

# State Energy Program Case Studies

## From Minnesota to New Mexico, E85 Expands beyond the Corn Belt

*A local coalition led by the New Mexico energy office and supported by DOE extends the availability of E85 to the Southwest. The project involves negotiating with local officials, lining up investment from the private sector, and educating the public about the benefits of ethanol as an alternative transportation fuel.*

**S**anta Fe, New Mexico is a long way from St. Paul, Minnesota both in character and as the crow flies. Both cities are state capitals, however, and they now have another thing in common: Both can boast of service stations that dispense E85 fuel for cars and trucks.

What is E85? It is a federally approved mix of 85% ethanol and 15% gasoline. EPAct, the Energy Policy Act of 1992, mandated certain fleet operators (mostly government agencies) to buy vehicles that can run on alternative fuels.

The Midwest has long led the list of ranking states in terms of E85 availability. Because most ethanol in the United States is made from corn, most E85 stations are found in the Corn Belt. The great confluence of E85 supply and demand around Minnesota's Twin Cities, in fact, is sometimes called the "Minnesota Miracle" by alternative fueling advocates. More than 80 stations throughout the state sell E85.

But the market presence of E85 has gradually expanded to other regions of the country. The Alternative Fuels Data Center, maintained by DOE's Clean Cities Program, now lists more than 180 E85 stations nationwide. At last count, it was available in 26 states, including Minnesota, Illinois, Iowa, California, Kentucky, Wyoming, and New Mexico.

The Land of Enchantment's first fill-up of E85 happened in July 2003, at the opening of a newly remodeled Phillips 66 station in Santa Fe. Standing proudly beside the gasoline pumps was a single E85 dispenser, as banners billed E85 as the "Clean Air Fuel Choice." That site will be part of network of at least four stations that serve New Mexico. By mid-2004, a second E85 site will be installed in Santa Fe. Both are owned and operated by Albuquerque-based Amigo Petroleum. Also expected this year is public E85 fueling at an Albuquerque site that previously sold gasoline and diesel to private commercial customers. A fourth E85 location is anticipated at the Los Alamos National Laboratory (security concerns may prevent it from being publicly accessible).



Alternative Fuels Vehicle Network

***E85 became available to vehicles in New Mexico last summer, with the grand opening of a Phillips 66 station in Santa Fe. One of the first to fill up was a flexible-fuel Ford Explorer operated by the Land of Enchantment Clean Cities Coalition.***

New Mexico



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*Albuquerque and Los Alamos are the end points of New Mexico's E85 corridor. Another station is expected in Santa Fe by mid-2004.*

The result will be a 100-mile "corridor" of E85 availability that covers parts of Interstate 25, U.S. Highway 84, and New Mexico State Highway 502. "The idea is for people to be able to drive anywhere along that route with confidence of finding fuel wherever they need it," says Rene Parker, who manages the project for the state energy office, called the New Mexico Division of Energy Conservation and Management.

Most of the ethanol in New Mexico is delivered by Illinois-based Archer Daniels Midland Company to distributor EverReady Oil in Albuquerque. It arrives as fully blended E85. A small amount of sorghum-based ethanol is produced at a plant in Portales, New Mexico. None of it goes into E85, however. Alternative fuel advocates hope to someday use renewable sources of biomass, such as wild grasses and forest thinnings, to make ethanol.

## Many Players Helped Establish E85

The state's emerging E85 corridor is the product of efforts and support by many interested parties. Two Special Projects awards from DOE's State Energy Program (SEP) have brought in \$100,000 and \$191,749. The applicant for both awards was the Land of Enchantment Clean Cities Coalition (one of approximately 80 local chapters of DOE's Clean Cities Program, based in urban areas across the country). Additional support came via the National Ethanol Vehicle Coalition, which administers grant funding from DOE. The entire effort was coordinated by the state energy office, directed by Christopher Wentz, under the New Mexico Department of Energy, Minerals and Natural Resources.

Much of the work has been undertaken by two New Mexico-based nonprofit organizations. One is the Alternative Fuel Vehicles Network (AFVN), directed by Frank Burcham. The AFVN has strived for more than a decade to expand the state's alternative fueling infrastructure. Past efforts focused on natural gas fueling, which is abundant in the Southwest.

