Published by
Federal Office for Agriculture and Food
Deichmanns Aue 29
53179 Bonn, Germany

Telephone: +49 (0)228 99 6845 – 2550
Fax: +49 (0)228 6845 – 3040

Email: nachhaltigkeit@ble.de
Internet: http://www.ble.de/Biomasse

Editor
Federal Office for Agriculture and Food
Unit 221 - Policy Matters of Group 22, Recognition and Accreditation Procedures, Control Procedures Biomass

Layout
Federal Office for Agriculture and Food

Picture credits
Federal Office for Agriculture and Food
Cover photo: Fotolia.com

Editorial status: **October 2015**
Status data base excerpt: **July 2015**

List of tables

11 Background data

Table 8: Raw materials of biofuels in terajoule [TJ][1]

Fuel type/ quota year / Raw material	Bioethanol			Biomethane			Bio-methanol[1]		FAME			HVO			Vegetable oil			UCO[2]	
	2012	2013	2014	2012	2013	2014	2012	2013	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013
Waste/residual materials	33	677	791	1,055	1,598	1,596	95	28	17,903	15,740	19,311	7						568	23
Barley	1,197	1,100	1,082																
Maize	10,591	10,761	9,576	154	152	33													
Palm oil									4,535	5,757	3,276	17,224	20,559	14,646	12	1			
Rapeseed									57,629	43,442	52,339			7	339	367	151		
Rye	1,447	3,534	3,231																
Soya									2,941	3,392	824					0.03			
Sunflower									41			1							
Triticale	544	352	1,094																
Wheat	9,330	6,911	9,012																
Sugar cane	481	1,290	627																
Sugar beet	10,333	8,013	6,987																
Total	**33,955**	**32,638**	**32,400**	**1,209**	**1,750**	**1,630**	**95**	**28**	**83,050**	**68,330**	**75,750**	**17,231**	**20,559**	**14,652**	**351**	**368**	**151**	**568**	**23**

[1] Discrepancies in the sum totals are due to rounding
[1] No data for 2014

Table 9: Raw materials of biofuels in 1000 tons [kt][1,2]

Fuel type/ quota year / Raw material	Bioethanol			Biomethane			Bio-methanol[3]		FAME			HVO			Vegetable oil			UCO[3]	
	2012	2013	2014	2012	2013	2014	2012	2013	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013
Waste/residual materials	1	26	30	21	32	32	5	1	479	421	517	0.2						15	1
Barley	45	42	41																
Maize	400	407	362	3	3	1													
Palm oil									121	154	88	395	472	336	0.3	0.02			
Rapeseed									1,542	1,162	1,400			0.2	9	10	4		
Rye	55	134	122																
Soya									79	91	22					0.001			
Sunflower									1			0.01							
Triticale	21	13	41																
Wheat	353	261	341																
Sugar cane	18	49	24																
Sugar beet	390	303	264																
Total	**1,283**	**1,233**	**1,224**	**24**	**35**	**33**	**5**	**1**	**2,222**	**1,828**	**2,027**	**395**	**472**	**336**	**9**	**10**	**4**	**15**	1

[1] Discrepancies in the sum totals are due to rounding
[2] Conversion into tonnage was done on the basis of the certificates counted towards the quota
[3] No data for 2014

Table 10: Raw materials of biofuels by origin in terajoule [TJ][1]

Region/ Quota Year / Raw material	Africa			Asia			Australia			Europe			Central America			NN[2]	North America			South America		
	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2012	2013	2014	2012	2013	2014
Waste/residual materials	158	41	75	1,381	887	2,403	192	53	16	9,736	15,855	17,357		0.4	3	7,088	1,016	1,146	1,678	89	84	167
Barley										738	1,100	1,082				459						
Maize				62	45					6,905	9,577	8,464				263	3,515	1,290	1,146			
Palm oil				20,987	26,316	17,916										763				20		6
Rapeseed		22		70	347	255	1,191	2,635	1,865	36,981	40,719	50,240				19,728					87	136
Rye										1,447	3,534	3,231										
Soya								8	48	208	14	24				584	44	3	21	2,104	3,367	730
Sunflower										42						0						
Triticale										288	352	1,094				256						
Wheat										7,800	6,911	9,010			2	1,321	84			125		
Sugar cane					2								127	106	229					355	1,182	398
Sugar beet										9,475	8,013	6,987				857						
Total	**158**	**62**	**75**	**22,499**	**27,598**	**20,573**	**1,383**	**2,695**	**1,929**	**73,620**	**86,074**	**97,490**	**127**	**106**	**233**	**31,320**	**4,659**	**2,439**	**2,845**	**2,693**	**4,721**	**1,438**

[1] Discrepancies in the sum totals are due to rounding
[2] NN indications no longer permitted in 2013 and 2014 as the indication of origin has become mandatory

Table 11: Raw materials of biofuels by origin in 1000 tons [kt][1,2]

