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What is Biodiesel?



- Alternative fuel for any *diesel* engine
- Renewable (soybean oil, recycled restaurant oil)
- Usable in pure form (B100) or blended
- Domestically produced
- Commercially available in all 50 states
- Millions of successful road miles



What is Biodiesel?



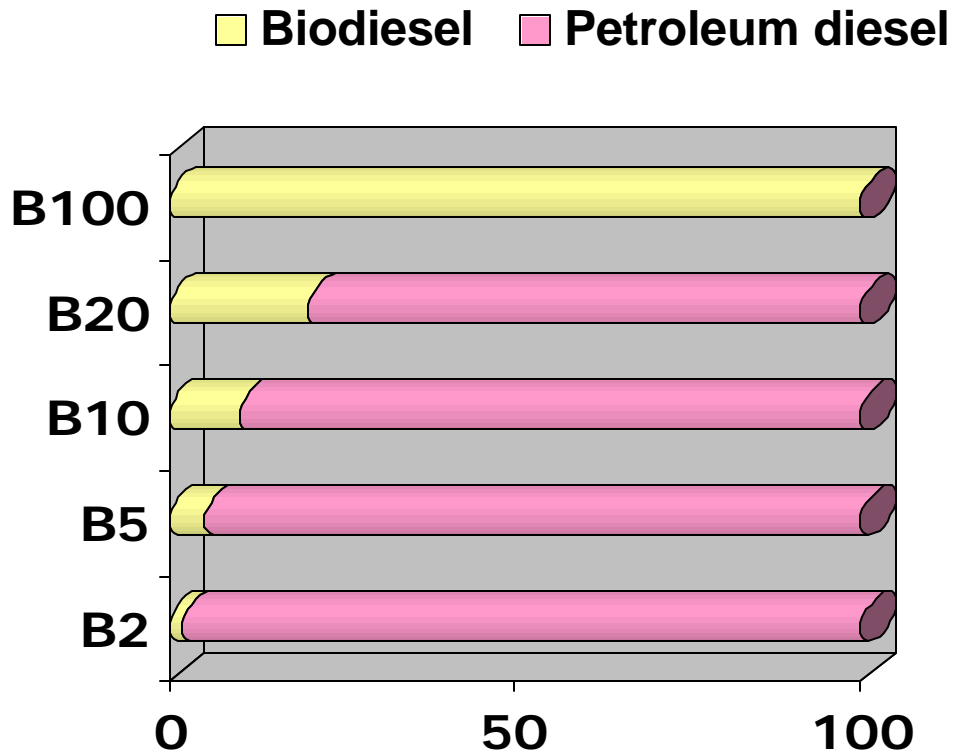
- ASTM 6751
- Legal fuel registered with EPA
- Only fuel to pass Health Effects (I & II)
- Biodegrades as fast as sugar
- 10 times less toxic than salt
- Higher cetane than petrodiesel
- Higher lubricity than petrodiesel
- Safer to handle



The Biodiesel Reaction

- ✍ Reaction of an alcohol with a triglyceride (vegetable oils, animal fats, recycled cooking oils) in the presence of a catalyst.
- ✍ Two resulting products:
 - ✍ biodiesel
 - ✍ glycerin





B100 = 100% biodiesel

B20 = 20% biodiesel + 80% petroleum diesel

B10 = 10% biodiesel + 90% petroleum diesel

B5 = 5% biodiesel + 95% petroleum diesel

B2 = 2% biodiesel + 98% petroleum diesel



Biodiesel—National Momentum

- ✍ More than 300 major fleets using B20 For EPA Act
- ✍ Federal agencies are using B20
- ✍ Presidential Executive Orders:
 - ✍ 13134, 13101, 13149
- ✍ Customer interest is skyrocketing



Federal Energy Bill—EPACT

✍ Currently:

- ✍ 450 gallons of B100 equals one credit.
- ✍ Biodiesel can be used for 50% of EPACT requirements.
- ✍ Biodiesel credits are not bankable or tradeable.