According to Burcham, New Mexico's interest in ethanol stems from a perplexing problem that affects E85 fleets everywhere, not just in New Mexico. Since EPA's effect in the mid-1990s, regulated fleets have been required to buy vehicles that can run on alternative fuels. But these flexible-fuel vehicles, or FFVs can usually run on regular gasoline as well. "A lot of fleets have met their mandates by buying FFVs that rarely or never use alternative fuels," he says.

(Partly in response to this problem, federal fleets were ordered to go beyond merely acquiring alternative fuel vehicles, and to substantially reduce their use of petroleum by 2005. See Executive Order 13149 at [www.eere.energy.gov/vehiclesandfuels/epact/federal/compliance\\_guidelines.shtml](http://www.eere.energy.gov/vehiclesandfuels/epact/federal/compliance_guidelines.shtml).)

New Mexico is home to several EPA-regulated government fleets, and many FFVs. Federal fleets are operated by the Kirtland Air Force Base and the Sandia National Laboratory; both in Albuquerque; and the Los Alamos National Laboratory, in Los Alamos. The U.S. General Services Administration operates vehicles in its own fleet, and leases vehicles to the U.S. Forest Service and the Bureau of Land Management. State fleets are operated by the Department of Transportation and the Department of Energy, Minerals and Natural Resources. Thousands of government fleet vehicles in New Mexico can run on E85, but most haven't had the opportunity to do so, due to lack of local availability.

### E85 Information Campaign

Individual motorists make up another part of the target market. Use of alternative fuels by individuals is voluntary. All potential users, public and private, are the intended audience of a media campaign that focuses on E85 in New Mexico. Print ads and radio-broadcast public service announcements will outline the clean air benefits of E85, tell motorists where to find it, and explain which vehicles can use it. The campaign is being conducted by Vision Trust, a media agency based in Albuquerque. That firm will also develop an E85 multimedia program to be distributed in a CD format. Its funding is part of the New Mexico's second SEP award, in 2003.

The need for public enlightenment about E85 became evident in research conducted by Vision Trust and the Alternative Fuels Vehicle Network. A written quiz was given to approximately 150 individuals. Some were even auto salespeople who sell E85-capable FFVs. When asked what E85 is, with four multiple-choice answers, three quarters of their responses were incorrect. "That's roughly the success rate you'd expect from pure chance," notes Burcham.

To make the fuel more accessible, E85 dispensers will be equipped with electronic credit card readers—the type used commonly on gasoline pumps. Importantly, they will accept government credit cards as well as consumer cards. Data about government purchases will be stored in a database, and will be given to federal fleets, which must report on their use of alternative fuel vehicles to the U.S. Department of Energy.

The other nonprofit organization working to establish E85 in New Mexico is Santa Fe-based Renewable Energy Partners, directed by Richard Mason. That organization engineered and installed the E85 dispenser and tank at the first Santa Fe site, and is doing similar work at the second one across town. From the start, designers aimed to make E85 fuel look "mainstream," says Mason. At locations elsewhere in the country, selling E85 is sometimes an afterthought. The fuel may be dispensed from tanks located away from the main pump islands. Its availability may or may not be advertised on the station's main product-pricing sign.

In the first few weeks of selling E85 in Santa Fe, however, station operators experienced an unexpected problem. The snazzy signage drew attention even from people without E85-capable vehicles. "One guy with a vintage Mustang insisted on buying it. He wanted the higher octane," says Mason. The station is devising new ways to discourage people from buying E85 if their cars are not equipped to handle it. Mason's organization is also working with car dealers in Santa Fe to expand sales of used flexible-fuel vehicles, with an online marketplace.

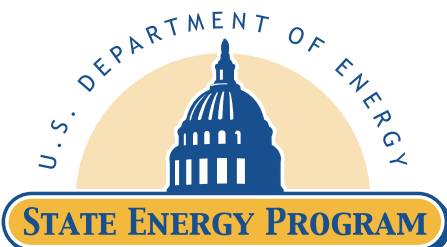


*E85 is billed prominently on the price sign with other mainstream motor fuels.*

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