

From Electricity to Ethanol: Georgia Power Keeps Alternative Fuels Going Strong

Georgia Power knows electricity. The investor-owned, Atlanta-based utility provides it to almost the entire state of Georgia. So, when deciding how to comply with Energy Policy Act (EPAct) requirements, electric vehicles were the natural choice. Starting in 1995, Georgia Power acquired more than 500 electric cars, trucks, and sport utility vehicles. But within a decade electric vehicles vanished from the market.

“We had good success with electric vehicles,” says Tony Saxon, Georgia Power’s Fleet Procurement Supervisor. “We were disappointed when they were discontinued.”

Disappointed, but not discouraged. Georgia Power shifted its alternative fuel efforts and became one of the state’s biofuel pioneers.

Biodiesel Beginnings

Georgia Power’s first biofuel experience was with B20, a mixture of 20% biodiesel and 80% petroleum diesel. A pilot project dispensing B20 at one location was started in 1999. “We didn’t let the drivers know they were using it, so they wouldn’t blame unrelated problems on the fuel,” says Saxon. “It turns out that a lot of people using the B20 were asking why their vehicles were performing so much better.”

After the successful pilot project, B20 was expanded to 13 Georgia Power locations. It is now used to fuel about a quarter of Georgia Power’s heavy-duty fleet—400 vehicles such as line and bucket trucks—as well as diesel-powered equipment. To date, more than 2 million gallons of B20 have been used, most of it derived from soybeans and some from chicken fat and recycled vegetable oil. The economics have been positive. In some years B20 has been cheaper than straight petroleum diesel, and the current \$1/gallon tax credit on agriculturally derived biodiesel (\$.20/gallon for B20) keeps B20 competitively priced.



This Georgia Power sub-station crane truck is fueled with B20.

Ethanol Pioneer

With the B20 success under its belt, Georgia Power began to evaluate light-duty alternative fuel options. It chose E85 (85% ethanol, 15% gasoline) because of the low incremental cost of flexible fuel vehicles (FFVs) and the relatively low cost of E85 infrastructure. There was only one problem: E85 was nowhere to be found in Georgia.

At first, the problem was solved by importing small amounts of ethanol from South Carolina. This pilot project, started in 2002, was successful, but the high cost of transporting the fuel inflated the E85 cost. A better solution arose in partnership with PS Energy, Georgia Power’s fuel management company. PS Energy converted a large tank in Atlanta that had been used for storing diesel to E85 storage. This fuel was used to supply three additional E85 stations in metro Atlanta, which Georgia Power installed at a cost of less than \$15,000 each. The PS Energy storage site is also open to other fleets wanting to use E85 in their FFVs.

Georgia Power hasn’t had to do much convincing to get its drivers to use E85. “Many employees are enthusiastic about alternative fuels from using them here over the years,” says Saxon. “They’re more than willing to use the onsite fueling—and they call us if the E85 tank is getting low!” A sticker and a letter in each FFV let drivers know they should use E85 when it is available.



Georgia Power now operates 80 FFVs, about 10% of its light-duty fleet, and uses 15,000 gallons of E85 per year. It is collaborating with the Middle Georgia Clean Cities coalition to encourage a private vendor to install E85 capability in Macon, enabling FFVs to fuel with E85 outside metro Atlanta. The station would be open to the public as well.

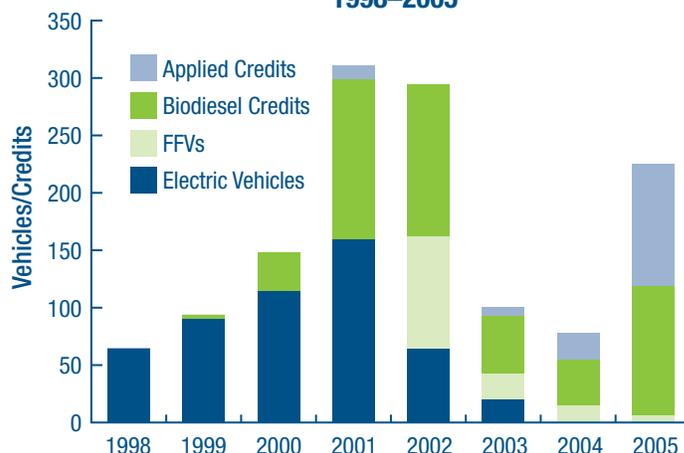
Lessons Learned

Georgia Power has learned several important lessons from its biofuel experience. Early on, there were issues with B20 clogging fuel filters in older vehicles and storage tanks. These issues were anticipated and quickly overcome. Another lesson was that biodiesel must be treated the same as diesel. If problems have occurred with diesel gelling in the winter and experiencing microbial growth in the summer, the same problems will occur with biodiesel. These problems can be controlled with additives in the storage tanks.

As an early adopter of E85 in the Southeast, getting proper E85 storage tanks built was another challenge. When told the tanks were for E85, the tank manufacturer would think “gasohol,” which is only an E10 blend. This created problems when tank components made for E10 were not compatible with E85. To solve the problem, the National Ethanol Vehicle Coalition (NEVC) provided Georgia Power with a list of compatible components, and Georgia Power gave these to the tank manufacturer, ensuring the correct specifications. Also important for installing E85 tanks was establishing good working relationships with municipal and county governments and fire marshals, which made the permitting process smoother.

Georgia Power learned the value of collaborating with alternative fuel organizations as well. Its involvement with the Atlanta and Middle Georgia Clean Cities coalitions has provided useful contacts with fuel suppliers and

**Georgia Power's EPA Act Acquisitions and Credits
1998–2005**



vendors, among other benefits. Education on issues such as fuel handling has come from the NEVC and the National Biodiesel Board (NBB). “I encourage anyone who wants to use biodiesel or E85 to contact NBB and NEVC,” says Saxon. “It’s a lot better to learn from them than to try to learn it all yourself.”

The Next Adventure

Georgia Power continues to acquire FFVs and use B20 (as well as E85) in compliance with EPA Act. It is also helping manufacturers evaluate new transportation technologies. “Our latest adventure is two heavy-duty hybrid bucket trucks running on B20,” says Saxon. Georgia Power is collecting data on the trucks in cooperation with WestStart’s Hybrid Truck Users Forum. In addition to saving fuel, the trucks reduce emissions by running on battery power instead of idling at work sites.

“Our company is looking to save fuel, reduce emissions, and create a positive environmental impact any way we can,” says Saxon. “It’s just the right thing to do.” For more information, contact Saxon at agsaxon@southernco.com.

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