Scotch Whisky sector supporting a low carbon economy

Reducing greenhouse gas emissions (GHG) and increasing energy efficiencies forms the cornerstones of the Scotch Whisky Environmental Strategy launched in 2009 - distillers have committed to sourcing 20% of primary energy requirements from non-fossil fuels by 2020 and 80% by 2050. They have surpassed their 2020 target 4 years ahead of schedule with 21% of primary energy coming from non-fossil fuel sources; up from 3% in 2008. Between 2008 to 2015, more than £160 million was invested across five of our major production sites in renewable energy schemes, making Scotch Whisky the biggest investor in renewables outside the utilities sector.

Diageo's Cameronbridge Distillery in Fife constructed a £65m bio-energy facility, incorporating technologies such as AD, biomass combustion and water recovery. It has the capacity to generate over 30 Mega Watts (MW) of energy, meeting 95% of the site's energy needs by recycling the natural by-products of distillation. Carbon emissions are reduced by 56,000 tonnes (t) annually – the equivalent to the amount of energy needed for 10,000 homes a year.

The North British Distillery in Edinburgh is using AD technology to fire its boilers. It has also installed a gas engine derived CHP plant to produce electricity from biogas. The project seeks to produce up to 1MWe of renewable electrical energy, save 1MWe through less intensive energy use of the existing evaporation plant and recycle 40% of the effluent produced by the distillery resulting in a CO2 reduction of 9000t per year.

William Grant & Sons' Girvan site was one of the first to use anaerobic reactors (ARs) to produce steam power and hot water for use on site and to generate electricity, with excess exported to the grid. The gas produced by the AR is burned in turbines to generate renewable energy in the form of 25MWh of heat and 60MWh of electricity each day. Their efforts were highly commended by the Carbon Trust's Energy Efficiency in Manufacturing Awards in 2010.

A joint £60.5m venture with Diageo, Edrington, Chivas Brothers, Inver House Distillers, John Dewar & Sons, Campari and Ben Riach, installed a state-of-the-art biomass/feeds CHP plant that uses distillery by-products to generate electricity, produce animal feed and drastically cut carbon emissions. It processes around 130,000t of distillers' by-products annually from 16 Speyside distilleries, generating over 7.2MW of electricity. The excess energy is sold to the National Grid, providing enough energy to power up to 9,000 homes. Approximately, 47,000t of CO2 is conserved each year, as well as the saving in transport of animal feed to markets outside Speyside.

Diageo's biomass plant at Glenlossie distillery, Speyside produces 3.4MW of thermal energy which is used to power the two Malt Whisky distilleries, Glenlossie and Mannochmore, as well as the onsite dark grains plant, which produces animal feed from distillery by-products. It provides 50% of energy demand for the site and reduces CO2 emissions by 6,000t.

Inverness-based Tomatin Distillery installed a pellet fuelled, 4MW steam boiler for use in its production process. Fuelled by locally produced wood pellets, it allows Tomatin to displace the majority of the distillery's heavy fuel oil and, in doing so, reduces its annual carbon output by over 4,000t – the equivalent of taking 1,200 family cars off the road.

Chivas Brothers, Diageo and Angus Dundee formed a joint venture to install a natural gas pipeline in Speyside to replace the use of heavy fuel oil. The project is expected to achieve a reduction in CO2 emissions of over 10,893t per annum, equivalent to the annual CO2 emissions of two medium sized malt whisky distilleries.