✍ Proposed bill

- ✍ Would lift the 50% cap imposed on biodiesel.
- ✍ Would allow banking and trading.
- ✍ Would allow other alternative fuels to also generate fuel use credits.



Fleet Managers Perspective

- ✍ Biodiesel will be the least cost compliance strategy for fleets that are facing state or federal regulatory pressure to purchase AFV's or utilize alternative fuels.





✍ Major Customers Include:

✍ U.S. Forest Service

✍ U.S. Postal Service

✍ MODOT, NJDOT

✍ Yellowstone

✍ Cities of Philadelphia
and St. Louis

✍ Florida Power & Light

✍ Omaha Public Power

✍ Medford N.J. School
District

✍ U.S. farmers



US EPA 2006 Rule

- ✍ On-road diesel fuel will have 15 ppm sulfur maximum to enable diesel after-treatment devices
- ✍ In 2007, engine PM and NOx emissions requirements reduced over 90%
- ✍ Biodiesel is already less than 15 ppm sulfur content





✍ Many engine manufacturers support biodiesel blends

✍ Caterpillar

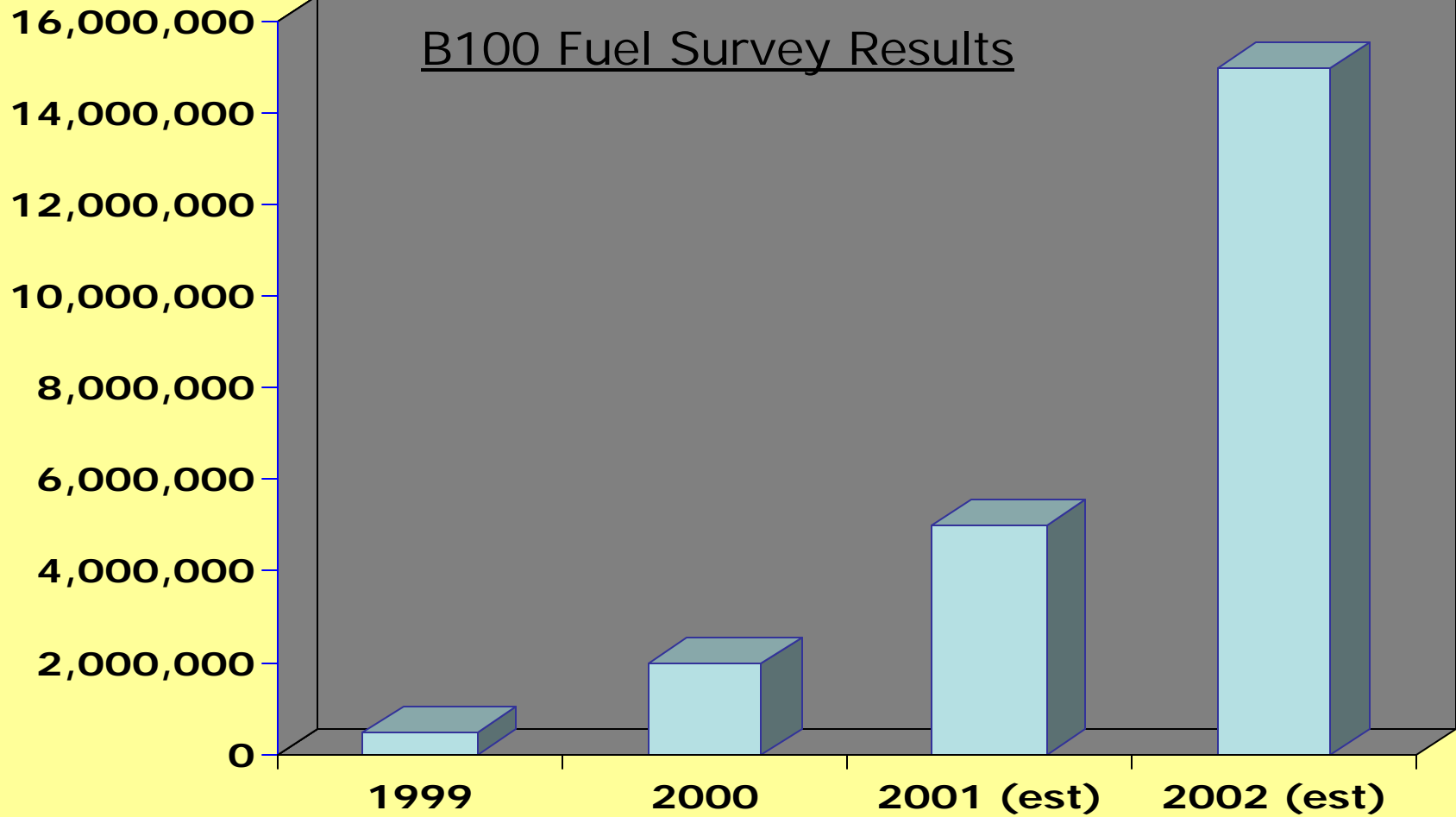
✍ Cummins

✍ Detroit Diesel

✍ International

✍ John Deere

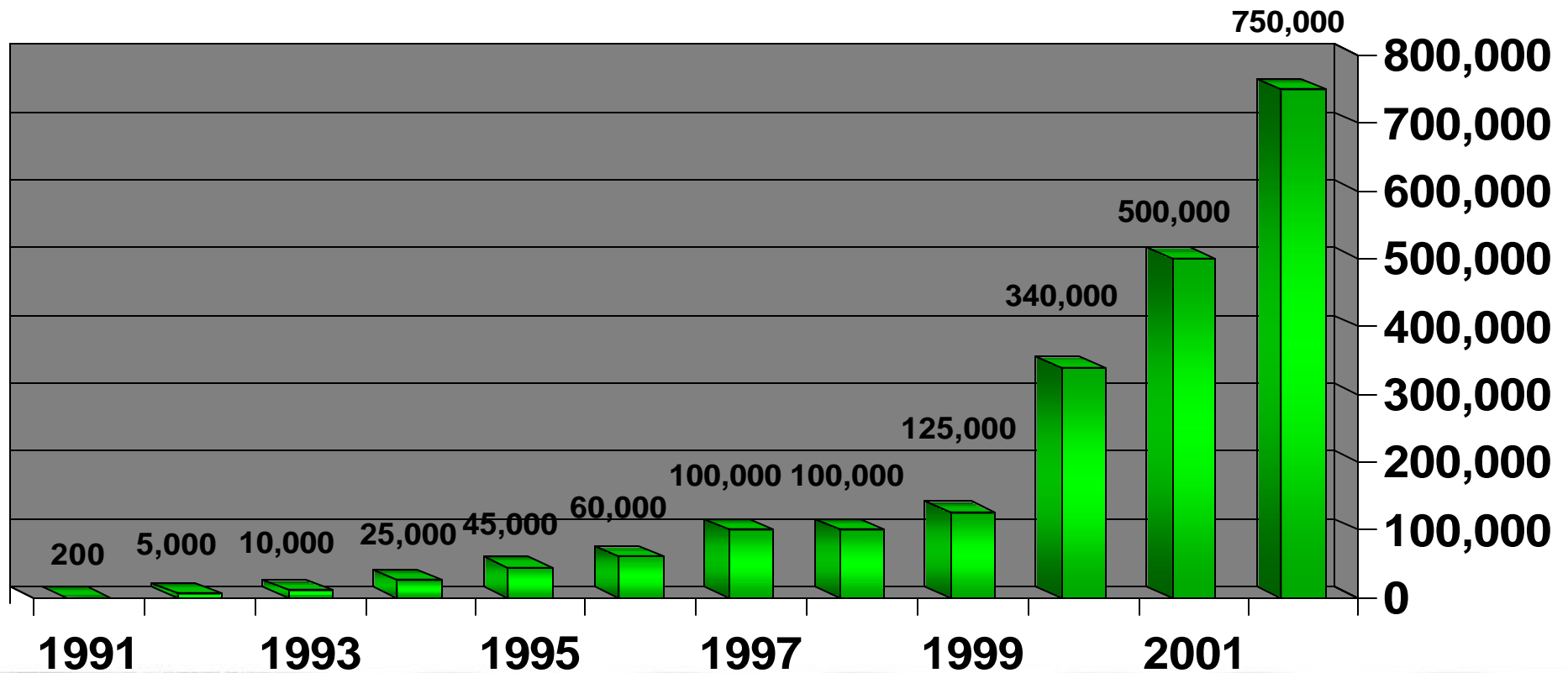




Biodiesel Sales in Germany (1991-2002)

