation emissions are offset elsewhere.

There's huge variation between different airlines and footprint calculators as to how much carbon dioxide is emitted on a journey. A quick check for a return flight from London to New York reveals anything from 0.7 tonnes to 2.7 tonnes per person, and offsetting charges varying from \$7 to \$70 for an economy flight. How much of that reaches projects on the ground is unclear.

In the past few years, airlines including BA and Lufthansa have been giving customers the option of offsetting their flights more directly by contributing to their efforts to decarbonise by blending sustainable aviation fuel (SAF) into kerosene, which can be three times as expensive as fossil fuel. Singapore Airlines said in June that it will begin selling SAF fuel credits to its business and leisure travels in July. From 2025 the EU, through its ReFuelEU Aviation initiative, will mandate aviation fuel suppliers to include (initially) 2% SAF in aviation fuel at EU airports, increasing to 5% by 2030, 32% by 2040 and 65% by 2050.

Carbon dioxide is still emitted when the fuel burns. There are also concerns about the sustainability of using vegetable oils in SAF.

But if  $CO_2$  is captured from the air or industrial processes and combined with renewable hydrogen to make a synthetic or e-fuel, greenhouse gas emissions can be cut by as much as 85%, according to European campaign group Transport & Environment.

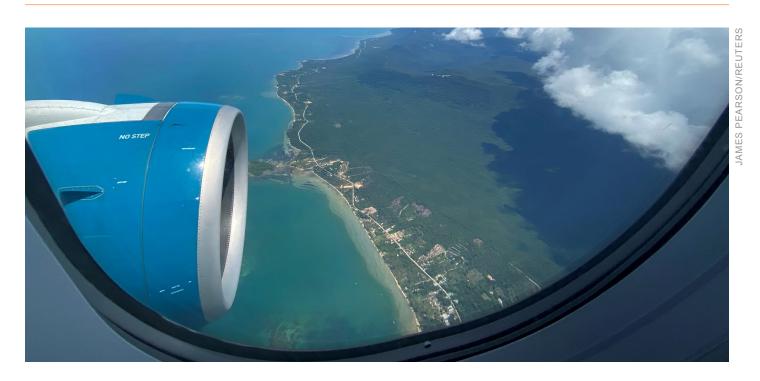
Lufthansa and BA make it clear that SAF isn't >

### IN NUMBERS

In 2021, the voluntary carbon offsets market exceeded **\$1 billion** for the first time

Estimates of a return flight from London to New York reveal anything from **0.7-2.7 tonnes** per person





being added to specific individual flights, as it can only be supplied at certain hubs, but Reinout Debergh, aviation policy analyst at Transport & Environment, says customers will want to know how sustainable the fuel choices are, and whether their own flight uses SAF or whether it is fuelling another.



# What guarantees are there that the customer's money will be used for purchasing SAFs? Who will track that money and who'll verify it?

**REINOUT DEBERGH, Transport & Environment** 

"What guarantees (are there) that the customer's money will actually be used for purchasing SAFs? Who will track that money and who will verify it? How do we know that airlines won't double-price customers by passing through the costs of regulations, such as ReFuelEU, into ticket prices and additionally asking the customer to pay for SAFs?" asks Debergh.

And though neat SAF may boast carbon savings of up to 85%, in real use its mitigation potential is far lower, as it is only being offered today in blends with kerosene of 10-50%. (See also Can clean cookstoves make up for climate damage from soaring business jet use?)

That question of transparency is an issue for the

whole offsetting industry. Climate Impact says its offsets are endorsed by Gold Standard, a leading standard-setting initiative.

But there's no one official international standard – something the Voluntary Carbon Markets Integrity Initiative is working to remedy.

The multi-stakeholder VCMI has produced a draft Claims Code of Practice, and has just begun road-testing it with some corporates.

Principles for offsetting developed in 2020 by a team at the UK's University of Oxford urged businesses to shift to removal offsets, where carbon is scrubbed from the atmosphere and locked away. This, too, will have to shift from efforts such as tree-planting, to long-lived storage, such as geological storage.

This nascent market is being encouraged by companies with deep pockets, including Stripe, Meta and Google's parent Alphabet, who have signed up to a new platform called Frontier, which has committed to spend \$925 million over the next eight years on technologies to remove carbon. (Read more)

In the meantime, Griffiths at Climate Impact Partners argues that the finance going into communities through offsetting schemes such as cookstoves, provides valuable employment, empowers women and delivers benefits to health and biodiversity along the way.

So perhaps, as Carbon Market Watch has argued, rather than claiming to compensate for emissions, companies could simply make a claim to contribute to climate action that also brings tangible benefits to people and environment.

Some airlines are asking passengers to offset carbon more directly by contributing to the development of sustainable aviation fuels.





# Sustainability Reporting & Communications USA 2022

Navigating the Reporting Transformation



# Can business travel adopt a more sustainable flight-path post-Covid?



A new survey finds that some of the companies with the most ambitious climate goals aren't addressing a big component of their carbon footprint. Mike Scott reports

**VIEW ONLINE** 

s the travel sector seeks to recover from the pandemic, business travel will be crucial to the sector's fortunes. But when it comes to sustainability, business travel is a big part of the problem.

Flying is the key issue, mainly because there are currently so few sustainable alternatives to

traditional jet fuel, and none is expected until after 2030. Just 1% of people cause half of all aviation emissions, according to European non-governmental organisation (NGO) Transport & Environment, and many of these trips are business-related. >



In Europe, corporate travellers comprise about 12% of customers but are responsible for 30% of emissions, says Denise Auclair, corporate travel campaign manager at Transport & Environment, which in May launched a campaign, with several other European NGOs and U.S. NGO Stand.earth, urging companies to reduce corporate travel emissions by 50% compared with 2019 levels.

