



Defect detection on a hide at Bridge of Weir Leather. Its parent group now claims that its tanneries are making “the lowest-carbon leather on the planet”, thanks to its use of hides that come from the local farming sector, which claims it has achieved net-zero carbon emissions. Following this, Scottish Leather Group runs its own circular leather manufacturing process, including the recovery of waste and, increasingly, of used leather from previous customer projects.

CREDIT: SCOTTISH LEATHER GROUP



RENEWABLE



WASTE-FREE



LONG-LASTING



REPAIRABLE



SUSTAINABLE



REPAIRABLE



RECYCLED



GREEN JOBS

Time for a different story to emerge

Leather has begun to feature prominently in the discussions that are taking place in Glasgow as the city authorities and the Scottish government prepare to host the twenty-sixth United Nations Climate Change Conference of the Parties (COP26) in November, an event at which activists, scientists, politicians and citizens hope for meaningful progress on the path towards tackling global warming. At the heart of leather's involvement is Scottish Leather Group and, especially, the managing director of its SLG Technology division, Dr Warren Bowden.

In comments about COP26 at the start of the year, the leader of Glasgow City Council, Susan Aitken, said: “This will be momentous for Glasgow. With 170 world leaders coming to the city, COP26 will be the biggest event Scotland has ever hosted and it will be the most significant climate-change event since COP21 in Paris in 2015.” She said climate change is “the challenge of our times” and that the November 2020 event will give Glasgow the chance to become “the city of our times”.

No city could achieve this overnight, or even over the ten days and nights for which COP26 will run, but a high level of activity is already taking place in Glasgow to make the city and its economy carbon-neutral, with initiatives ranging from an

With an increased focus on moving economies from a linear model to a circular one, a pioneer in terms of theory and practice argues that the leather industry has much to share with the rest of the manufacturing sector about turning waste into a valuable material and using and reusing resources time and time again.

overhaul of the public transport sector, three new innovation hubs for start-ups and for established manufacturing industries, and a newly announced plan to maximise the economic potential of city's main river, the Clyde.



Dr Warren Bowden of Scottish Leather Group believes leather can show manufacturers in other sectors how to bridge the "circularity gap".

CREDIT: STATE OF THE CITY ECONOMY 2020 CONFERENCE

Let Glasgow flourish

The Scottish government's economy secretary, Derek Mackay, announced this new plan for the river this January at a business event in Glasgow, the State of the City Economy 2020 conference, calling it "the Clyde Mission". He said investment from the public and private sectors is already "transforming the Clyde" and that a whole series of further projects for low-carbon manufacturing and for design and innovation will follow in an economic action plan that will roll out in the years to come. "This city and the region saw its greatest period of prosperity when it made use of the river as a strategic asset and as a source of competitive advantage," the minister said. "When the Clyde flourishes, so does Glasgow and so does Scotland. There are fantastic opportunities."

So too with the three innovation hubs, which are separate projects from one another and are developing in separate places, but which, nevertheless, have the common objectives of creating high-quality jobs and of developing the region while lowering its carbon footprint. The Advanced Manufacturing Innovation District for Scotland (AMIDS) is one of the three. It occupies space close to Glasgow airport, which itself is close to the city centre but has been, traditionally, somewhat hard to connect to for want of a fast, direct public transport link, a problem that Susan Aitken insists the local authority is committed to putting right. Closer to town will be the Glasgow Riverside Innovation District, which will have a 'Clinical Innovation Zone' on the Queen Elizabeth University Hospital campus on the south side of the Clyde and an 'Interdisciplinary Innovation Zone' close to the University of Glasgow on the north side. And right in the heart of Glasgow will be the third innovation hub, the Glasgow City Innovation District. This initiative will aim to boost entrepreneurship, innovation, and joined-up thinking and action, building on what the organisers call "Scotland's rich tradition of scientific excellence and industrial collaboration".

