



2020 Outlook Samples

BIOMASS BASED DIESEL FEEDSTOCK REPORT FOR 2020 AND BEYOND

Example A

US SOYBEAN OIL PRODUCTION & CONSUMPTION – HIGH BIOMASS BASED DIESEL CONSUMPTION

US SOYBEAN OIL SUPPLY AND DEMAND - High Scenario (Million Pounds)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Carryin	2,000	2,000	2,000	2,000	2,000	4,750	5,400	5,500	5,500	2,200	2,700
Production	24,276	24,156	24,226	23,940	24,246	24,246	24,246	24,227	24,424	24,853	24,710
Imports	500	400	400	400	400	400	400	1,000	2,200	4,877	7,000
Total Supply	27,276	27,322	27,366	27,340	28,646	29,496	30,296	31,427	32,107	33,786	34,420
Domestic Usage	21,276	21,200	21,200	21,700	22,207	22,800	23,704	24,803	25,201	25,800	27,204
Biodiesel	7,400	7,800	7,800	8,200	8,200	10,200	11,800	13,200	14,200	15,400	17,204
Biodiesel	7,200	7,600	7,200	7,100	7,200	8,700	9,800	11,200	12,200	13,200	14,200
Co-Processing	200	200	600	1,100	1,000	2,500	2,000	2,000	4,000	2,200	4,000
Non-Biodiesel Usage	14,100	13,700	13,400	13,500	15,000	12,600	11,900	11,600	11,000	10,400	13,000
Exports	2,700	2,800	2,800	2,900	2,800	2,800	2,800	2,800	2,800	700	700
Total Use	24,226	24,247	24,227	23,800	24,227	24,227	24,704	27,603	28,001	27,200	32,714
Carryout	2,000	2,076	2,027	2,007	4,750	5,400	5,500	5,500	2,200	2,700	2,714
Median Price (cents per pound)	30.00	32.00	34.00	36.00	38.00	40.00	42.00	44.00	46.00	48.00	50.00

Production forecasts based on USDA data and Jacobsen forecasts. Consumption projections based on EIA, USDA and Jacobsen data.



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Example B

LCFS MARKET OUTLOOK

- California is an estimated 4 Billion Gallon Diesel market for on-road fuel
- At present Biodiesel has a 10% blend (B10) cap based on present Nox issues still being worked out with CARB and the LA Air Quality Agency, effectively creating a blendwall for Biodiesel
- Renewable Diesel as a 'drop-in' fuel versus Biodiesel characteristics effectively eliminates any type of theoretical blend wall up to the 4 Billion gallons of overall Diesel demand, thus Renewable Diesel supply the limiting factor today.

		2017	2018	2019	2020	2021	2022	2023	2024	2025
RFS2	Total RFS2 (gals)	2,385,344,787	2,517,271,538	2,662,464,375	2,792,207,792	2,893,851,149	2,981,475,874	3,045,547,443	3,092,035,384	3,081,549,813
LCFS	Total LCFS (gals)	504,479,219	548,263,194	621,000,000	1,000,000,000	1,175,000,000	1,370,000,000	1,490,000,000	1,590,000,000	1,650,000,000
RFS	Biodiesel RFS	62%	62%	74%	72%	64%	62%	54%	49%	45%
	Renewable Diesel RFS	18%	18%	24%	28%	34%	40%	46%	51%	55%
LCFS	Biodiesel LCFS	34%	32%	33%	33%	34%	37%	32%	26%	23%
	Renewable Diesel LCFS	64%	68%	67%	67%	64%	63%	68%	74%	77%





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Example C

**LCFS CREDIT
VALUE IN TERMS
OF FEEDSTOCK
CENTS PER
POUND**

LCFS MARKET CLOSE 12/23/2019

Biodiesel Feedstock	Biodiesel CI Score	LCFS Cents/gal	LCFS Cents/lb
Corn Oil	22.66	157.22	19.17
Tallow	24.86	124.12	15.88
Soybean Oil	24.26	122.72	14.81
Canola Oil	22.91	129.61	16.14
UCO (North America)	21.28	128.61	15.93
UCO (CA)	17.88	200.20	25.01

Renewable Diesel Feedstock	Renewable Diesel CI Score	LCFS Cents/gal	LCFS Cents/lb
Corn Oil	24.22	129.82	17.25
Tallow	27.71	122.79	14.88
Soybean Oil (REG)	24.27	122.42	15.21
Soybean Oil (DG)	22.86	127.66	15.67
UCO (North America)	20.84	175.82	22.09



2020 Outlook Samples

BIOMASS BASED DIESEL FEEDSTOCK REPORT FOR 2020 AND BEYOND

Example E

US CHOICE WHITE GREASE PRODUCTION & CONSUMPTION – LOW BIOMASS BASED DIESEL CONSUMPTION

US CHOICE WHITE GREASE SUPPLY AND DEMAND - Low Scenario (Million Pounds)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Carryin	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Production	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Imports	0	0	0	0	0	0	0	0	0	0	0
Total Supply	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Domestic Use	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Biodiesel	500	500	500	500	500	500	500	500	500	500	500
Biodiesel	500	500	500	500	500	500	500	500	500	500	500
Co-Processing	0	0	0	0	0	0	0	0	0	0	0
Non-Biodiesel	500	500	500	500	500	500	500	500	500	500	500
Exports	0	0	0	0	0	0	0	0	0	0	0
Total Use	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Carryout	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Median Price (cents per pound)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Production forecasts based on USDA data and Jacobsen forecasts. Consumption projections based on EIA, USDA and Jacobsen data.



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Example F

LONG-TERM BALANCE SHEET ANALYSIS & PROJECTIONS

Built balance sheets for individual feedstocks and incorporated biodiesel demand based on individual scenarios, historical feedstock mix and proprietary feedstock yield estimates.

	Historical Usage	Biodiesel Implied Feedstock Requirement - High																				
Biodiesel																						
Canola Oil	10.8%																					
Corn Oil	12.3%																					
Cottonseed Oil	0.0%																					
Palm Oil	0.0%																					
Soybean Oil	52.5%																					
Other (Sunflower Oil)	0.3%																					
Poultry Fat	1.7%																					
Tallow	3.1%																					
White Grease	5.0%																					
Other (Lard)	0.6%																					
UCO/Yellow Grease	12.2%																					
Other Grease	0.9%																					
Total Feedstocks	99.4%																					
Renewable Biodiesel		Renewable Diesel Implied Feedstock Requirement - High																				
Corn Oil	9.6%																					
Fish Oil	3.2%																					
Other	0.0%																					
Tallow	69.5%																					
UCO/Yellow Grease	17.6%																					
Total Feedstocks	100.0%																					
Co-Processing		Co-Processing Implied Feedstock Requirement - High																				
Soybean Oil	50.0%																					
Canola Oil	25.0%																					
Tallow	10.0%																					
UCO/Yellow Grease	10.0%																					
Corn Oil	1.7%																					
White Grease	1.7%																					
Poultry Fat	1.7%																					
Total Feedstocks	100.0%																					