In a study ranking 230 of the world's largest companies, the NGOs found that 193 were failing to act with sufficient speed and ambition to tackle corporate travel emissions, despite the



If you need to know what's going on in a factory, you can use virtual reality technology and it's almost as if you're there

**DENISE AUCLAIR, Transport & Environment** 

fact that in some sectors they are the biggest part of companies' carbon footprints. Only eight companies, Novo Nordisk, Swiss Re, Legal & General, Fidelity International, Zurich Insurance, Lloyds Banking Group, Ernest & Young and Credit Agricole, were awarded top scores of As, while 22% were given Ds for either failing to disclose their business travel emissions or having no specific targets to reduce business travel.

Before global lockdowns shut down all movement, business travel was booming. According to McKinsey, in 2019 it was a \$1.4 trillion market, with the United States and China comprising nearly half of that, and was growing at 5% a year, faster than global GDP. The impacts of COVID-19 led to a 52% drop in business travel, although McKinsey forecasts a full recovery by 2024.

Yet even before the pandemic, there were signs that some companies where starting to think about the climate impact of business travel, as the Scandinavian concept of Flygskam (flight shame) was becoming more widespread.

The past few years has also seen the emergence of science-based targets, the net-zero movement and the broadening of corporate emissions reduction >

The pandemic demonstrated that companies function perfectly well without business travel.

targets from companies' own direct emissions to Scope 3 emissions in their value chain.

Auclair of Transport & Environment, says the pandemic showed that, thanks to video conferencing and other digital technologies, companies can function perfectly well without business travel.

"Businesses had to find different ways of doing business and keeping in touch." A Morgan Stanley survey suggested that about a quarter of travel would be replaced by video conferencing in 2022, and a fifth in 2023.

It is not just meetings that can be done remotely, Auclair points out. "If you need to know what's going on in a factory, you can use virtual reality technology and it's almost as if you're there. And there is an increasing use of drones to do site visits and inspections, particularly for remote and hazardous sites."

#### RETHINKING TRAVEL

One of the most carbon-effective moves is to travel by train rather than flying. Eurostar says that flights emit up to 13 times more than the equivalent rail journey.

Many trips in places such as Europe, Japan and China, where geography and good rail networks exist, are being replaced by rail. Indeed, France's parliament voted in 2021 to ban flights where there is a rail alternative of 2.5 hours or less. Such moves are obviously less feasible in markets such as Australia and parts of North America.



### I'm seeing many companies rethinking whether it's really worth driving three to four hours for that 60- to 90-minute meeting

KATHRYN READ, Aon

Kathryn Read, international sales and marketing consultant at financial consultancy Aon, says: "I'm seeing many companies rethinking whether it's really worth driving three to four hours for that 60to 90-minute meeting. If meetings need to be done in person, staff are requested to bundle meetings on that day so that they travel for, say, three to four meetings, not just the one. Wherever possible public transport should be used, and all efforts should be made to avoid domestic flights."

Gavin Geminder, national managing principal of growth and strategy at KPMG U.S. says KPMG uses



Drones are increasingly being used to carry out site visits and inspections.

its internal carbon price to encourage employees to think twice about flying.

We are charging a carbon fee proportional to the emissions of each airline ticket booked, which is then allocated to the business group responsible for the travel emissions. The fee is designed to fund green investments that decarbonise our operations," said Geminder.

He added that KPMH had updated its events and meetings policy to reduce travel for internal meetings. "While business travel remains important today, it should be reserved for the in-person moments that matter."

#### MINDING THE GAP

Nevertheless, there is a big gap between ambition and action on cutting CO₂ emissions in business travel, according to the Global Business Travel Association. A survey of 762 members and 100 external stakeholders, including policymakers and NGOs, earlier this year found that while tackling climate change is now the top priority for 88% of the business travel sector, only 14% think the industry is currently well advanced on sustainability. Barriers cited included higher costs, limited data, and lack of access to transparent information. Even where rail travel is a feasible alternative to air travel, for example, it is significantly more expensive.

There was a big divergence between what business customers were demanding and what the industry was supplying, with 73% of buyers encouraging or mandating taking fewer trips, and >



60% of suppliers not encouraging such reductions in travel. Europeans are much more likely to support the encouragement of less travel and six times more likely than North Americans to support mandating multimodal travel options.

In an effort to plug the data gap, travel management group HRS launched the Green Stay Initiative 15 months ago. The initiative, which now has hotels in 72 countries in the scheme, scores hotels on factors such as carbon, water and waste, providing advice on how hotels can become greener, and giving companies carbon footprint data so they can manage their business travel emissions.

The scoring scheme, which uses methodology from the Hotel Carbon Measurement Initiative, incorporates all greenhouse gas (GHG) emissions from activities within a hotel, including restaurants, meeting spaces, spas and gyms, to give a carbon footprint per occupied room. (See Hotel sector strives to make up lost time on sustainability)

Jason Long, senior vice president for global business development, says this could be as little as 5kg per occupied room for an eco-hotel to as much as 125kg per occupied room for a hotel with a spa and golf course.

Dina Belon is vice-president of operations and real estate for StayPineapple, a boutique group with 10 urban hotels across the United States that is a member of the Green Stay Initiative.