Leather's circular economy ambassador

Scottish Leather Group's Dr Warren Bowden was another of the speakers at this event, taking part in a panel discussion



The Scottish government's economy secretary, Derek Mackay, and the leader of Glasgow City Council, Susan Aitken, are intent on displaying good, local environmental ideas to the world when Glasgow hosts the COP26 conference in November.

CREDIT: STATE OF THE CITY ECONOMY 2020 CONFERENCE

about sustainability and circularity. He received an invitation to speak because of the leadership he and Scottish Leather Group have shown for years in this area. It is for this reason that a business group affiliated to the city's chamber of commerce, Circular Glasgow, has appointed Warren Bowden to a role as an ambassador on circular economy developments.

At the January event, he told the audience: "Lots of people present low-carbon arguments when talking about economic development, and have done for years. But there is a circularity gap; circularity is part of the story too. We have to address the use of resources and the finite nature of those resources and how we recover and reuse them."

When he added that, driven by its desire to close this circularity gap, Scottish Leather Group produces "the lowest-carbon leather on the planet", there was keen interest among the people in the audience of more than 600 business leaders. "We take a by-product from what is claimed by Scottish agriculture to be an industry that is climate-neutral, with net-zero emissions," he explained. "We take the hides of about 90% of the proportion of the Scottish herd that goes to slaughter. And we convert it through our own circular manufacturing process into the lowest-carbon leather."

He said the realisation that Scottish Leather Group's products can claim this accolade had created "an industrial epiphany" for the group and for the wider leather industry. He added that the group wants to use what it has learned to help others close the circularity gap, describing this challenge as "something that really excites us". This epiphany came about at a time, he explains, when the leather industry was clearly working in a linear way. "This was not sustainable," he says. "We have to consider that waste was a resource."

Waste to energy

He has focused on sustainability and circularity at least since Scottish Leather Group launched a project to invest in, design and build its own waste-to-energy plant at Bridge of Weir, where it runs its automotive tannery and where SLG Technology has its base. It is almost ten years now since the energy plant opened. "I'm passionate about this," he explains,



The waste-to-energy plant that Scottish Leather Group developed at the group's Bridge of Weir facility. This led to an "industrial epiphany" that there are circular ways to make high-quality leather.

CREDIT: SCOTTISH LEATHER GROUP

"but there is a policy vacuum. Circularity is about converting what someone else doesn't want and making something from it. There are opportunities here, locally, to recycle and reuse, and opportunities for creative industries to extend the life of these materials by putting them into cars, houses and so on. Recovering these resources is vital if we are to lower our carbon footprint. We all need to do more, including as consumers. Consumers need to look at the true cost of the product they buy and all the deleterious impacts that go with those products, for example, if they mean exporting our pollution problem to a low-cost overseas economy." The Scottish Leather Group, he explains, is already working with a number of important customers, for example in the automotive industry, to develop what these customers have begun to refer to as "sustainable interiors". Dr Bowden describes this as a move away from linear thinking and a move towards circular thinking instead.

Public transport policy

He says he was happy that there was detailed discussion at the State of the City Economy 2020 conference about public transport improvements. There will be a new metro system, a light-rail link to Glasgow airport. The current airport opened in 1966 but has only ever been reachable for public transport users by bus. It is some 15 kilometres west of the city centre but is, tantalisingly, only two kilometres from an active and busy rail line. Under plans approved at the start of 2020, the new light-rail system will first connect the airport to the rail network at Paisley's main station, Gilmour Street, which is 2.5 kilometres from the main terminal building. The plan is to expand a light-rail or tram network from there.

"I was delighted to hear that the new metro system, the airport link, other mass transit links and bus routes within Glasgow are all to become electrified and that all of those projects are finally being sourced," Dr Bowden says. "Hopefully, we will be able to use sustainable interiors with sustainable materials in those projects. My colleagues will be able to present those materials to local sourcing bodies. We hope public procurement, certainly in Glasgow and more widely in Scotland, will take note of the locally sourced and produced materials that they have right on their doorstep."

