

By Kerstin Nordstrom

RESEARCH TRIANGLE PARK The Energy Department has awarded a \$4.8 million grant to RTI International, Duke University and a Cary company to develop an energy-efficient wastewater treatment process for industry.

The partners will spend the next three years taking a technology that works in a laboratory and try to show it can work on an industrial scale. U.S. Rep. David Price publicized the federal grant in a town hall-style meeting Tuesday at RTI, a nonprofit research organization based at Research Triangle Park.

The technology could reduce the energy needed to treat wastewater in two ways.

First, it uses waste heat to partially power the water-treatment cycle. Industries produce lots of excess heat that is often not recycled. Second, the technology uses a "forward osmosis" process, as opposed to the typical "reverse" process that requires intense mechanical pumping of water through a filter.

Combined, these two features are expected to decrease the electrical energy needed by more than 90 percent.

At RTI, Price, a Democrat, reminisced about how he had helped bring government water reuse dollars to the Triangle "before earmarks were a dirty word." He emphasized that North Carolina faces water supply issues, and said he hopes this grant helps.

RTI gave Price a tour of several laboratories. In the forensic science lab, Peter Stout demonstrated how money can be tested for the presence of drugs using a mass spectrometer. "All dollar bills have cocaine on them," said Stout, laughing but completely serious.

Across the building in the energy lab, chemist Dave Dayton described "cooking wood" with metal oxides to create biofuels, a method more efficient than conventional yeast-based ethanol production. The lab tour concluded with a presentation by James Cunningham, head of the grant-winning project for wastewater treatment.

The grant to RTI, Duke and Veolia Water, an international company with offices in Cary, was one of 13 that the U.S. Department of Energy awarded this week as part of a larger initiative to work with private companies to improve energy use in the U.S.