### Sustainability is important for large corporates. We are part of their supply chain. They have to report on those emissions, and they want data on that

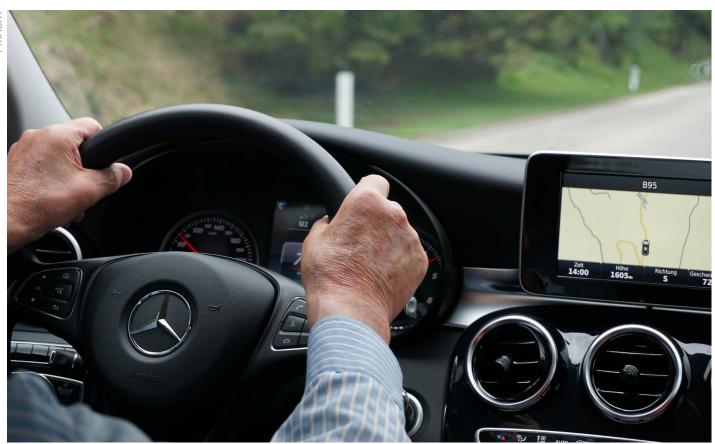
**DINA BELON, StayPineapple** 

"For corporate travellers, sustainability is important, particularly large corporates," she says. "We are part of their supply chain. They have to report on those emissions, and they want data on that."

Courtney Kelso is executive vice president and general manager of global commercial cards at American Express, which introduced a carbon footprint dashboard for corporate clients in 2019. "We know our corporate clients are increasingly looking for solutions to better understand their impact when it comes to carbon emissions around employees' travel," she says.

Last year, American Express announced a goal to pilot low-carbon product innovations for >

Companies are rethinking the necessity of travel that requires employees to drive long distances to attend meetings.





its customers as part of its Advancing Climate Solutions initiatives and its own 2035 net-zero goal. It is also launching an offset referral suite to allow companies to manage their footprint via offset solutions, including investments in large-scale carbon removal, reduction projects and avoidance projects. Currently available only to U.S. clients, Amex hopes to expand the service to other markets in future.

Auclair at Transport & Environment points out that laggards in its business travel survey include companies that have signed up to some of the ambitious climate targets, such as Microsoft, IBM, Google and Accenture.

However, many of these same companies are part of the 60-member World Economic Forum's Clean Skies for Tomorrow Coalition, which is working to increase the uptake of sustainable aviation fuel as the most viable solution to decarbonising the aviation industry in the short term.

In June 2021, the coalition launched a sustainable aviation fuel certificate framework, a "book and claim" system where companies seeking to offset their corporate flights can purchase certificates that will cover SAF's price premium even though it may not be available at their departure airport. It will instead be fed into another aircraft in an airport where it is available.

Microsoft, for example, has bought certificates from Alaska Airlines and SAF producer SkyNRG to cover employee travel between Seattle and Eurostar says flights emit up to 13 times the equivalent rail journey. three Californian airports. It is also purchasing certificates in another pilot project announced last September with Air BP and United Airlines to supply 26,500 litres of waste-based SAF at British airports.

In June, Shell, Accenture and American Express launched Avelia, a blockchain-powered SAF book and claim system, offering an initial 1 million gallons of SAF for companies to offset their business travel, enough to pwer 15,000 individual business traveller flights from London to New York. The SAF will be blended 50% with kerosene. Shell said it intends to cover 45% of its corporate travel emissions through SAF by 2030.

But Auclair at Transport & Environment said investing in SAF shouldn't be a substitute for making efforts to fly less. "Between flying less and SAFs, it's not either/or but both/and. We need to stop making aviation's climate problem worse and at the same time find alternatives to burning fossil fuels on planes."

Additional reporting by Terry Slavin



**Mike Scott** is a former Financial Times journalist who is now a freelance writer specialising in business and sustainability. He has written for the Guardian, the Daily Telegraph, The Times, Forbes, Fortune and Bloomberg.





Analysis: Despite all their net-zero rhetoric, Bill Gates's 'guilty pleasure' is shared by increasing numbers of executives, says Terry Slavin

hen it comes to the carbon footprint of travel, there is nothing worse than travelling by private jet.

According to European non-governmental organisation (NGO) Transport & Environment (T&E), private jets are five to 14 times more polluting than commercial planes per passenger, and 50 times more than high-speed rail, emitting 2 tonnes of CO2 in a single hour.

Yet despite all the net-zero rhetoric from the corporate sector, and pressure from the flight-shame movement, private jet use is booming. And not just among eco-billionaires like Bill Gates, who owns not

one, but two Gulfstream G650s, which he describes as his "guilty pleasure".

Private jet use was increasing faster than the commercial aviation sector before the pandemic, but since early 2020 has taken off. While scheduled airline traffic is still down 23% compared with prepandemic 2019, in the U.S. business aviation flights are up 25% from June 2019, while European leader UK is up 27% compared with 2019, according to latest figures from research consultancy WINGX.

While many companies say private jets allow top executives precious time to work, and provide connectivity between airports not >



served by commercial aviation, T&E says alternative direct commercial flights exist for 72% of private aviation flights.

Especially galling are claims by some in the industry that such flights can be compatible with corporate net zero goals.

Gates defends his prodigious private jet use by saying that he offsets his emissions and is investing in sustainable aviation fuel (SAF), along with carbon removal technologies.

Offsetting and SAF are also the main routes that VistaJet says will allow it to achieve its goal of achieving carbon-neutrality by 2025, which it set last year. The flight air charter company has a fleet of 70 jets that fly to 187 countries, or 96% of the world.

Since introducing offsets to customers in January 2020, in partnership with South Pole, over 85% of VistaJet members have opted to invest in certified carbon credits, the company said in its 2022 sustainability report in May. Projects funded include investing in cookstoves in China in the Mamize Nature Reserve, where 5,000 carbon tonnes have been reduced.

But there are no figures in the report about its progress on encouraging the purchase of sustainable aviation fuels, which are two to three times more expensive than conventional jet fuel, and would require its well-heeled customers to dig far deeper into their pockets.



