

tem design for effective use of resources in EV research and development. GM has announced plans to introduce an electric van using this technology. The GM electric "G" van is scheduled for limited domestic production in 1989.

Alternative Transportation Fuels

The transportation sector relies almost entirely on petroleum products as a source of energy. Recognizing the vulnerability of this sector, DOE has sponsored research activities to develop alternative fuels. In cooperation with the Department of Transportation, numerous academic institutions, and private sector firms, DOE research initiatives have focused on long-term, high-risk basic research oriented towards the development of an alcohol fuels technology base to supplement and replace conventional hydrocarbon fuels. This initiative has developed neat and near-neat alcohol-fueled vehicles and stimulated private industry to develop and market oxygenated fuels and additives such as ethanol,

methanol, tertiary butyl alcohol, and methyl-t-butyl ether. These and other oxygenates are now blended with gasoline in quantities up to 10 percent by volume, replacing over 24 million barrels of oil (139.2 trillion Btu) on an annual basis. Oil import requirements have been reduced as a result of the implementation of these research results, and a broad technology base has been established that directly contributes to national security. The combustion characteristics of oxygenated fuels, particularly ethanol and methanol, also contribute environmental benefits, especially in regions which have not attained air quality standards, such as Southern California. DOE is working with the Environmental Protection Agency, the California Energy Commission, and the California Air Resources Board to develop alcohol fuels implementation strategies that will simultaneously reduce petroleum dependence levels and enhance environmental conditions.