

Transportation Fuel Comparison

	GASOLINE	DIESEL	PROPANE	CNG	LNG	ETHANOL	METHANOL	ELECTRICITY	BIODIESEL
Chemical Formula	C_8H_{15-18}	$C_{16}H_{34}$	C_3H_8	CH_4	CH_4	C_2H_5OH	CH_3OH		C_{14} to C_{24}
Energy Content (<i>Btu/gallon</i>)	114,000	128,000	84,000	114,000 <i>gal equiv</i>	76,000	E85 - 80,460 E100 - 75,000	M85 - 65,000 M100 - 57,000		B20 - 126,000 B100 - 115,000
Octane	86-94	Cetane: 40-55	104	120+		100	100		Cetane: 40-55
Number of Vehicles	220,000,000	800,000	195,000	144,000	3,100	E85-146,000 E10-3,000,000	4,600	55,000	
Number of Fuel Stations	180,000		3,500	1,300	50	E85-200	40	600	
Advantages	Many fuel stations; vehicles designed to use gasoline; familiarity.	Many fuel stations; vehicles designed to use diesel fuel; familiarity.	Inexpensive fuel; most widely available clean fuel; lower emissions of ozone-forming hydrocarbons and toxics, very good for fleets	Very low emissions of ozone-forming hydrocarbons, toxics, and carbon monoxide. Very good fuel for fleets; can be made from renewables.	Very low emissions of ozone-forming hydrocarbons, toxics, and carbon monoxide. Very good fuel for fleets; can be made from renewables.	From renewable feedstocks; very low emissions of ozone-forming hydrocarbons and toxics; can be domestically produced.	Very low emissions of ozone-forming hydrocarbons and toxics; can be made from renewable feedstocks.	Zero vehicle emissions; power plant emissions easier to control; can recharge at night when power cost and demand is low.	Reduces sulfur emissions; increases lubricity; uses renewable waste products; no vehicle changes required.
Disadvantages	Polluting emissions; unpredictable price; nonrenewable; limited and possibly unreliable supply.	Polluting emissions; unpredictable price; nonrenewable; limited and possibly unreliable supply.	Nonrenewable, cost may rise with increasing demand; limited supply; no energy security or trade balance benefits.	Higher vehicle cost, lower vehicle range; limited fueling stations, nonrenewable at present.	Higher vehicle cost, lower vehicle range; limited fueling stations, nonrenewable at present.	Variable fuel cost; somewhat lower vehicle range; not widely available.	Limited supplies; lower range; not widely available; currently made from nonrenewables.	Current technology is limited; higher vehicle cost; lower range and performance; less convenient refueling.	Limited availability; higher cost.