### SAF can be blended with conventional kerosene at ratios of only up to 50%, but could be considerably lower

In 2020, VistaJet announced a partnership with SAF producer SkyNRG, offering its customers access to sustainable aviation fuel certified by the Roundtable on Sustainable Biomaterials.

It said SAF in its neat form can reduce carbon emissions by 85% compared with conventional jet fuels, and is composed of waste oils and agricultural residues.

But while the figure for neat SAF sounds impressive, one of the issues with SAF is that it can be blended with conventional kerosene at ratios of only up to 50%, based on current technologies, but could be as low as 10%, with a fifth of the climate mitigation potential. (See also The rocky road to 'guilt-free' travel)

Details of the proportions in SkyNRG's SAF, and uptake by customers, are not included in VistaJet's report. Nor were they provided when a request was put to VistaJet's press office. >



Last July, Farnborough Airport, Europe's busiest business airport, announced that it would be offering SAF to all aircraft using the airport, in partnership with Finnish biofuel producer Neste, which it said would be "produced 100% from renewable and sustainable waste and residual raw materials such as used cooking oil and animal fat waste".

Farnborough's chief executive Simon Geere said: "We are fully committed to a sustainable future and are delighted to offer our customers the opportunity to make a greener choice and work with us to play an integral part in delivering against the UK government's targets for net zero carbon emissions."

When requested for data on how many customers had taken up the SAF option, and what proportion of SAF was in the fuel on offer, Farnborough was more forthcoming than VistaJet, but only up to a point.

"We chose a 38% blend, as we wanted to offer a higher SAF stock and send a strong message about sustainability," Geere said in an emailed statement. He said SAF was roughly 50% more expensive than regular fuel, but declined to give volumes sold.



# SAF sales have been comparably low, but ultimately the price of the raw product is high at present

**SIMON GEERE, Farnborough Airport** 

"SAF sales have been comparably low, but ultimately the price of the raw product is high at present. Part of our future plans is to investigate how we can engage with the aviation industry to increase SAF production and usage."

If the private jet industry is going to try to lay any claim to being part of a sustainable future, it will have to do far better than that.

**Terry Slavin** 







## Sustainability Reporting & Communications Europe 2022

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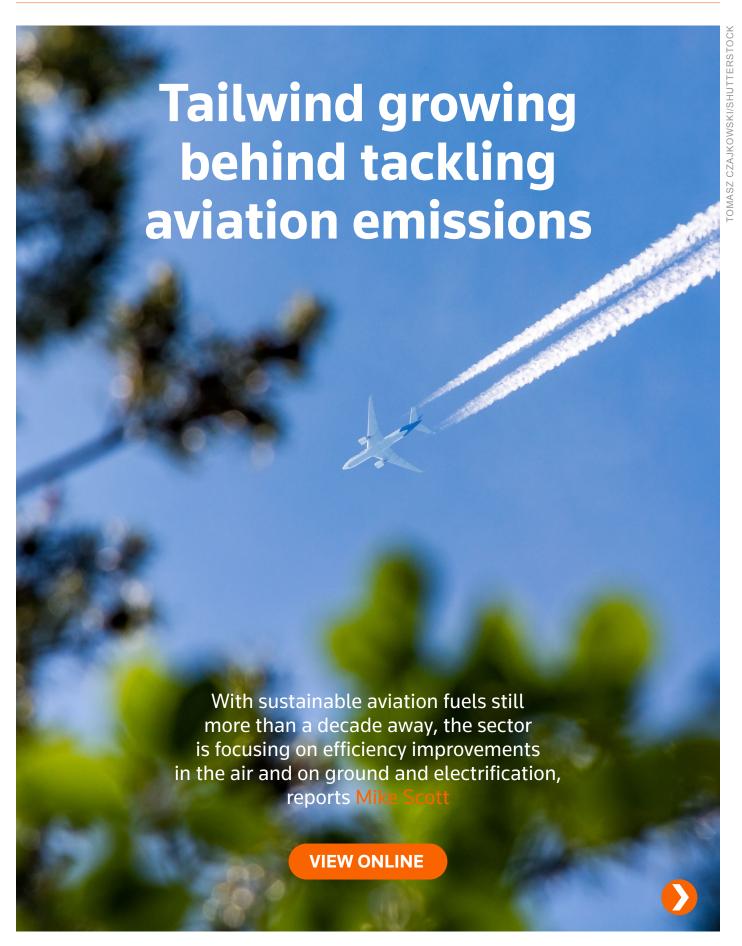
MUSIDORA JORGENSEN
Chief Sustainability Officer
Microsoft



MAGNUS BILLING
CEO
Alecta



**ULRIKE SAPIRO**Chief Sustainability Officer **Henkel** 





s the global economy slowly but surely shifts to a lower-carbon model, some of the most intractable industries – steel and cement, for example – have moved faster than anyone could have imagined, while new solutions such as hydrogen are scaling up rapidly.

One sector, though, is lagging behind: aviation. The sector accounts for about 2.8% of global  $CO_2$  emissions, with a further impact from non- $CO_2$  greenhouse gases because most of its emissions are made at altitude. What is more worrying, though, is that emissions from flying have risen by 2% a year since the turn of the century and they could reach a fifth of total emissions by 2050.

There are a number of reasons for this. Partly it is the laws of physics: it is hard to find a fuel or power source that is sufficiently energy-dense, yet also light enough, to replace kerosene, especially on long-haul flights.

Another reason is the laws of man – or lack of them. "The aviation sector has been underregulated and undertaxed for decades, which is why low-carbon technology has been slow to come to market," says Jo Dardenne, aviation manager at Transport & Environment, a Brussels-based non-governmental organisation (NGO).