Manufacturing matters

There can be, and already is, a role for Scottish Leather Group's leadership in some of the other developments that are taking place in the business communities close to its tanneries in Bridge of Weir, Paisley and the east end of

Glasgow. "We are already engaged with the innovation districts," Dr Bowden says. "We're engaged heavily with Glasgow City Council and with many of those who are organising the innovation centres. We're being used as an exemplar of innovation and circular manufacturing. In my role, speaking on behalf of Circular Glasgow, we're being used as an exemplar of how to do circular manufacturing, not just in our own sector but across all of the activities in the Glasgow economy."

Most of the jobs in shipbuilding, steel production and coal mining, the mainstays of the city's economic development in the nineteenth and twentieth centuries, may have gone, but the SLG Technology managing director is certain that manufacturers still have an important part to play here. He goes further, saying: "I think the circularity gap helps us to explain why manufacturing is still so important in achieving some of the climate ambitions, but also some of the economic development that we need to achieve. We need to make things, but we need to make them sustainably. The climate ambition from COP21 was keeping the increase in global warming to 1.5 degrees Celsius [above pre-industrial levels] at worst. Getting to 1.5 degrees is not just about renewables and decarbonising. It needs to include circularity."

Prime position

Warren Bowden's own thinking on the circular economy has been in development since the time of the "industrial epiphany". Circularity is, he says, about preserving the world's resources. He says Scottish Leather Group and the leather sector as a whole are in "a prime position" to present the benefits of circular manufacturing to the wider world. Leather manufacturers, of course, convert what is a by-product of the meat sector into supremely useful material. This is particularly in keeping with circular principles if the cattle the livestock farmer raise for meat companies to buy are raised in a sustainable or circular manner. This is why he makes the point about Scottish agriculture, from which a large proportion of the hides the group uses, presenting itself as "climate neutral and net zero". He believes that, following on from this, it is incumbent on the Group to present the benefits of this to the wider leather industry. This owes something to the high quality and the circularity of the raw material the group is able to source, and something also to the way in which the group uses that material to produce "our prestigious product" from a sustainably and responsibly sourced material.

Part of the circular strategy is to focus hard on finding buyers, uses, markets for the group's own by-products. "We're making our leather sustainably, in a circular way," he says, "converting by-products into other useful commodities. We produce proteins that are used in the food sector, and we're not unusual in that. We're looking at other, novel ways of converting the by-products of our own production into resource-efficient, useful products." He believes Scottish Leather Group may "stand alone" in doing this. Its process, thanks largely to the waste-to-energy plant is "unique". He points out that, historically, waste from the leather manufacturing process might easily have ended up in a hole in the ground. "We recognised that we had to change that," he continues. "That wasn't a future-proof way of manufacturing, and what that led to was circular manufacturing in leather production. We are able to take back those by-products and utilise them to produce oils or proteins or other products."

Inspired by the same principles, it is also looking at ways of



The Scottish Exhibition and Conference Centre in Glasgow will be the venue for COP26 in November.

CREDIT: PAWEŁ PIETRASZEWSKI/SHUTTERSTOCK

taking leather back from customers at the end of its intended life and putting it back into its production processes. Taking leather upholstery back from seats in aircraft, for example, to recover and reuse the intrinsic raw material and, in this way, produce new raw material.

Time to speak up

The claim that Scottish Leather Group's material is "the lowest-carbon leather on the planet" is one that Dr Bowden stands by. And he argues that now is the right time to be presenting this, the way he did at the State of the City Economy 2020 conference. "Because of the way we source sustainably and responsibly produced hides and use our own circular manufacturing process, we can verify this through our own lifecycle assessment analysis," he says. "And we need to be positive about that. I think it's long been the case that we've been quite reserved in presenting our low-carbon offering. Today, really what we are saying is that we are the lowest; we know we're the lowest. We aim to be net-zero, or even to go further and be carbon positive. If we have a sustainable supply chain for what we do and turn that into the sustainable, bio-based materials for the future that our customers say they want, we have to continue to press the button, encouraging the meat sector to continue to produce sustainably for us and to continue to move away from the historical, wasteful linear process."

