

From sunflower seeds to biofuel

By [Dee Henry](#) | Hickory Daily Record

To make biofuel, you have to crush some seeds.

The county continues to develop the Eco-Complex and approved a \$150,000 grant from the Biofuel Center of North Carolina, earmarked for the purchase of seed-crushing equipment and a silo for seed storage.

"We're in the process of identifying the best equipment for what we're doing," said Barry Edwards, director of Catawba County Utilities and Engineering Department.

Edwards said the county is hoping to purchase the new equipment in the fall.

The equipment is headed for the county's Eco-Complex, a joint project between the county's Utilities and Engineering Department and Appalachian State University, where biodiesel fuel will be created from sunflower and canola seeds. The project will be housed in a building at the Blackburn Landfill off Rocky Ford Road.

Currently, the operation, done mostly on the campus of Appalachian State University, a partner in the complex with the county, consists of a portable seed crusher Edwards describes as "very labor intensive" and stores the seeds bagged in piles. The grant will help buy a silo for storage and an automated crusher that extracts oil from sunflower and canola seeds.

Edwards said the county planned to spend approximately \$300,000 on the equipment. The grant is cutting the county's cost by half.

"The new equipment will allow us to store seed in a more efficient way and to crush seeds in a more efficient way," Edwards said.

The old crusher, brought to the Eco-Complex site from ASU, is described in a county document as "small, inefficient and will not be able to meet demands when the Biodiesel Research Facility is ready for production."

Edwards describes the process done by the crusher, a hydraulic press, as extracting the oil necessary for the production of biodiesel from seeds. The oil is processed in several stages â clarification, or the removal of contaminants, and degumming, separating the part of the oil for the fuel from fatty components.

Edwards said county officials are hoping construction on the Eco-Complex facility will begin in the next 60 days.