200 million gallons per year

tonnes/yr

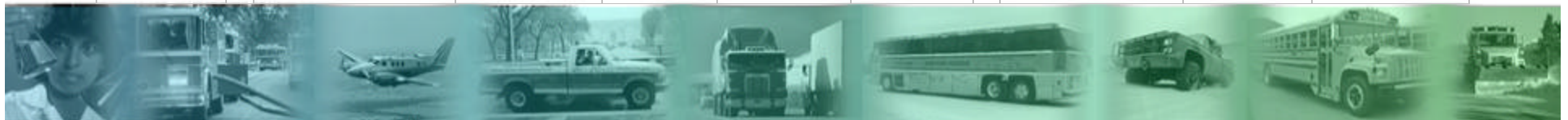


2002: estimated

Biodiesel Producers in Europe 2002

		Transesterification						Transesterification		
Country	Company	Site	Capacity t/yr	Production since	Country	Company	Site	Capacity t/yr		
Germany	1 Connemann/ADM	Leer	115.000	91/93/95	Italy	8 Bakelite	Solbiate	70.000		
	7 Oelmühle Hbg/ADM	Hamburg	150.000	mid.01		5 Cons. Agr. E.E.	C.d.Castello	27.000		
	5 Bio-Diesel	Wittenberge	60.000	1999		1 Novaol	Livorno	90.000		
	6 VNR	Ochsenfurt	75.000	99/00		4 Fox Petroli	Ancona	40.000		
	8 MUW	Bitterfeld	90.000	end.01		7 IGS	Milano	19.000		
	9 HaGeVa	Niederpöllnitz	40.000	end.01		6 Defilu	Milano	20.000		
	7 Petrotec	Borken-Burlo	20.000	2001		2 Distillerie Palma	Neapel	30.000		
	2 Hallertauer/Agrana	Mainburg	8.000	1996		3 Oleifici Italiani	Bari	7.000		
	4 ADIB-APV	Henningsleben	4.000	1997		9 Comlube	Brescia	5.000		
	3 Vogtländer	Grossfriesen	2.000	1997		308.000	Slovakia	PALMA-Thumys	Bratislava	60.000
	? BD Rhein-Main Gmb	Wiesbaden	40.000	end.01?		The Netherlands				0
	? Biodiesel GmbH	Schwarzheide	100.000	end.02?		Denmark	Emmelev	Otterup		000
