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List of Tables

10. Background data

Table 16: Biofuels in TJ - Source Materials[1]

Fuel Type/ Quota Year / Source Material	Bioethanol			Biomethane			Bio-methanol[2]		FAME			HVO			Vegetable Oil			UCO[3]
	2013	2014	2015	2013	2014	2015	2013	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013
Waste/Residue	677	791	156	1,598	1,596	1,251	28	0.04	15,740	19.311	20,549			227				23
Barley	1,100	1,082	1,353															
Maize	10,761	9,576	10,313	152	33													
Palm Oil									5,757	3,276	4,776	20,559	14,646	7,132	1			
Rapeseed									43,442	52,339	48,251		7		367	151	343	
Rye	3,534	3,231	2,292															
Soy									3,392	824	164				0.03			
Sunflowers											139							
Triticale	352	1,094	2,717															
Wheat	6,911	9,012	9,395															
Sugarcane	1,290	627	650															
Sugarbeet	8,013	6,987	4,177															
Total	**32,638**	**32,400**	**31,053**	**1,750**	**1,630**	**1,251**	**28**	**0.04**	**68,330**	**75,750**	**73,878**	**20,559**	**14,659**	**7,359**	**368**	**151**	**343**	**23**

[1] Differences in sum totals are due to rounding.
[2] no data in 2014

Table 17: Biofuels in kt - Source Materials [1,2]

Fuel Type/ Quota Year / Source Material	Bioethanol			Biomethane			Bio-methanol[3]		FAME			HVO			Vegetable Oil			UCO[4]
	2013	2014	2015	2013	2014	2015	2013	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013
Waste/Residue	26	30	6	32	32	25	1	0.002	421	517	550			5				1
Barley	42	41	51															
Maize	407	362	390	3	1													
Palm Oil									154	88	128	472	336	164	0.02			
Rapeseed									1,162	1,400	1,291		0.2		10	4	9	
Rye	134	122	87															
Soy									91	22	4				0.001			
Sunflowers											4							
Triticale	13	41	103															
Wheat	261	341	355															
Sugarcane	49	24	25															
Sugarbeet	303	264	158															
Total	**1,233**	**1,224**	**1,173**	**35**	**33**	**25**	**1**	**0**	**1,828**	**2,027**	**1,977**	**472**	**336**	**169**	**10**	**4**	**9**	1

[1] Differences in sum totals are due to rounding.
[2] Conversions into tonnage were based on quantities indicated in the proofs.
[3] no data in 2014
[4] no data in 2014 and 2015

Table 18: Biofuels in TJ – Source Materials and their Origins[1]

Region/ Quota Year / Source Material	Africa			Asia			Australia			Europe			Central America			North America			South America		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
Waste/Residue	41	75	191	887	2,403	2,755	53	16	36	15,855	17,357	17,711	0.4	3		1,146	1,678	1,211	84	167	279
Barley										1,100	1,082	1,353									
Maize				45						9,577	8,464	10,313				1,290	1,146				
Palm Oil				26,316	17,916	11,907			1											6	
Rapeseed	22			347	255	47	2,635	1,865	448	40,719	50,240	48,097							87	136	2
Rye										3,534	3,231	2,292									
Soy							8	48		14	24					3	21		3,367	730	164
Sunflowers												139									
Triticale										352	1,094	2,717									
Wheat										6,911	9,010	9,240		2							155
Sugarcane			74	2									106	229	253				1,182	398	323
Sugarbeet										8,013	6,987	4,177									
Total	**62**	**75**	**265**	**27,598**	**20,573**	**14,709**	**2,695**	**1,929**	**485**	**86,074**	**97,490**	**96,038**	**106**	**233**	**253**	**2,439**	**2,845**	**1,211**	**4,721**	**1,438**	**924**

[1] Differences in sum totals are due to rounding.

Table 19: Biofuels in kt – Source Materials and their Origins[1,2]

Region/ Quote Year / Source Material	Africa			Asia			Australia			Europe			Central America			North America			South America		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
Waste/Residue	1	2	5	24	64	73	1	0.4	1	422	463	466	0,01	0.1		30	45	32	2	4	8
Barley										42	41	51									
Maize				2						359	319	390				48	43				
Palm Oil				626	423	291			0,03											0.1	
Rapeseed	1			9	7	1	71	50	12	1,090	1,344	1,287							2	4	0.1
Rye										134	122	87									
Soy							0.2	1		0.4	1					0.1	1		90	20	4
Sunflowers												4									
Triticale										13	41	103									
Wheat										261	340	349		0.1							6
Sugarcane			3	0.1									4	9	10				45	15	12
Sugarbeet										303	264	158									
Total	**2**	**2**	**8**	**660**	**494**	**366**	**72**	**52**	**13**	**2,624**	**2,936**	**2,894**	**4**	**9**	**10**	**79**	**89**	**32**	**139**	**43**	**30**

[1] Differences in sum totals are due to rounding.
[2] Conversions into tonnage were based on quantities indicated in the proofs.

