

Our Commitment

By 2020 we will ensure that 20% of the industry's primary energy requirements will be derived from non-fossil fuel sources, with a target of 80% by 2050, thereby reducing greenhouse gas emissions from fossil fuel sources to a minimal level.

Distillation is energy-intensive but produces co-products which can be used as a fuel source. Whisky-making results in two key co-products. Draff is a residue, resulting from malted and unmalted cereals soaking in warm water to remove the sugars as wort. Spent wash or 'pot ale' is the residue in the still after fermentation and distillation of the wort has taken place. Both have traditionally been reused as animal feed products known as 'dark grains' or as a fertiliser and soil improver.

The industry is investing in new ways to recover energy from co-products as an alternative fuel to produce heat and power. This will significantly reduce reliance on fossil fuels.

Work has started on a new £65m bio-energy facility at Diageo's Cameronbridge distillery in Fife, believed to be the largest investment in renewable energy technology by a non-utility company in the UK. The facility will use a range of technologies, including anaerobic digestion and biomass combustion to provide 98% of the steam and 80% of the electrical power required to run the distillery.

Spent wash will be separated into a liquid and a solid fraction using belt filter presses. The liquid will be subjected to anaerobic digestion which produces biogas.

The solid fraction in combination with the biogas, will fuel a combined heat and power plant. This will dramatically reduce current gas requirements. Fossil fuel CO2 emissions are expected to fall by 56,000 tonnes a year, and the need to transport 90,000 tonnes of draff onsite will be reduced.

The Combination of Rothes Distillers (CORD) is a consortium of six distillers - Chivas Brothers, Glen Grant, Inver House, Diageo, The Edrington Group and BenRiach. CORD is investing nearly £30m to build a new Combined Heat and Power (CHP) Plant to replace the existing dark grains facility. This is the first project of its kind in the UK, using draff and pot ale as a biomass source. The investment in a centrifuge and membrane filtration plant will generate over 7MW electricity. Excess energy will be sold to the National Grid - enough to power 9000 homes.

The filtered liquid will be high in nutrients and be sold to local farmers as an organic soil conditioner. The separated dewatered solids will be used as a fuel source for the CHP plant. Water usage will be reduced. It is expected that 47,000 tonnes of CO2 will be saved each year, as well as the saving in transport of animal feed to markets outside Speyside.



Cameronbridge



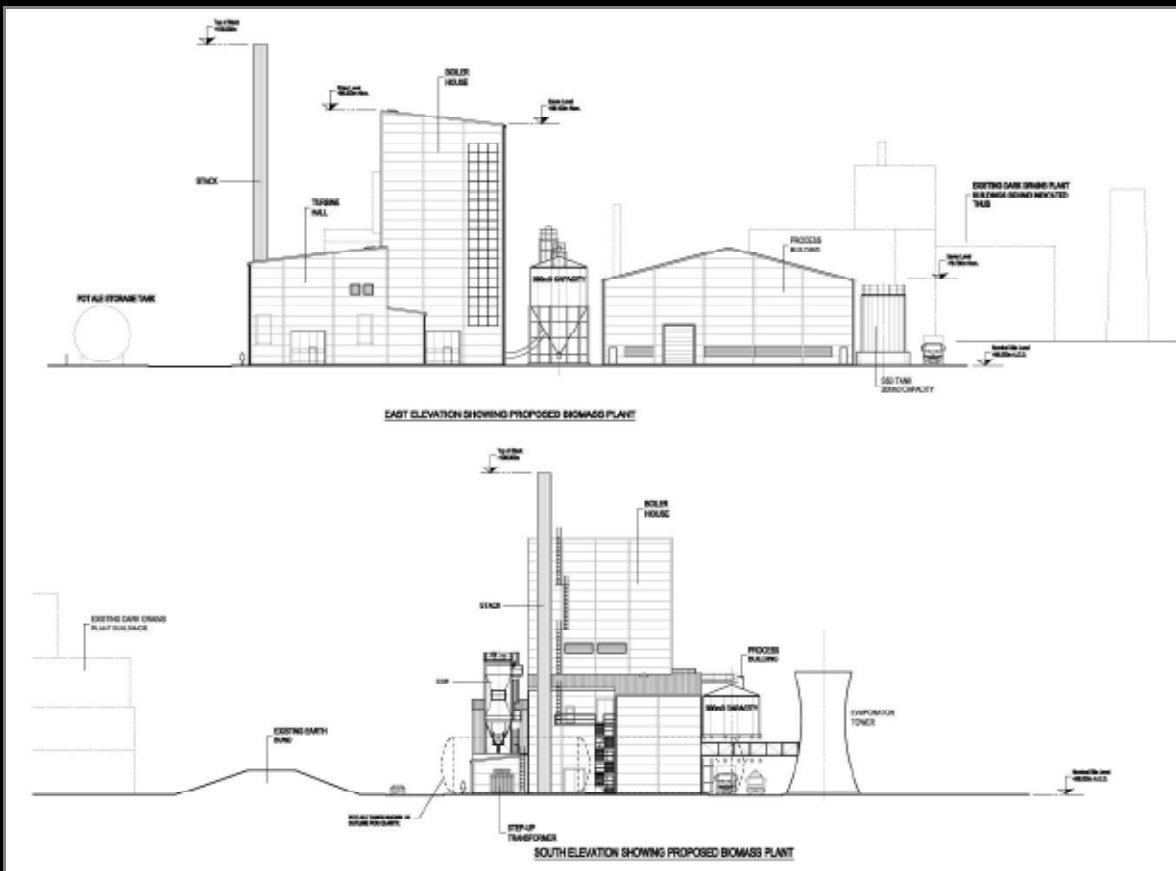
Biomass burner building at Roseisle

Roseisle employs anaerobic digestion to convert carbohydrates in distillery co-products into methane and 'clean' water. The water is used in the malting process, whilst the methane is fed into a biomass boiler to reduce reliance on fossil fuels. The distillery is sited next to Diageo's existing Burghead maltings, which allows waste heat from distilling to be diverted to the maltings plant, again minimising fossil fuel use and CO2 emissions from raw material transport.

The combined technology offsets the distillery fossil fuel demand by 85%, with half the power requirements coming from biomass and biogas. This together with the heat recovery system will recover 8.6Mw of the 10.2Mw demand.

As a prototype project, Scottish Bioenergy is building a reactor at The Edrington Group's Glenturret distillery, near Crieff. CO2 from the distillery boiler will be captured by algae growing in nutrient rich effluent. The biomass will be converted into oil which can be used as fuel and proteins for animal and fish food. The system has an added advantage in that the algae will remove copper from the effluent.

Work has now finished on Diageo's new £40m malt whisky distillery at Roseisle in Moray. The plant has been built to the BREEAM standard, which is recognised as best practice in sustainable design.



Drawing of CORD bioenergy plant