	? Bioenergie West	Marl	100.000	mid.02		Finland				0
	? Rheinische BioEster	Neuß	100.000	?		Norway				0
	? Fugema/RHG	Malchin	40.000							00
? Saria Bio-Industrie	Malchin							0		
? (CD Process)	Magdeburg							00		
? Maschinenringe SH	Brunsbüttel	1						00		
1.226.000	? Jenamethyl AG	Jena	1					0		
France	1 Cognis/Diester	Boussens						0		
	2 Robbe/Diester	Compiègne						0		
	3 Dico-Saipol/Diester	Rouen	15					0		
	300.000	4 ICI Novaol	Verdun	6				0		
Austria	2 RME Bruck	Bruck	2					0		
	1 STEEG + others	Mureck	14.000					0		
	51.000	3 Biodiesel Raffinerie	Zistersdorf	12.000				0		
Sweden	Ecobrånsl	Knislinge	8.000	92/01				0		
Czechia	Milo Oloumuc	Olmütz	30.000	1995				0		
	+ others		30.000	92/94				0		
Belgium	BASF (ex. Sisas)	Feluy	60.000	1995				0		
60.000								0		
					Total Capacity Eur 2.000.000					
					+ Estimate Biodiesel World:					
					Japan	1 Nishida Co.	Nagano	2.000		
					USA	1 Pacific Biodiesel	Hawaii	2.000		
						2 World Energy, Ocean Air, Stepan, Columbus, Griffin, AEP, South. St., etc		30.000		
					Australia	ABC	Sidney	4000		
					Canada					
					Sources: Market informations, own estimates 9-01					