The 1944 Convention on International Civil Aviation, better known as the Chicago Convention and introduced to help the industry grow in a postwar world, makes it difficult for governments to tax aviation fuel.

"The industry says international aviation emissions should always be regulated at international level, but airlines didn't go to ICAO (the International Civil Aviation Organization) for bailouts during the pandemic, but to national governments," she adds. "There is now more of a view that if they have been helped by the government, they should have to contribute to the government budget and the fight against climate change."

Sentiment towards the industry, and within it, is starting to change – slowly, though. There is a growing feeling that it is unfair that aviation is not taxed when other activities are, not least because 1% of people cause 50% of global aviation >

United
Airlines' 2019
Flight for
the Planet
demonstrated
use of
sustainable
aviation
biofuel, zero
cabin waste
efforts, carbon
offsetting and
operational
efficiencies.

emissions, according to Transport & Environment.

"It was a crucial driver for the gilet jaune protests in France," Dardenne points out. "People were asking why they were paying tax to drive and heat their homes, when airlines were not paying tax."

In advance of the COP26 climate conference in Glasgow, Scotland, last November, the sector committed to achieve net-zero carbon emissions by 2050, which it said would be "supported by accelerated efficiency measures, energy transition and innovation across the aviation sector and in partnership with governments around the world".

The industry is largely pinning its hopes on sustainable aviation fuels (SAF), which are made from sources such as biomass or municipal waste. (See also The rocky road to guilt-free travel)

"SAF is where the future lies," says Dardenne. "It's the only way the industry can continue to grow. However, we can't expect a sufficient amount of SAF to be available until the mid-2030s. Aviation fuel will still be 95% fossil fuel-based in 2030."

Members of ICAO set up the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) as long ago as 2016, but Dardenne says "there are so many flaws in CORSIA – in principle, in practice and in implementation. Fundamentally, it's an offsetting scheme. It's like saying you will lose weight and pay someone else to go to the gym for you."

IN NUMBERS

Aviation accounts for about **2.8%** of global CO<sub>2</sub> emissions per year

The sector has become more efficient by 1% a year since the 1980s

Aviation fuel will still be **95%** fossil-fuel based in **2030** 

Anger over airlines not paying tax on fuel contributed to the 2018 gilet jaune protests in France. Many critics feel that CORSIA, which came into effect in January 2021, five years after the scheme was created, sums up the industry's approach to tackling climate change – too little, too late. The German Aerospace Centre says that while

the CORSIA targets can mitigate the increased climate impact of air transport, the current measures will not be enough to help limit

temperature rises to 1.5C. (See The rocky road to sustainable travel)

Nonetheless, aviation has already made progress. It has been becoming more efficient by 1% a year since the 1980s and the sector believes it can double that, cutting the amount of energy it uses by 2% every year, says Manosij Ganguli, head of mobility decarbonisation at the Energy

Jason McClain, senior director in ventures and innovation strategies at Boeing, says that aircraft makers are taking a portfolio approach across different time horizons. In the short term, a range of different technologies are being applied to new aircraft, which are much less polluting than their predecessors. "Every new generation of aircraft has a 15-25% efficiency improvement over the previous one. But there is more focus on this now, and we're looking to bend that curve still further."

#### **ALTERNATIVE TECHNOLOGIES**

Transitions Commission.

Multiple technologies are being tested by engine and airframe manufacturers, from fin design >



Airlines in the United States plans to have electric aircraft in service by 2026. However, the 100 19-seater vehicles, supplied by Swedish startup Heart Aerospace, will be used only for short flights. U.S. startup Wright Electric plans to unveil a 100seat plane by the same date, and it is set to deliver

an electric commercial passenger jet with a range of 800 miles to enter service by 2030. EasyJet is set to be the first customer.

### Some form of hybridisation, using both batteries and fossil fuel, would help mitigate the disadvantages of pure battery-powered aircraft

"Battery technology is advancing at pace, with numerous U.S. government agencies now funding research into electric aviation," says Johan Lundgren, chief executive of easyJet.

The low-cost carrier was the first major airline to offset the emissions caused by all of its flights, although it highlights that this is a temporary solution. "We have now offset more than 9 million passenger journeys, but we are clear

this is an interim solution until new technologies become available."

As with other forms of transport that are decarbonising, the benefits look set to be financial as well as environmental. It is not just about the cost of fuel, either, even though in today's pricing landscape, that is clearly a significant factor.

United Airlines estimates that the cost of maintaining its electric fleet will be a staggering 100 times less than conventional aircraft. This will make many short-haul routes from regional airports, which were abandoned because they were not profitable, viable again.

About 200 companies are looking at electric aviation, from Wright Electric's 100-seater to eVTOL (electric vertical take-off and landing) air taxis. Wright is also looking at retrofitting battery propulsion into existing short-haul BAe 146 aircraft, which would considerably speed up the rollout of electric planes.

Another measure that may speed the adoption of low-carbon aviation is some form of hybridisation, using both batteries and fossil fuel, > Better datasharing between air traffic control centres would make for more efficient flight routing.

which helps to mitigate the disadvantages of pure battery powered aircraft, such as the extra weight, but still cuts emissions.

"By hybridising sources, you can reduce the fuel burn of aircraft and therefore the environmental impact," says Dr Xavier Roboam, deputy director at the University of Toulouse's LAPLACE lab. "It's the first step before the final step, which may be zeroemission, fully electric aircraft."

According to Germany's Sustainable Aero Lab another area that will offer significant benefits is the digitalisation of aircraft, and the entire aviation infrastructure.

