## **CUTTING CARBON** Four North American Airports Achieve Carbon Neutrality; More Efforts Underway

**BY SALLY KRAL** 



Above: The construction of a nine-gate terminal expansion project that received LEED Gold certification was one of many elements leading to Austin-Bergstrom International Airport becoming the fourth North American airport to receive carbon neutral accreditation through ACI-NA's Airport Carbon Accreditation Program. ate last year, Austin-Bergstrom International (AUS) became the latest North American airport to achieve Level 3+ accreditation through Airports Council International – North America's (ACI-NA) Airport Carbon Accreditation Program, confirming the airport's carbon neutral status. It was the fourth North American airport to reach this level.

The achievement was significant – airports around the world are scrambling to clean up their carbon footprint, and reaching carbon neutrality is daunting given the nature of the aviation business.

According to the ACI Annual Report released in February, the Airport Carbon Accreditation program is the global standard for carbon management in the airport industry. The program's aim is to encourage and enable airports to implement best practices in carbon management with a focus on CO2 emissions, as they comprise the large majority of airport greenhouse gas emissions. The program was developed in line with international standards and involves independent administration and verification to ensure its credibility.

There are six total levels of accreditation in the program: Level 1 is Mapping, which involves compiling a carbon footprint report; Level 2 is Reduction, where quantified emissions reductions begin to be made; Level 3 is Optimization, where the scope is widened to include third-party emissions; Level 3+ is Neutrality, where total airport emissions have been offset; Level 4 is Transformation, which involves developing a long-term management strategy toward reducing – rather than just offsetting – emissions; and Level 4+ is Transition, which involves offsetting any residual emissions.

In addition to AUS, Vancouver International Airport (YVR), San Diego International Airport (SAN), and Dallas Fort Worth International Airport (DFW) have all reached Level 3+ accreditation, with DFW surpassing this level to be the first airport in the world to achieve Level 4+ accreditation in 2020.

"North America's airports are incredibly driven to find new, innovative solutions to the challenges facing the industry – even amid a global pandemic, airports continue to be good neighbors and have not neglected their social responsibility priorities," says Kevin Burke, ACI-NA president and CEO. "In fact, they're strengthening their commitments to their local communities, demonstrating global leadership, and becoming better partners in the aviation system by managing and reducing their carbon footprints."



**Above:** Dallas Fort Worth International Airport has been a leader in sustainability (initiatives and achievements shown). It was the first North American airport to reach carbon neutrality in 2016, and in 2020 it became the first airport in the world to achieve Level 4+ accreditation – the highest level in ACI-NA's Airport Carbon Accreditation Program.

Infographics credit: Dallas Fort Worth International Airport

## Leading The Charge

DFW was the first North American airport to achieve carbon neutrality in 2016, the result of various direct actions. "To reduce our carbon footprint, we began purchasing 100 percent renewable electricity from Texas wind farms, which helped us achieve a reduction in electricity costs and decouple passenger growth from emissions, demonstrating that sustainability makes business sense," says Robert Horton, vice president of environmental affairs for the airport. "We also began converting our compressed natural gas vehicle fleet to renewable natural gas sourced from local landfills - this has reduced operations and maintenance costs by approximately \$1 million annually. Currently, 77 percent of the natural gas used in our fleet is renewable."

SAN was next to reach neutrality, in 2018. "Through the active implementation of our Carbon Neutrality Plan, we achieved carbon neutrality three years before our

Right: San Diego International Airport's larger Sustainability Management Program includes such actions as the installation of solar energy panels (shown) and the expansion of electric vehicle chargers (shown). With those and other actions, the airport became carbon neutral three years ahead of its 2022 goal. Photo credit: San Diego County Regional Airport Authority 2022 deadline," says Brendan Reed, director of airport planning and environmental affairs for the **San Diego County Regional Airport Authority**. "Over the years, SAN has built energy-efficient facilities such as a consolidated Rental Car Center, International Arrivals facility, Facilities Maintenance Warehouse and an Airline Support Building, which have all achieved at least LEED Gold certification. We've also installed 5.5 megawatts of solar energy panels on roofs and in parking lots and converted our shuttle fleet to all-electric and other alternative fuel vehicles. And in 2021, we began participating in **San Diego Community Power's** Power100 service, which provides 100 percent renewable and carbon-free electricity to power the entire airport."