Abt. 500 million gallons biodiesel in EU in 2003





At the state level, approximately 90 biodiesel specific bills were introduced this session in 33 states.








Twenty-six biodiesel specific bills passed.



Illinois HB46/SB46




HB 46

-  Sales tax exemption (6.25%) on above B10.
-  Partial exemption (20% off 6.25%) on B1 to B10.
-  Generally will be a little over a penny discount on B1



Illinois HB46/SB46

SB 46

-  Offers grants to alternative fuel producers (both ethanol and biodiesel) for plant construction or modification.
-  Requires 30 million gallon capacity.
-  Requires project labor agreement.



Arkansas SB 363

- ✍ Provides a 5% income tax credit for plant and equipment for biodiesel wholesale or retail distribution. Provides a 10 cent per gallon grant to qualified producers. Grants are limited to the first 5 million gallons of biodiesel produced annually, not to exceed 5 years.



Indiana – HB 1001

- ✍ Income tax credits for producers/blenders/retailers. It is capped at \$1 million per incentive - total for the 2 years (2004-2005). The producer credit is equal to \$1 per gallon of biodiesel produced in Indiana, and used to make blended biodiesel (B2-B99). The blender credit (above B2) is 2 cpg, if using Indiana biodiesel. The retailer credit is one cpg (no restriction on state production).



Iowa – HB 681

- ✍ Tax credits for co-op's producing "value-added ag products". Current law limits to ethanol plants. Provides that an eligible business may claim a tax credit of up to 10 percent of a new investment that involves the creation of new jobs. Eligible businesses may elect to receive a refund of all or a portion of the unused tax credit



North Dakota – HB 1309

- ✍ 10% tax credit for producers/blenders on equipment. Also includes a 1.05 cent excise reduction on B2 after 8 million gallon capacity.



Texas – SB 273

- ✍ The bill establishes a biodiesel fund. Producers report the gallonage produced, pay a 3.2 cents per gallon (cpg) tax. The state matches by a multiplier of 5.25 cpg.
- ✍ Quarterly, the state issues grants of 20 cpg back to the plants. The 20 cpg grant lasts 10 yrs.
- ✍ Grants are limited to 18m gallons per year per producer per registered plant (\$3.6m).






Texas current law

- ✍ The biodiesel portion of a blend is exempt from state excise tax provided the finished product is clearly identified as a blend. Texas currently charges 20 cents per gallon excise tax. B20 would only be charged 16 cents excise. Section 153.203.11(b)



Federal Energy Bill—Tax Provisions

Federal Excise Tax Credit

-  Offers a cent credit per percentage point of biodiesel blended up to a B20 blend.
-  Excise tax credit is available for biodiesel produced from vegetable oils or first use animal fats (defined in the bill as agri-biodiesel)
-  Does not impact Highway Trust Fund.



Federal Energy Bill—Other

✍ Renewable Fuel Standard

✍ Requires the sale of renewable fuels, specifically ethanol and biodiesel.

✍ Not a mandate for ethanol or biodiesel

✍ Engine Testing Program

✍ Authorizes funds to be utilized for testing biodiesel in future diesel technology.



National Biodiesel Board (NBB)

 Informational and technical resources, videos, database

 www.biodiesel.org

 800/841-5849