He says no rival tannery has ever challenged the lowest-carbon claim. He pays tribute to the many excellent tanneries around the world who do good things, but points out that there is "a small slice of the industry" that stands apart because of their exceptionally high level of performance. "I think that's a good thing," he adds, "but the industry as a

whole has a very long way to go. As an industry, we've been a sleeping giant, sitting there getting attacked by all sorts of other sectors producing synthetics and other things without actually coming out and saying to them, 'This is what we really do; this is what the pinnacle of our sector really does'. I think Scottish Leather Group is sitting at the top of that tree. That's certainly what our customers are telling us."

COP26 and leather

It is possible that the spotlights trained on Glasgow, on sustainability and on circularity in 2020 for the COP26 event may present leather with a supreme opportunity. It may be possible to raise awareness among the government and business leaders who attend and among the billions of people following news of the conference of how important and immediate a contribution leather can make to the shift towards a circular economy.

Hope that this might happen stems from another comment Scottish government minister Derek Mackay made at the State of the City Economy 2020 conference in January. He said: "I think one of the biggest opportunities we can have from this is seizing the economic opportunity from climate emergency by saying, 'And here are the things we are doing in Scotland and can export to you.'" The minister said it is important for private-sector companies to work on these ideas immediately, and that it is for them to come up with innovations that Scotland can then "sell to the world to save the planet and create sustainable jobs in Scotland". He made it clear that he thinks the country genuinely has an opportunity to do that this year, because of COP26.

One innovation that could transfer to operators outside Scotland is the thinking and the technology that supports

Scottish Leather Group's claim that its leather is the lowest-carbon leather on the planet. Warren Bowden says he agrees with the minister's comments and suggests that they may even have been partly inspired by the presence of Scottish Leather Group on the stage at the State of the City Economy 2020 conference. "He's well known to us and us to him," he explains. Mr Mackay is the member of the Scottish Parliament for Renfrewshire North and West, and the Scottish Leather Group facilities at Bridge of Weir are in his constituency. The group's standing, as an exemplar of good practice in circular manufacturing, for leather, but also for local, Scottish, twenty-first century, industrial activity, the proximity of its supply chain and the circularity of what it is doing on its own factory floors will allow it to make an impression at COP26.

"I think COP26 is a huge opportunity for a different story to emerge," Dr Bowden says. "COP21 and all of the succeeding conferences have all talked about carbon. It's taken decades, from Kyoto [COP3 in 1997], for carbon to become the mainstream discussion. We don't talk about renewable energy any more; we just talk about energy and assume it's going to come from renewables whereas ten years ago we had an entirely fossil-fuel-powered grid. Even today, there have been days when Scotland's energy use has been entirely renewable, so the signs in terms of carbon are changing, but carbon is only part of the story. To achieve the aim of keeping the

temperature rise to only 1.5 degrees or less over the course of the next ten years and meet the ultimate targets for the twenty-first century, we have to add something else apart from just carbon targets. We have to absorb carbon and we have to think of carbon positive activities. That's why closing the circularity gap is so important. This is about preserving the earth's resources. There is a finite amount of resource on the planet and we are currently using three planets' worth."

He insists that, to close the circularity gap, society, including the leather sector, has to look at the resources we already have and use them well. This means reusing them and continuing to recover them and remanufacturing them as much as we possibly can. He refers to this as "deliberately using circular thinking" and keeping these resources alive. "We can't keep using what we don't have," he concludes. "Circularity is the only way we can close the gap. I hope COP26 can be an opportunity for people like us or Circular Glasgow to present the case for circularity within manufacturing systems, helping to promote the idea that we have got to move away from this historical, linear production system where you make something, sell it and then discard it. You can still make things and sell them, but then you can take them back and reuse and recycle them. It may not be a perfect system, but circularity will extend the life of products and it will extend the life and usefulness of the resources we have." 



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