To address emissions from third parties at the airport, SAN has expanded its electric vehicle charger network for tenants and passengers, launched a carbon offset program called "The Good Traveler" to help passengers easily reduce the environmental impact of their travel, and created a novel greenhouse gas reduction incentive program for rideshare companies and other commercial transportation operators.

In 2021 YVR became the first Canadian airport to be upgraded to the Neutrality level and the third in North America. "For us, the process of getting accredited was a validation of the practices we already had in place, including measuring our greenhouse gas emissions, implementing actions to reduce them wherever possible and then purchasing carbon offsets with





a high degree of environmental integrity," says Marion Town, director of climate and environment for the airport.

Some ways YVR has reduced emissions have included switching to energy efficient lightbulbs in the terminal and on aprons, electrifying some of the airport's fleet and exploring the use of renewable fuels. "To take accountability for the remaining emissions, we've purchased high-quality, local carbon offsets: For 2020 we supported the Darkwoods Forest Carbon Project in the West Kootenays of British Columbia," Town says. "Our purchase helps ensure that the land will not be logged and that the habitat is preserved for the 39 confirmed at-risk species that call Darkwoods home. The amount that we offset is equivalent to the greenhouse gas emissions from 2,194 homes' energy use for one year."

Most recently, AUS joined the carbon neutral ranks. Some key initiatives have included installing and expanding electric vehicle infrastructure throughout the airport, which involves developing a charging master plan for fleet vehicles, employee and passenger vehicles, and ground service equipment; utilizing wind energy from West Texas through the **Austin Energy**'s GreenChoice program for 100 percent of the electricity used in the airport's terminals and buildings; and switching its shuttle bus fleet to all renewable natural gas from **Clean Energy Fuels**.

"Through the renewable natural gas program, we were able to share extra credits with several other onsite stakeholders, effectively reducing their carbon footprints by more than 60 percent," notes B.J. Carpenter, sustainability program coordinator for the airport. "Additionally, AUS currently has six LEED or Austin Energy Green Building certified buildings, with many going beyond the basic LEED Silver requirements. And one of our more recent sustainability initiatives was partnering with **Signature Flight Support** to bring the first-ever delivery of sustainable aviation fuel to our campus."

## Just The Beginning

For the aviation industry, carbon neutrality is just the beginning. The ultimate goal is to achieve net zero – where



**Above:** Vancouver International Airport acquires carbon offsets as a tactic to reach carbon neutrality. In 2020 the airport supported the Darkwoods Forest Carbon Project, which conserves land in the West Kootenays of British Columbia (shown) from logging. Photo by Steve Ogle

carbon emissions are eliminated rather than just offset – by 2050, with many individual airports setting the deadline even sooner.

"In 2020, we received recognition for our climate action work from the **United Nations**, and as we accepted our award... we announced our plans to achieve net zero carbon by 2030," DFW's Horton says. "Our net-zero roadmap and decarbonization strategy is built on three core areas: a continued transition to renewable energy sources; improvement of the efficiency of our facilities and fleet; and implementation of carbon removal technology to address residual emissions."

As of 2020, DFW has achieved a 79 percent reduction in absolute emissions from a 2010 baseline, Horton adds.

YVR is also striving to become net zero by 2030, the first Canadian airport to commit to this goal. "We recognize that travel isn't the enemy in fighting climate change, it's carbon," Town says. "Over the next eight years we will be electrifying our fleet, increasing building energy conservation and electrification, investing in renewable fuels, and purchasing carbon offsets and carbon removals to reach our net zero goal." Town adds that the airport also supports its partners, including airlines and the airport community, to drive sustainability across the supply chain. "This includes supporting the supply of low carbon aviation fuel, investing in charging equipment for ground support equipment, and providing ground power to enable crews to shut down aircraft engines and plug into British Columbia's clean electricity supply," she explains.

Important work is indeed already underway – in North America and beyond – to help the global aviation industry reach net zero by 2050. But ACI-NA's Burke notes that more government support is needed for terminal improvements to help the industry meet this goal, and he draws special attention to the need for a dedicated stream of funding for sustainable aviation fuel infrastructure.

"As we look to the future, it's important for airports to be involved in the policy discussion around sustainable aviation fuels, and it will be our leadership on the knowledge of infrastructure investments needed that will make sustainable aviation fuel a reality," he says.