

Whisky, whisky all around and not a drop to drink...

Topping up at the petrol pump is about to take an intriguing twist as cars are set to be fuelled with a new super biofuel, made from whisky by-products.

Edinburgh Napier University has filed a patent for the new biofuel, which can be used in ordinary cars, without any special adaptations needed.

The innovative fuel process has been developed over the last two years by Edinburgh Napier's Biofuel Research Centre. As part of their research, the centre was provided with samples of whisky distilling by-products from Diageo's Glenkinchie Distillery. The £260,000 research project was funded by Scottish Enterprise's Proof of Concept programme.

The Edinburgh Napier Biofuel research team focused on the £4bn whisky industry as a ripe resource for developing biobutanol – the next generation of biofuel which gives 30% more output power than ethanol. It uses the two main by-products of the whisky production process – 'pot ale', the liquid from the copper stills, and 'draff', the spent grains, as the basis for producing the butanol that can then be used as fuel.

With 1,600 million litres of pot ale and 187,000 tonnes of draff produced by the malt whisky industry annually, there is real potential for bio-fuel to be available at local garage forecourts alongside traditional fuels. Unlike ethanol, the nature of the innovative bio-fuel means that ordinary cars could use the more powerful-fuel, instead of traditional petrol. The product can also be used to make other green renewable bio-chemicals, such as acetone.

The University now plans to create a spin-out company to take the new fuel to market and leverage the commercial

opportunity, in the bid to make it available at petrol pumps.

Director of the Biofuel Research Centre at Edinburgh Napier University, Professor Martin Tangney is leading the ground-breaking research. He said: "The EU has declared that biofuels should account for 10% of total fuel sales by 2020. We're committed to finding new, innovative renewable energy sources.

"While some energy companies are growing crops specifically to generate biofuel, we are investigating excess materials such as whisky by-products to develop them. This is a more environmentally sustainable option and potentially offers new revenue on the back of one Scotland's biggest industries. We've worked with some of the country's leading whisky producers to develop the process."

Lena Wilson, chief executive, Scottish Enterprise, said: "This pioneering research is testament to Scotland's world-class science base and demonstrates how Scottish Enterprise helps to transform cutting-edge knowledge into successful new high-growth sustainable businesses for Scotland.

"The Scottish Enterprise Proof of Concept Programme is successful precisely because of its high calibre projects. By proactively taking innovative ideas from the laboratory to the global market place, Scotland can continue to compete at the highest level and successfully boost its economic recovery."

Jim Mather, Minister for Enterprise, Energy and Tourism said: "This is an innovative development, and I am delighted to see Edinburgh Napier University once again display its expertise in this field by bringing this biofuel to market.

"I support the development and use of sustainable biofuels. This innovative use of waste products demonstrates a new sustainable option for the biofuel industry, while also supporting the economic and environmental objectives of the Scottish Government's new Zero Waste Plan.

“In these challenging economic times we need to play to our strengths and take advantage of the low carbon opportunities of the future. It’s exactly this type of innovation that will help sustain economic recovery and deliver future sustainable economic growth.”

Susan Morrison, Director and General Manager at The Scotch Whisky Experience said: “Working in a tourism role to represent the Whisky Industry we are delighted that the green agenda is moving forward at such a pace, both through the Green Tourism Scheme and innovations such as this new whisky bio-fuel.”