Region/ Quota Year / Raw material	Africa			Asia			Australia			Europe			Central America			NN[3]	North America			South America		
	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2012	2013	2014	2012	2013	2014
Waste/residual materials	4	1	2	37	24	64	5	1	0.4	258	422	463		0.01	0.1	188	27	30	45	2	2	4
Barley										28	42	41				17						
Maize				2	2					259	359	319				10	132	48	43			
Palm oil				498	626	423										18				0.5		0.1
Rapeseed		1		2	9	7	32	71	50	990	1,090	1,344				528					2	4
Rye										55	134	122										
Soya								0.2	1	6	0.4	1				16	1	0.1	1	56	90	20
Sunflower										1												
Triticale										11	13	41				10						
Wheat										295	261	340			0.1	50	3			5		
Sugar cane					0.1								5	4	9					13	45	15
Sugar beet										358	303	264				32						
Total	**4**	**2**	**2**	**539**	**660**	**494**	**37**	**72**	**52**	**2,260**	**2,624**	**2,936**	**5**	**4**	**9**	**869**	**163**	**79**	**89**	**77**	**139**	**43**

[1] Discrepancies in the sum totals are due to rounding
[2] Conversion into tonnage was done on the basis of the certificates counted towards the quota
[3] NN indications no longer permitted in 2013 and 2014 as indication of origin has become mandatory

Table 12: Sum totals of biofuel raw materials[1]

Raw material	2012 [TJ]	2013 [TJ]	2014 [TJ]	2012 [t]	2013 [t]	2014 [t]
Waste/residual materials	19,334	17,859	21,698	513,458	474,974	578,536
Barley	1,174	1,100	1,082	44,369	41,558	40,881
Maize	10,676	10,882	9,610	401,231	408,861	362,512
Palm oil	23,108	24,805	17,922	547,234	591,048	423,643
Rapeseed	57,219	43,559	52,496	1,531,126	1,165,585	1,404,683
Rye	1,447	3,534	3,231	54,685	133,522	122,090
Soya	2,903	3,321	824	77,684	88,849	22,044
Sunflower	41			1,109		
Triticale	546	353	1,094	20,632	13,320	41,336
Wheat	9,300	6,945	9,012	351,409	262,433	340,526
Sugar cane	479	1,290	627	18,111	48,750	23,691
Sugar beet	10,261	7,977	6,987	387,710	301,435	264,010
Total	**136,489**	**121,624**	**124,582**	**3,948,757**	**3,530,335**	**3,623,953**

[1] Discrepancies in the sum totals are due to rounding

Table 13: Emissions and emission savings of biofuels[1]

Biofuel type	Emissions 2012 [t CO_{2eq}]	Emissions 2013 [t CO_{2eq}]	Emissions 2014 [t CO_{2eq}]	Savings 2012 [%]	Savings 2013 [%]	Savings 2014 [%]
Bioethanol	42.34	39.97	38.06	49.47	52.30	54.58
Biomethane	25.12	24.93	20.66	70.02	70.25	75.34
Biomethanol	26.16	26.98		68.78	67.81	
FAME	46.32	42.78	41.36	44.73	48.95	50.65
HVO	42.96	39.94	45.87	48.73	52.34	45.26
Vegetable oil	37.50	36.03	36.15	55.25	57.00	56.86
UCO	14.00			83.29		
Weighted average of all biofuels	**44.71**	**41.30**	**40.75**	**46.65**	**50.72**	**51.36**

Table 14: Emissions and emission savings of bioliquids[1]

Bioliquid type	Emissions 2012 [t CO_{2eq}]	Emissions 2013 [t CO_{2eq}]	Emissions 2014 [t CO_{2eq}]	Savings 2012 [%]	Savings 2013 [%]	Savings 2014 [%]
From pulp industry	2.29	2.23	1.87	97.49	97.55	97.94
FAME	37.83	37.56	35.44	58.43	58.72	61.06
HVO	32.00			64.84		
Vegetable oil	28.48	36.26	37.19	68.70	60.16	59.13
UCO	36.00	36.00	19.31	60.44	60.44	78.78
Weighted average of all bioliquids	**4.43**	**5.47**	**5.55**	**95.14**	**93.99**	**93.90**

[1] Discrepancies in the sum totals are due to rounding

Table 15: Bioliquid types [TJ][1]

Bioliquid type	2012	2013	2014
From pulp industry	26,075	26,686	27,568
FAME	38	62	76
HVO	0.14		
Vegetable oil	2,259	2,810	3,125
UCO	88	1	22
Overall result	**28,460**	**29,559**	**30,792**

Table 16: Raw materials of vegetable oils (bioliquids)[TJ][1]

Raw material	2012	2013	2014
Palm oil	1,817	2,279	2,329
Rapeseed	441	531	797
Soya	0.84	0.54	0.06
Total	**2,259**	**2,810**	**3,125**

Table 17: Vegetable oils by origin (bioliquids) [TJ][1]

Region	2012	2013	2014
Asia	1,475	2,280	1,878
Australia	4	0.3	
Europe	433	529	1,247
Central America	1		
North America	1	1	
Without indication	345	1	
Total	**2,259**	**2,810**	**3,125**

[1] Discrepancies in the sum totals are due to rounding