

## New fuel efficiency concept for potato processors

**12/05/2004 - A new means of on-site fuel generation for potato processing facilities using recovered potato waste solids has been discovered. The breakthrough could help companies achieve energy savings while at the same time operate in a more environmentally friendly manner.**

By-product recovery firm Water & Oil Technologies began testing potato process waste in North Dakota and Idaho, followed by additional work in Wisconsin and the Canadian provinces, where potato wastewater had been land applied. This land application was prior to the discovery that phosphate present in the wastewater can be dramatically reduced via flocculation with natural flocculent treatment, while recovering solids for by-product use as a fuel blended feedstock when blended with coal. The remaining water can then be recycled for reuse in the plant, especially in areas where drought is affecting plant operations, or will meet EPA water quality requirements to reduce phosphates if discharged to rivers, lakes, streams, or oceans.

After flocculation of the potato peels, blanch water or French fry water solids, the waste solids can then be blended with coal to create a feedstock. This Water & Oil Technologies-patented fuel feedstock process, combined with the use of the Ashworth Combustor, will create the desired syngas while meeting environmental requirements on both sides of the Atlantic.

*"The Water & Oil Technologies flocculation process combined with the Ashworth Combustor process now provides potato processors with a viable use of their potato waste as a fuel feedstock,"* said Water and Oil Technologies President Ed Laurent. *"Today, ever i ncreasing worldwide environmental compliance requirements regulating phosphorus and nitrate reductions in discharge water, in addition to water shortages, severe drought, and the ever increasing cost of natural gas and electricity, make the concept of recovering potato waste to generate fuel a logical choice for potato processors to control fuel costs, thus providing profits in an area where previously there were only costs and/or losses."*

There is certainly growing awareness that food processors need to manage their energy consumption better. In the US, Electric Power Research Institute (EPRI) has long argued for this, pointing out that food manufacturers are some of the largest customers of many energy companies. According to EPRI, agricultural production accounts for 18 to 22 per cent of the electrical load in many areas and food processing industries account for an additional 10 per cent of electrical load.

In addition to energy rationing, there has been growing interest in biofuels such as ethanol and soy diesel to power food processing plants. For example, agri-energy programmes that use biomass (crop production) to generate ethanol and distillers' grains are being connected to confined animal feeding operations (CAFOs). The distillers' grains are being utilised as feed in the CAFOs, and anaerobic digestion is being used to generate methane that is utilised as fuel in the ethanol processes.