REFERENCE LIST - FGD Plants Environmental Protection Plant

No.	Plant/Boiler	Boiler output (thermal or electrical)	Flue gas quantity	Sulphur content in fuel	FGD method	Desulph. efficiency	Absorbent	End product	Start-up year
			[m^3_N/h]	[%]		[%]			
1	Gostyń Sugar Mill (OR-32 K1)	29 MW_t	75 000	0,75	dry lime	30-45	pulverised limestone or hydrated lime	ash + desulph. products	1991
2	Gostyń Sugar Mill (OR-32 K2)	29 MW_t	75 000	0,75	dry lime	30-45	pulverised limestone or hydrated lime	ash + desulph. products	1992
3	Opole Power Plant BP-1150 K1	360 MW_{el}	1 400 000	0,8	dry lime	30	pulverised limestone	ash + desulph. products	1993
4	Opole Power Plant BP-1150 K2	360 MW_{el}	1 400 000	0,8	dry lime	30	pulverised limestone	ash + desulph. products	1994
5	Opole Power Plant BP-1150 K3	360 MW_{el}	1 400 000	0,8	dry lime	30	pulverised limestone	ash + desulph. products	1996
6 *)	Jaworzno III Power Plant K 1,2,5,6 (OP-650)	4 x 200 MW_{el}	2 x 1 850 000	1,5	wet lime	95	pulverised limestone	gypsum	1996
7	Rybnik Power Plant (OP-650)	1/3 x 200 MW_{el}	293 000	0,75	semi-dry lime	70	pulverised limestone	ash + desulph. products	1995
8 **)	Siersza Power Plant K3, K6 (OP-380)	2 x 120 MW_{el}	2 x 538 160	1,5	semi-dry lime	87	quicklime	ash + desulph. products	1998
9 **)	Bełchatów Power Plant K5, K6	2 x 360 MW_{el}	2 x 2 100 000	0,75 max 1,2	wet lime	93	limestone	gypsum	2000
10 **)	Bełchatów Power Plant K7, K9	2 x 360 MW_{el}	2 x 2 100 000	0,75 max 1,2	wet lime	95	limestone	gypsum	2003
11	Łódź 4 CHP Plant (OP-430)	315 MW_t	550 000	0,8 max 1,1	semi-dry lime	87	hydrated lime	ash + desulph. products	2004
12 **)	Bełchatów Power Plant K3, K4	2 x 360 MW_{el}	2 x 2 100 000	0,6 max 1,85	wet lime	>95	limestone	gypsum	2007
13	Bełchatów Power Plant	Development of gypsum storage building							2007
14 **)	Ostrołęka Power Plant	647 MW_{el}	1 620 000	0,6÷1,2	wet lime	95	pulverised limestone / dry chalk	gypsum	2007

No.	Plant/Boiler	Boiler output (thermal or electrical)	Flue gas quantity	Sulphur content in fuel	FGD method	Desulph. efficiency	Absorbent	End product	Start-up year
			[m^3_N/h]	[%]		[%]			
15 **)	Pątnów I Power Plant	4 x 200 MW_{el}	2 x 2 100 000	0,6 max 1,1	wet lime	97	pulverised limestone	50% gypsum suspension	2008
16 **)	Pątnów II Power Plant BB-1345	460 MW_{el}	1 950 000	0,6 max 1,1	wet lime	95	pulverised limestone	gypsum	2008
17	Łódź 4 CHP Plant K2, K3 (OP-230)	2 x 165 MW_t	630 000	avg. 1,2 max.1,35	semi-dry lime	89	hydrated lime	ash + desulph. products	2007
18 **)	Jaworzno III Power Plant K3,4 (OP-650)	2 x 200 MW_{el}	1 850 000	avg. 1,2	wet lime	min. 95,6	pulverised limestone	gypsum	2008
19	Skawina Power Plant K8÷K11 (OP-210)	4 x 165 MW_t	550 000	avg. 1,0 max. 1,2	semi-dry lime	>92	quicklime / hydrated lime	ash + desulph. products	2008
20	Skawina Power Plant K5, K6 (OP-230)	2 x 167 MW_t	550 000	avg. 1,0 max. 1,3	semi-dry lime	>92	hydrated lime	ash + desulph. products	2008
21	Pątnów Power Plant	Gypsum dewatering and storage system, waste water treatment plant							2008
22	Bełchatów Power Plant	Modernization of existing FGD for Units No 8, 10, 11, 12							2009
23 **)	Bełchatów Power Plant K13	858 MW_{el}	2x 1 800 000	≥ 1,2 max 1,85	wet lime	≥ 96	pulverised limestone	gypsum	2011
24 **)	Siekierki CHP Plant Warszawa	1861 MW_t	2x 1 550 000	1,0 max. 1,2	wet lime	93	pulverised limestone	gypsum	2012
25 **)	Dolna Odra Power Plant K5, K6 (2 x OP-650)	2 x 222 MW_{el}	1 800 000	0,6 ÷ 1,2	wet lime	≥ 94	pulverised limestone	gypsum	2012
26 **)	Bełchatów Power Plant K1, K2	2 x 360 MW_{el}	2 400 000	≥ 1,2 max 1,85	wet lime	≥ 96	limestone	gypsum	2012
27	Bełchatów Power Plant	Installation of an organic acid dosage for iOS blocks 2 to 12							2013
28	Bełchatów Power Plant	Modernization and repair of flue gas reheat system for units No. 8, 10, 11, 12							2016
29	Třebovice Power Plant (K3, K4) (Czech Repub)	2 x 55,3 MW_t	240 000	avg. 1	semi-dry lime	≥ 93,6	quicklime	ash + desulph. products	2014
30	Gdynia CHP Plant (K6, K7, KW5)	2 x 180 MW_t 1 x 140 MW_t	684 000	0,6÷1,2	wet lime	≥ 93,6	pulverised limestone	gypsum	2015
31	Gdańsk CHP Plant (K5,K7,K9,K10, KW4, KW6)	3 x 180 MW_t 1 x 181 MW_t 1 x 91 MW_t 3 x 170 MW_t	1 380 000	0,6÷1,2	wet lime	≥ 93,6	pulverised limestone	gypsum	2015