"Many steps in today's airline operations stack are still handled by humans, yet they could be automated and optimised for greater efficiency, especially when it comes to limiting fuel burn," says the organisation, which identifies and helps startups and projects that can reduce the climate impact of aviation. It is supported by the Hamburg Ministry of Economics and Innovation (BWI) and funded through the Hamburg Investment and Development Bank (IFB)

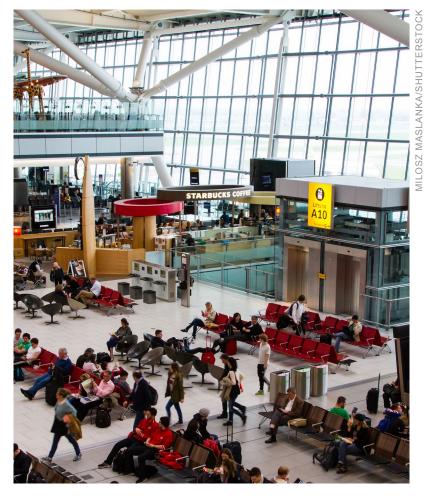
For example, airlines can use more efficient flight routing, using detailed weather forecasts and real-time air traffic updates. Better data-sharing between air traffic control centres would also greatly improve flight routing, while using big data to co-ordinate use of airspace would bring further efficiencies. This will be crucial when the skies also have to accommodate cargo drones and air taxis on top of today's airliners.

#### **EFFICIENCIES ON THE GROUND**

There are also efficiency gains to be made on the ground. Airports, for instance, could apply Albacked software solutions to optimise departure and arrivals schedules, improve congestion management, predict accidents, and increase overall turnaround efficiency via computer vision, consequently improving airport utilisation.

Farnborough Airport, the UK's busiest airport for private jets, says it has reduced its "controllable" emissions by 70% in the last decade. It buys renewable energy to power its operations, and uses that green electricity to charge a fleet of electric vehicles that it uses on site and to power an increasing number of electrical ground power units. (See also Can clean cookstoves make up for climate damage from soaring private jet use?)

Other measures recommended by the Airport Operators Association (AOA) include upgrading heating and cooling equipment, with options ranging from heat pumps to biomass boilers, and variable refrigerant volume air conditioning units. London City Airport cut its cooling bills simply by installing energy-reflecting windows. A number of



Artificial intelligence solutions could be used to optimise departure and arrivals schedules.

airports have also switched to LED or solar-powered airfield lighting.

Airports can also provide electricity on-stand, so aircraft do not have to run their engines while on the ground, and reduced engine taxiing. In addition, the AOA reports that "airlines have implemented take-off procedures which reduce engine thrust settings to the level actually required ... given the aircraft take-off weight, current weather conditions and the length of the runway available," which results in a small cut in emissions and also improvements in air quality.

Ultimately, a decarbonised aviation sector will be focused on hydrogen, either as a fuel to be burnt or used to power fuel cells, says McClain at Boeing. But it is still early days. "We're starting to explore what makes sense. We're working with our supply chain, doing internal R&D and working with startups as well."

The aviation industry is at a crossroads, Sustainable Aero Labs says, and it must go beyond current efforts to slash carbon emissions. "The winning formula to cut total emissions in half through 2050 requires a mix of continuous improvements of current technologies and, more importantly, revolutionary solutions."



### **VIEW ONLINE**

he Covid-19 pandemic was a disaster for the cruise ship industry. Images of "plague ships" with stranded passengers and crew, many ill with the virus, travelled around the globe.

The fastest-growing sector in the travel industry, which carried more nearly 30 million passengers in 2019, has long been criticised for its impacts on the environment and coastal communities. With Covid, it was under an additional spotlight for health and safety. It was hard to see how it was going to bounce back from this reputational damage that saw its share prices tumble.

Yet in April, the Cruise Lines International Association (CLIA) predicted that the industry

would exceed its pre-Covid record highs in terms of passenger numbers and revenues by next year, and grow to 12% above pre-pandemic levels by 2026.

At the same time, it announced a series of sustainability commitments "that will drive innovation for a more efficient future", including a target of achieving net-zero carbon cruising by 2050.

"We are reducing the carbon footprint of our ships while at berth and at sea investing in advanced environmental technologies and partnering with cities and ports on sustainable destination management. By equipping cruise ships with the ability to connect shoreside electricity, and using it where available, the cruise industry is prepared to >



According to a recent study, a large cruise ship can have a carbon footprint greater than 12,000 cars

eliminate emissions while at port for the benefit of local communities."

CLIA also said it would join the Global Maritime Forum's Call to Action for Shipping Decarbonization, making zero-emission vessels and fuels the default choice by 2030.

But the industry has its work cut out to reduce its environmental impacts. According to a recent study published in Marine Pollution Bulletin, a large cruise ship can have a carbon footprint greater than 12,000 cars, while passengers on an Antarctic cruise can produce as much CO<sub>2</sub> emissions on a seven-day voyage as the average European in an entire year, the study said. Meanwhile, the industry is a major producer of waste, with the total

amount of rubbish produced by a large cruise ship exceeding a ton per day.

Cruise ships are firmly in the sights of environmental groups such as Friends of the Earth (FoE), whose U.S. chapter produces an annual Cruise Ship Report Card evaluating 18 cruise lines on four environmental factors: sewage treatment, air pollution reduction, water quality compliance and transparency.

Passengers in isolation on the cruise ship Diamond Princess after it was hit by COVID-19 in February 2020.



KIM KYUNG-HOON/REUTERS



Despite noting pockets of improvements, its 2021 report is damning. "Unfortunately, everything that cruise ships come into contact with are likely to be harmed along their journey. The air, water, fragile habitats, coastal communities, and wildlife are all affected," the report said. "The disregard for public and environmental health continues with the recent restart of the cruise industry in the U.S. in 2021. Without legally binding regulations, the cruise industry will continue to pollute and threaten public health at will."

