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# Plastics manufacturer cuts energy costs by 15 percent with motor-drive package

A manufacturer of sheet plastics has cut energy costs on a blown film extruder by up to 15 percent per tonne by installing an ABB variable-speed drive and motor.

Capital Valley Plastics produces gas barriers, damp proof membrane and damp proof course at its plant near Pontypool in South Wales. The company uses several blown film extruders, which it was keen to make more efficient and productive.

Richard Haigh, Capital Valley's project manager, says: "Some of our extrusion lines are between 20 and 30 years old and we wanted to improve their output and efficiency without committing to a large investment.

"Making these improvements would mean we could cut our production cost per tonne and be more competitive."

The blown film extruders use DC motors, which are becoming increasingly expensive and difficult to replace and maintain as they become less common. "The DC motors for these machines are bespoke and cost around £30,000 to replace, with a lead time of around 12 weeks," says Haigh.

Maintenance was also a problem, with the carbon brushes of the DC motors needing to be replaced every year at £1,000 a time.

Over the years, the blown film extruders suffered wear and tear on parts, which reduced the output. One particular machine had been fitted with a new barrel and screw. To make the most of these improvements, Capital Valley also decided to replace the machine's existing DC motor with a new AC motor.

Capital Valley's electrical maintenance contractor Lesco recommended ABB's Authorised Value Provider, APDS. "APDS came to the site to assess what we needed on the blown film extruder. We found them very good to work with and very knowledgeable. They instilled a lot of confidence in us that they would provide the solution we needed," says Haigh.

APDS recommended an ABB 200 kW IE3 motor together with an ACS880 variable-speed drive. "The new drive and motor are much more efficient," says Haigh. "Also, because we're getting live readings of our power usage from the drive, we can see how this changes with different products. This helps us quote a more accurate selling price for our products because we have better information on what it costs to produce them."

Together with the new barrel and screw, the ABB drive and motor are saving Capital Valley Plastics between 10 and 15 percent on power use per tonne on the refurbished machine.

Capital Valley Plastics had used an ABB drive and motor on a previous extruder project. In that case, replacing a blown DC motor with an AC motor and variable-speed drive increased productivity by 30 percent.

Capital Valley intends to work with APDS again to replace the DC motors on two other blown film extruders with ABB drives and motors.

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**Caption:** A blown film extruder used to make building materials such as damp-proof course (pictured) now uses up to 15 percent less energy following the installation of an ABB variable-speed drive.

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