No.	Plant/Boiler	Boiler output (thermal or electrical)	Flue gas quantity	Sulphur content in fuel	FGD method	Desulph. efficiency	Absorbent	End product	Start-up year
			[m^3_N/h]	[%]		[%]			
32	Kraków CHP Plant (K1÷K4, KW6)	2 x 336 MW_t 2 x 344 MW_t 1 x 152 MW_t	2 460 000	0,45÷1,2	wet lime	≥ 93,6	pulverised limestone	gypsum	2015
33	ZEC Wrocław (K1÷K3, KW3, KW5)	1 x 186 MW_t 2 x 347 MW_t 2 x 156 MW_t	1 500 000	0,45÷1,2	wet lime	≥ 93,6	pulverised limestone	gypsum	2016
34	Bełchatów Power Plant	Modernization of flue gas desulphurization system units 5 and 6							2016
35	Tripolska Power Plant Block 2 (Ukraine)	200 MW_{el}	2x 650 000	avg. 1,5	semi-dry lime	≥ 89,1	quicklime	ash + desulph. products	under construction
36	Siekierki CHP Plant Warszawa	Modernization of the flue gas desulphurization (absorbers 1 and 2)							2015
37	Zakłady Azotowe Kędzierzyn	25 MW_{el}	170 000	avg. 0,8	semi-dry lime	≥ 94	hydrated lime	ash + desulph. products	2017
38	Pardubice CHP Plant K14 (Czech Rep.)	50 MW_t	85 000	avg. 1,5	semi-dry lime	>96	hydrated lime	ash + desulph. products	2015
39	Łódź 4 CHP Plant K2, K7	Reconstruction of flue gas desulphurization installation of steam boilers K2 and K7							2015
40	Jaworzno Power Plant	910 MW_{el}	2 577 570	1,0÷1,6	wet lime	>99	pulverised limestone	gypsum	2020
41	Białystok CHP Plant	2 x 165 MWt	570 000	max 1,2	semi-dry lime	>96	hydrated lime	ash + desulph. products	2018
42	Vilnius CHP Plant (Lithuania)	2x95 MW_t	2x220 000	max 0,08	semi-dry lime	>90	hydrated lime	ash + desulph. products	planned 2020
43	Bełchatów Power Plant	Expansion of the limestone milling plant							planned 2020
44	Ostrołęka Power Plant	3 x 230 MW	1 620 000	0,4÷1,3	wet lime	>96	pulverised limestone	gypsum	planned 2020
45	Bełchatów Power Plant	Modernization of flue gas desulphurization system Units No 3, 4, 5, 6							planned 2021

Remarks:
**) Project realized by the Consortium Steinmueller/RAFAKO*
***) Project realized on the licence of Steinmueller (later on Fisia Babcock Environment GmbH)*

pos. 37 – desulphurization installation in the construction of new power plant in the Azoty Group in Zakłady Azotowe Kędzierzyn S.A.

pos. 40 – desulphurization installation in the construction of the 910 MW power block in Jaworzno