

COP26 – the sky's the limit

This article has been provided by Edinburgh company, Skyrora as part of our series of articles to be published just ahead of COP26, the UN conference on climate change which is being held in Glasgow from 31 October to 12 November 2021.

The Edinburgh Reporter posed a simple question to several individuals and organisations in the city: What are you doing to address climate change?

With all the world looking at Glasgow during COP26, and in the face of climate emergency, it is clear that the time to do something about climate change, no matter how small, is now.

Skyrora is leading the race to UK space sustainability

by Katie Miller

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Space – the very word conjures up images of a boundless universe where the need for caution and concern about climate change would seem totally unnecessary.

But as the UK looks to establish itself as a major global player in the fast-emerging space industry sector, there has been never been a more crucial time to look at how the sector can – and needs to – play an important role in protecting the environment.

At Skyrora we want use our position as the UK's prominent rocket company to lead the space industry in sustainability. In fact, we'd made this challenge a crucial element of our development work and company vision.

It may come as some surprise, particularly if you consider that space has no frontier, but space is actually very congested.

There are around 34,000 objects above 10cm in size in Earth's orbit that would be considered space junk – 3000 of which are redundant satellites. Moving at around 10km per second, these objects could seriously damage operational satellites or even the International Space Station.

The issue of 'space junk' is, therefore, becoming one of the biggest problems threatening the space industry.

To address this issue, Skyrora successfully completed trials of the third stage of the Skyrora XL rocket, including its orbital transfer vehicle (OTV), a vehicle that once in orbit can refire its engines around 15 times to complete tasks such as acting as a space tug, maintenance, or de-orbiting of defunct satellites.

The OTV is just part of Skyrora's efforts to focus on sustainability. We have just announced an agreement for a multi-launch deal with the SaxaVord spaceport on Unst, the most northerly of the Shetland Islands, as we move closer to launching our XL rocket in 2022. The move brings the supply chain of the sector all within Scotland, providing huge environmental benefits by addressing the sustainability and administrative issues involved in exporting to different launch sites across Europe.

For the proposed UK launch next year, Skyrora plans to fuel Skyrora XL rocket with its own sustainable alternative to conventional rocket fuel, Ecosene. Made from waste plastic such as polystyrene, Ecosene could prevent more than 3,000

tons of unrecyclable plastic going to landfill by 2030, just through use on Skyrora's planned flights.

By journeying into space – and supporting the development, for example, of more satellites – it can allow scientists to enhance their capabilities of Earth observation, that can help pre-empt and mitigate the impact of climate change.

With our OTV and Ecosene, we are contributing to this new space purpose, helping to tackle both the space junk problem and the impact of traditional fuels.

We have found a way to not only sustain our operations in orbit, but also clean up the way on how we get there.

We are not just committed to playing our part but we are committed to being responsible and responsive to the on-going threats of global climate change. This is the right way to move forward.

Skyrora is a leading European private launch vehicle company. It is headquartered in Edinburgh, with a team of more than 150 personnel in facilities throughout the UK and Europe. The company aims to cater for the growing demand to send commercial satellites into space using a combination of proven technology, advanced manufacturing, and detailed knowledge. It is in the process of developing cost-effective launch vehicles that will launch from a UK spaceport by 2022.