Table 20: Sum total of Biofuels per Source Material[1]

Source Material	Year 2013 [TJ]	Year 2014 [TJ]	Year 2015 [TJ]	Year 2013 [kt]	Year 2014 [kt]	Year 2015 [kt]
Waste/Residue	17,859	21,698	22,183	475	579	586
Barley	1,100	1,082	1,353	42	41	51
Maize	10,882	9,610	10,313	409	363	390
Palm Oil	24,805	17,922	11,908	591	424	291
Rapeseed	43,559	52,496	48,594	1,166	1,405	1,300
Rye	3,534	3,231	2,292	134	122	87
Soy	3,321	824	164	89	22	4
Sunflowers			139			4
Triticale	353	1,094	2,717	13	41	103
Wheat	6,945	9,012	9,395	262	341	355
Sugarcane	1,290	627	650	49	24	25
Sugarbeet	7,977	6,987	4,177	301	264	158
Total	**121,624**	**124,582**	**113,884**	**3,530**	**3,624**	**3,353**

[1] Differences in sum totals are due to rounding.

Table 21: Biofuel Emissions and Emission Savings[1,2]

Biofuel Type	Emissions 2013 [t CO_{2eq}/TJ]	Emissions 2014 [t CO_{2eq}/TJ]	Emissions 2015 [t CO_{2eq}/TJ]	Savings 2013 [%]	Savings 2014 [%]	Savings 2015 [%]
Bioethanol	39.97	38.06	24.53	52.30	54.58	70.73
Biomethane	24.93	20.66	13.17	70.25	75.34	84.28
Biomethanol	26.98		22.60	67.81		73.03
FAME	42.78	41.36	24.62	48.95	50.65	70.62
HVO	39.94	45.87	32.03	52.34	45.26	61.78
Vegetable Oil	36.03	36.15	35.70	57.00	56.86	57.40
UCO						
Weighted average of all biofuels	**41.30**	**40.75**	**24.98**	**50.72**	**51.36**	**70.19**

Table 22: Emissions and Emission Savings of Bioliquids[1,3]

Bioliquid Type	Emissions 2013 [t CO_{2eq}/TJ]	Emissions 2014 [t CO_{2eq}/TJ]	Emissions 2015 [t CO_{2eq}/TJ]	Savings 2013 [%]	Savings 2014 [%]	Savings 2015 [%]
from the pulp industry	2.23	1.87	1.58	97.55	97.94	98.26
FAME	37.56	35.44	46.47	58.72	61.06	48.93
Vegetable Oil	36.26	37.19	36.90	60.16	59.13	59.45
UCO	36.00	19.31	14.00	60.44	78.78	84.62
Weighted average of all bioliquids	**5.47**	**5.55**	**5.88**	**93.99**	**93.90**	**93.54**

[1] Differences in sum totals are due to rounding.
[2] Savings compared to 83.8 g CO_{2eq}/MJ as the reference value for fossil fuel
[3] Savings compared to 91 g CO_{2eq}/MJ as the reference value for fossil bioliquids for power generation

Table 23: Types of Bioliquid [TJ][1]

Bioliquid type	2013	2014	2015
from the pulp industry	26,686	27,568	28,981
FAME	62	76	36
Vegetable Oil	2,810	3,125	3,967
UCO	1	22	8
Total	**29,559**	**30,792**	**32,994**

Table 24: Bioliquid Vegetable Oil TJ – Source Materials[1]

Source Material	2013	2014	2015
Palm Oil	2,279	2,329	3,069
Rapeseed	531	797	898
Soy	1	0.06	
Total	**2,810**	**3,125**	**3,967**

Table 25: Vegetable Oils from Palm Oil according to Origin (Bioliquid) [TJ][1]

Origin	2013	2014	2015
Malaysia	1,366	1,193	2,202
Indonesia	912	1,136	867
no indication	1		
Total	**2.279**	**2,329**	**3,069**

[1] Differences in sum totals are due to rounding.