One of the lowest-scoring cruise companies on FoE's list is Carnival, the world's largest cruise ship company, with a fleet of 92 ships that under normal



Unfortunately, everything that cruise ships come into contact with are likely to be harmed along their journey

FOE CRUISE SHIP REPORT CARD

operations carry 13 million passengers annually to 700 ports, nearly half the overall global cruise market.

In January this year, Princess Cruise Lines, owned by Carnival, was fined \$1 million by the U.S. Department of Justice after pleading guilty to violating, for a second time, a five-year probation. This was imposed in 2017 after it pleaded guilty to "felony charges stemming from deliberate dumping of oil-contaminated waste from one of its vessels, and intentional acts to cover it up". The \$40 million penalty in 2017 was the largest-ever fine for intentional pollution from a ship.

In 2019, while still on probation, Princess was fined \$20 million for six further violations, including the dumping of plastic waste into Bahamian waters and falsifying records. This year's fine relates to the failure of both Princess and Carnival "to establish and maintain an independent internal investigative office", according to the Department of Justice.

Yet Carnival is one of 500 signatories to the Glasgow Declaration on Climate Action in Tourism, which was launched at the COP 26 climate summit last year, under which organisations commit to halve their emissions by 2030 and achieving net-zero by 2050 at latest.

Climate
activists in
Vancouver,
Canada,
demonstrate
against the
dumping of
sewage and
pollution into
the ocean by
cruise ships.

Carnival is also highlighted in the World Travel and Tourism Council's Net Zero Roadmap for Travel and Tourism for commitments including a 40% reduction in CO₂ emissions per available lower berth per day (ALBD), and a 50% reduction in absolute air emissions of particulate matter by 2030.

Asked to respond to the FoE report, and to its recent fines, Roger Frizzell, a spokesman for Carnival, said Princess "is no longer under court oversight", something that was not reflected in FoE's scoring system, which he described as "arbitrary" and "unscientific".

He also challenged the F score for lack of transparency, saying data was available online and on its sustainability report. "Our ultimate goal across all our brands is net-zero greenhouse emissions by 2050 and we are making strong progress, by any measure, through our many initiatives that include electrical shore power capabilities, advanced wastewater treatment plants, reduction in plastics and waste, and implementation of new green technologies such as LNG (liquified natural gas), fuel cells and large storage battery systems in addition to our air quality systems installed on our ships."

The CLIA, which met in Genoa, Italy, in June for the industry's first summit decarbonisation summit, says cruise lines are currently investing upward of \$25 billion in new vessels with improved environmental performance.

In large part this is to meet new rules from the

International Maritime Organization, which came into force in 2020 for the entire shipping industry, slashing the sulphur content of fuel oil from 3.5% to 0.5%.

CLIA says 76% of global cruise ships capacity currently use exhaust gas cleaning systems, known as scrubbers, which meet or exceed air emissions requirements. There is also growing

use of LNG, which cuts CO₂ emissions by

about 25%, and contain little sulphur and nitrogen oxide. While only four ships in service are LNG, 52% of ships on the order books are scheduled to use the fuel, which CLIA views as a bridge to lower carbon solutions, including biofuels, synthetic fuels, ammonia and methanol.

"It provides immediate benefits while aggressive research and development is simultaneously underway for a transition to new fuels," a spokesperson said.

One example is MSC Cruises' newest ship, MSC World Europa, which will be the world's largest LNG-powered cruise ship when it launches in October.

Amongst other features, the ship has advanced wastewater treatment technology, shore-to-ship connectivity, and a 150-kilowatt solid oxide fuel cell demonstrator, which MSC says will "help us prove and refine environmental technologies for the future of our fleet".

But there are conflicting studies on the environmental implications of the widespread use of scrubbers, which green groups say allow the >

### IN NUMBERS

New rules from 2020 require shipping to slash the sulphur content of fuel oil from 3.5-0.5%

Low-pressure dual fuel engines emitted **70%** more lifecycle GHGs than marine gas oil

MSC World Europa will be the world's largest LNGpowered cruise ship.



industry to continue to use heavy fuel oil.

Others, including Friends of the Earth, question whether LNG should be used as a transition fuel. The International Council on Clean Transportation, a U.S. based NGO, warned in a 2020 study

that while uptake of LNG will cut  $CO_2$  emissions, it could actually make the shipping industry's impact on climate change worse, due to leakage of methane, a greenhouse gas (GHG) that is 86 times more potent than  $CO_2$  in the short term.

The study found that even the most efficient, high-pressure injection dual fuel engines emitted 4% more lifecycle GHG over 20 years than marine gas oil, while more commonly used low-pressure dual fuel engines emitted 70% more lifecycle GHGs than marine gas oil.

"Given this, we conclude that using LNG does not deliver the emissions reductions required by the IMO's initial GHG strategy, and that using it could actually worsen shipping's climate impacts," ICCT said. "Further, continuing to invest in LNG infrastructure on ships and on shore might make it harder to transition to low-carbon and zero-carbon fuels in the future."





# One big challenge is that although the number of ships with shoreside power capability is growing, only 14 passenger cruise ports worldwide offer this

The CLIA counters that while "methane slip" is an acknowledged problem, "engine technologies have significantly improved since the early 2000s and the industry now expects that there will be minimal methane slip by 2030."

It also says the number of ships with shoreside power capability is rapidly growing and within five years at least two-thirds of the global cruise fleet will be equipped with this capability, which could dramatically reducing emissions of ships while in port.

However, one big challenge is that only 14 passenger cruise ports worldwide have berths offering ship-to-shore power.

