

In Focus - Spring 2009 Pipe Production

During this quarter period (January – April 2009) we have begun to manufacture the 15km of new pipes that are required to connect Glencorse Water Treatment Works to the existing drinking water distribution pipework in Edinburgh and Midlothian. Find out about the activities and machinery involved below:

Expertise

Scottish Water is working with one of the leading manufacturers of large diameter plastic pipe - a Finnish company called KWH Pipe. Normally, KWH produce pipes at their factory in Finland and ship them to wherever they are needed. However, in a **world first**, the pipes for the Glencorse project are being manufactured at a **mobile production plant** adjacent to the new pipeline.



Material

The pipes are made from a type of plastic called polyethylene. This is delivered to the plant in the form of small, black pellets. It is important that these pellets are kept dry as any moisture can affect the quality of the pipes.



Production

The **polyethylene pellets** are firstly removed from the plastic sacks they are delivered in before air is blown through them to ensure they are dry. The pellets are then heated and compressed until they become liquid.

The liquid polyethylene is extruded to form a hollow cylinder shape using specialist machines that have been brought over from Finland. As the pipe is extruded, water is sprayed on to the plastic to cool it in a controlled manner and turn it back into its solid form. The pipe slowly passes through a series of **extruding machines** and finally through the cutting machine which cuts the pipe to the required length. All pipes are inspected for quality and are barcoded so that the exact batch of pellets used in production can be traced. The finished pipe comes out one end of the plant and is stacked up until it is ready to go into the ground.



Green operation

Scottish Water and KWH are very keen to **minimise waste** - even the plastic bags that the pellets arrive in are recycled. The shavings from cutting the pipes are also collected and sent away to be recycled into plastic bags.

Having the pipe production plant close to the pipeline means lorry movements can be reduced by around 75%. This plays a significant part in **reducing the carbon footprint** of the construction, and is also beneficial to the local community with fewer lorries on Midlothian's roads.

