

A REPORT BY
ELEATHER GROUP

THE POWER OF INNOVATION: AN AIRLINE'S GUIDE TO SUSTAINABLE MATERIALS

APRIL 2021



ELeather®

EXCERPT

There are solutions available today, offering meaningful and long-term results that airlines can use to edge closer to their own sustainability targets.

Sustainable, engineered leather, from ELeather, is the material to choose for comfort, style and its significantly lighter environmental footprint. The company collects leather offcuts from tanneries, redirecting them from landfills, and transforms them into high performance materials that in look and feel are very familiar to traditional leather and yet much lighter, better performing and more durable.

Production of ELeather materials uses up to 55% less of the earth's natural resources such as water and emits over 60% less CO₂. Not only that, finished products contain up to 55% recycled content and (because they are produced on a roll) ensure a much higher yield, reducing waste in the production of seat covers.



3,800
TONNES
OF LEATHER
WASTE RECYCLED

Enough ELeather material has been supplied to the Americas in the last decade for the company to have recycled over 3,800 tonnes of leather. That's the same weight as 25 statues of liberty (minus the base)!

125 TONNES OF



CO₂
SAVED

All of ELeather supplied to the Americas so far, has resulted in CO₂ savings of over 130 tonnes. It would take 160 thousand acres of U.S. forest a whole year to sequester that amount. To put it in perspective, that's an area bigger than the entire Nebraska National Forest.

338,500 GALLONS
OF WATER SAVED



The water savings based on material supplied to the Americas, would be enough to fill 25 thousand average pools in the US (based on average pool holding 13,500 gallons of water).



DEALING WITH AN ISSUE ON A GLOBAL SCALE

CLIMATE CHANGE IS ARGUABLY THE BIGGEST CHALLENGE FACED BY THE AVIATION INDUSTRY.

It demands disruptive thinking as traditional media and social media alike, drive the notion that aviation, and most long-distance travel in fact, is harmful to the planet. The possible impact – less appetite for air travel in favour for other modes of transport.

But necessity is the mother of invention and so climate change can also be seen as a great opportunity for the industry. An opportunity to enable airlines and their suppliers to function smarter and better in every possible way,

not only to retain their customer base but, more importantly, to start reversing the years of environmental damage caused by overconsumption and industrialisation.

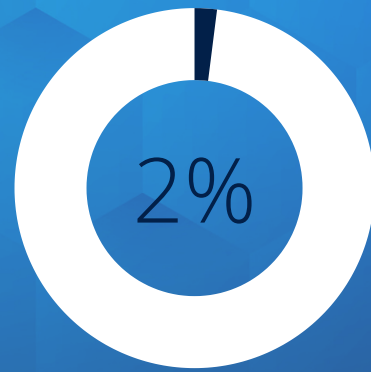
So far, in a bid to reduce overall emissions, aviation has been focusing on a number of aspects including airframes, engine technologies, operational innovations, new energy and fuel sources, often forgoing the additional possibilities within interiors.

To succeed in meeting international sustainability and emission goals, not one single method but a combination of all available solutions must be applied. For this reason, it's imperative for airlines to realise the potential their material choices have on their overall environmental impact.



CLIMATE CHANGE AND AVIATION

Globally, transportation accounts for about 15% of the manmade greenhouse gas emissions. Out of that, aviation itself is less than 2% with the vast majority of emissions generated by passenger and international travel. Road transport, in comparison, accounts for more than 11% of the global CO₂ emissions.²



And yet, with the ever-growing demand, the aviation industry remains one of the fastest-growing sources of CO₂ emissions. Compared to road transport (private transport especially), the sheer size and cost of each aircraft coupled with fewer manufacturers in the market mean the innovation progress is relatively slow.

While private transportation now offers solutions such as plug-in hybrids and even fully electric vehicles, aviation still has a long way to go to reach its own targets and fulfill the need for a sustainable, long-term solution to tackle the climate crisis.

Having said that, the industry has come far already since its early days.

Today's jet aircraft in service are well over 80% more fuel-efficient per seat per km than the first jets in the 1960s.

In December 2019, the International Air Transport Association published a confirmation that carbon emissions per passenger had declined by more than 50% since 1990.

New technologies are being implemented across a variety of areas that will contribute to more environmentally friendly aircraft. From paperless cockpits and digital onboard magazines, reducing the use of plastic on board, minimising cabin waste (including food waste), to increasing recycling and sourcing environmentally friendly materials used throughout the cabin.



SUSTAINABILITY THROUGH INNOVATION

Incorporating the ability to recycle, re-use and repurpose into design is no easy task.

But innovation is the only way to achieve sustainability in its true sense. Investing in innovation means investing in the future and not just what works for now.

Man-made, oil-derivative, synthetics account for more than 50% of the global textile production and while they're good for a business' bottom line (compared to textiles deriving from natural fibres), they come at a huge environmental cost.

In 2018, indirect greenhouse gas emissions from oil and gas operations, including both carbon dioxide and methane emissions, were around 5 200 million tonnes (Mt) of CO₂ equivalent. And whilst synthetic fibres don't require agricultural land use and little water in their production, relying on petrochemical industries for their raw material creates a whole other host of environmental concerns – from oil spills to methane emissions and wildlife disruptions.

Only about 0.07% of overall synthetic fibres production is sustainable, and yet their popularity within the global textile market is only expected to grow.



A SUSTAINABLE, INNOVATIVE SOLUTION BASED ON NATURAL FIBRES

There are solutions available today offering meaningful and long-term results, that airlines can use to edge closer to their own sustainability targets.