At the Genoa event, Marie-Caroline Laurent, CLIA's director general in Europe, said the industry will need help from regulators. "The cruise industry has already taken firm and robust measures towards achieving its decarbonisation goals and, collectively, is committed to deliver .... We now need a clear legislative framework to encourage the investment and innovation that will be required for industry to achieve the 2030 EU Fit for 55 (climate) objectives and ultimately our 2050 ambitions."

### **OVER-TOURISM**

But as the cruise industry resumes its rapid growth trajectory, environmental impact is only one big cloud over the industry. Another is the return of over-tourism concerns that saw port cities, particularly in Europe, impose taxes and limit numbers to keep from being overwhelmed by swarms of cruise ship day-trippers.

The CLIA says sustainable tourism is a priority, and that it partners with "city authorities, ports, and other organisations on sustainable tourism initiatives to help preserve the integrity, cultural heritage, and beauty of the world's most treasured destinations".

But it's not just in crowded European port cities where over-tourism is a concern.

The bringing of a million cruise passengers a year into a pristine marine environment was cited as one of the main concerns by local and international campaigners opposing Disney Cruise Lines' project to build a new port on a 750-acre site on the

Protesters in Venice demonstrate against mass tourism and huge cruise ships in June 2020. southernmost tip of the Bahamian island of South Eleuthera, which had been proposed as a marine protected area.

Construction on the \$400 million project began in March after the Bahamas government accepted Disney's environmental impact assessment, which found that no loss of marine or terrestrial biodiversity could be expected as a result of the project, which will develop less than 20% of the property, with a further 25% donated to the people of the Bahamas.

Cruise ship passengers will access the site via an open-trestle pier that extends into deep water, to avoid the dredging of a ship canal, while an environmental management plan includes the relocation of coral, Disney said.



## We can't get any confirmation of the claims they are making about biofuel innovations. Where are the third-party confirmations or the audits?

HRVOJE CARIĆ, Institute for Tourism in Croatia

Marcie Keever, who heads up Friends of the Earth's oceans programme, said Disney Cruise Lines, with its four large ships, regularly receives top marks in its cruise report card for its environmental efforts and transparency, but was marked down a letter grade in this year's report card, to B-, because of its decision to push through with the Lighthouse development. She said the EIA did not address the risk of over-tourism.

"How many cruise ships are planned? What is the plan to expand if they do develop? What will this mean on a weekly basis for the region? There is nothing in the EIA on the impact of the massive number of people on these ships", she said.

Hrvoje Carić, a researcher at the Institute for Tourism in Croatia, says lack of transparency is a major issue for all the sector's impacts. "We can't get any confirmation of the claims they are making about biofuel innovations, for example. Where are the third-party confirmations or the audits? If they are under a flag of convenience, you can always doubt it."

Daniel Skjeldam is CEO of Norway's Hurtigruten Group, which announced in May that ships on its Norwegian coastal routes will be emissions-free to sea and air by 2030. (See also Hurtigruten sets course for zero-emissions cruising)





He believes that the industry can be a force for good by opening up the minds of cruisers to new cultures, and the need for conservation to protect the world's wildest places.

The cruise industry is also a major source of income for many destinations, particularly in developing countries.

But in the prelude to the company's latest sustainability report, he called for greater transparency in industry ESG reporting to instill confidence that it is on the right trajectory.

"It's clear that the cruise industry and the wider travel sector have a lot of work to do to credibly tackle the climate emergency. There must be a collective effort between the travel industry, communities, governments, NGOs and academic institutions, for one company or community cannot do it alone."



Caroline Palmer is a freelance journalist specialising in business, health, sustainability and the artisan economy. She has worked for the Financial Times, The Guardian and The Observer. Disney
Cruise Lines'
Lighthouse
project to build
a port on the
Bahamian
island of South
Eleuthera has
been criticised
by Friends of
the Earth.



### Hurtigruten sets course for zero-emissions cruising

ith a fleet of ships that travel to some the most environmentally sensitive parts of the world, from the Arctic to the Galapagos Islands, Norway's Hurtigruten Group says it takes sustainability seriously.

In March the company announced that it is working with Norwegian research organisation SINTEF to develop a zero-emission ship for its Norwegian Coastal Express, which stops at 34 ports between Bergen and Kirkenes, with the ambition to have it ready to sail by 2030.

The project includes all aspects of a new-ship build programme, from design, propulsion, energy and fuel to hotel operations and digital solutions. A spokesperson said the goal is for the new ships to be emission-free to both air and sea, and sustainable from a circular economy perspective, reducing and reusing materials in construction of the ships, and minimising use of water and energy in operation.

The 130-year-old company banned the use of heavy fuel oil (HFO) for all its vessels in 2009. It is also working with NGOs to promote a broader international ban on HFOs for all vessels sailing in

the Arctic, as they account for 75% of the marine fuel currently consumed in the Arctic today.

A spokesman said Hurtigruten does not use LNG, opting instead to use certified biofuels and battery-hybrid technology to lower emissions. Last year, Hurtigruten added a third hybrid-powered expedition ship, MS Otto Sverdrup, which was last year named most sustainable ship in the world by Scope ESG and Stern magazine.

In 2018, Hurtigruten became the first cruise company to ban non-essential single-use plastic through its operations, instead providing guests with reusable water bottles, saving an estimated 1,000 plastic bottles a day on larger ships.

"Still, we know we have a negative impact on the environment with the emissions we produce, despite having the greenest fleet of ships in the industry," the company says in its ESG report, adding that it intends this year to set a science-based target to become emissions-free by 2050, and putting Scope 3 emissions including its supply chain, business travel and the transportation of guests to its ships into its climate accounting.

**Terry Slavin** 





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Integrating Sustainability Across Your Value Chain