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ELEather has been present in the aviation industry for over a decade, supplying their materials to over 200 airlines including the world's four largest. The environmental impact of the company supplying their materials to the Americas alone speaks for itself.



RECYCLED CONTENT

ELeather manufacturing process has, since its inception, been based around using leather offcuts discarded by tanneries and destined for landfill. Using patented technology, they separate the offcuts until nothing but individual leather fibres are left before combining those together with a high-performance core using only the power of high-pressure water.

Enough ELeather material has been supplied to the Americas in the last decade for the company to have recycled over 3,800 tons of leather. That's the same weight as 25 statues of liberty (minus the base)!

REDUCED EMISSIONS

Each roll of ELeather material delivers over 60% less CO₂ emissions compared to traditional leather. This has been achieved by years of researching and implementing innovative technologies to make the production process as environmentally friendly as possible.

As a result, all of ELeather supplied to the Americas so far, has resulted in CO₂ savings of over 130 tonnes. It would take 160 thousand acres of U.S. forest a whole year to sequester that amount. To put it in perspective, that's an area bigger than the entire Nebraska National Forest.

WORLD'S SCARCE RESOURCES

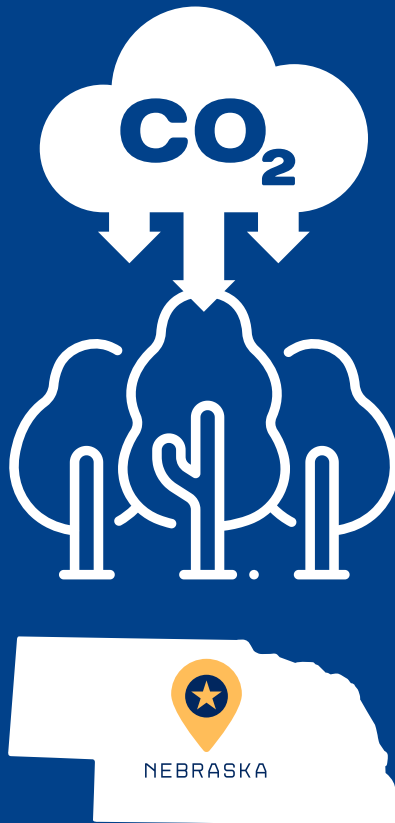
As the ELeather process uses high-pressure water to bond the leather fibres with the core, the company has developed a system that is able to re-use 95% of its water. This means that, in comparison to traditional leather, ELeather uses less than half the water in its production.

The water savings based on material supplied to the Americas alone would be enough to fill 25 thousand average pools in the US (based on an average pool holding 13,500 gallons of water).



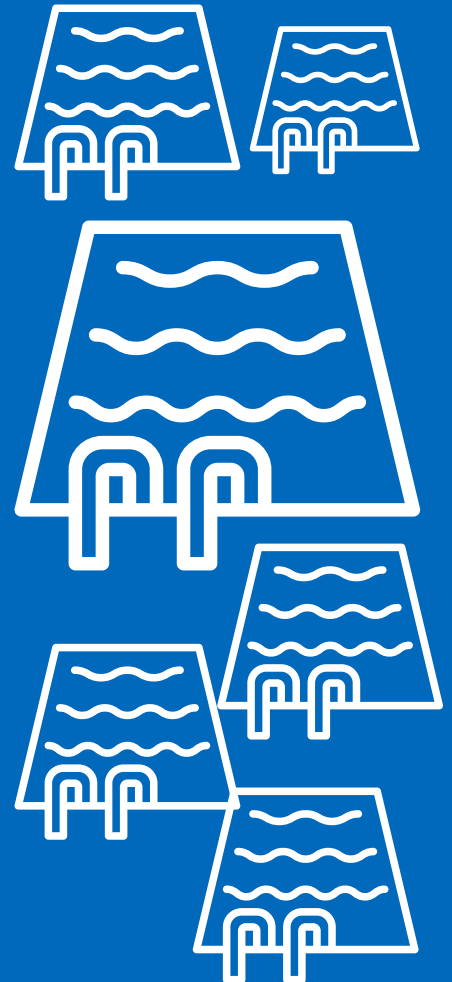
ENOUGH ELEATHER HAS BEEN SUPPLIED TO THE AMERICAS IN THE LAST DECADE FOR THE COMPANY TO HAVE RECYCLED OVER 3,800 TONS OF LEATHER.

THAT'S THE **SAME WEIGHT AS 25 STATUES OF LIBERTY (MINUS THE BASE)!**



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THE WATER SAVINGS BASED ON MATERIAL SUPPLIED TO THE AMERICAS, WOULD BE ENOUGH TO FILL **25 THOUSAND AVERAGE POOLS IN THE US** (BASED ON AVERAGE POOL HOLDING 13,500 GALLONS OF WATER).



A NEW APPROACH TO SUSTAINABILITY

As airlines plan ahead and look for innovative solutions, it's imperative for the material specifiers to be able to fully assess a manufacturer's sustainability claims.

How do you determine if one product is more sustainable than the other?

Manufacturers who market their materials as environmentally friendly will be able to prove some of their claims by providing a number of third-party certifications such as Recycled Content Standard or Higgs Sustainability Index.

But to really know the impact a product has on the planet, ask for the Lifecycle Analysis (LCA). Not every manufacturer will publish an LCA. Not every manufacturer will even have done one. But a sustainable airline needs a mindset that covers all aspects of the value chain - from raw material extraction to end-of-life solution - for the materials they use. Something that cannot be achieved without demanding in-depth information from their suppliers to be able to meet their own customer's expectations for only the most sustainable solutions.

Contact ELeather Group to discuss how their sustainable materials can help your airline meet your sustainability goals.

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