

Selected foundry audits with detailed energy use

Appendix 1 2/2

Iron Foundry	Metal/country	Energy Use MWh/a		Est. Savings MWh/a		Specific savi MWh/t	Saving ratio energy, %	Production t/a		Savings, MWh/t		Sum
		Thermal	Electricity	Thermal	Electricity			Net	Gross	Thermal	Electricity	
Site 3	Iron, Finland	4 060	6 400	1 810	238	0,47	20	4 347	6 690	0,42	0,05	0,47
Site 6	Iron, France	40 448	13 672	5 400	2 250	0,31	14	24 511	32 396	0,22	0,09	0,31
Site 9	Iron, Sweden	1 530	9 053	630	640	0,45	16	2 782	5 132	0,23	0,23	0,46
Site 13	Iron, UK	370	572	314	6	0,94	34	337	556	0,93	0,02	0,95
Average		11 602	7 424	2 039	784	0,54	21	7 994	11 194	0,45	0,10	0,55

Steel Foundry	Metal/country	Energy Use MWh/a		Est. Savings MWh/a		Specific savi MWh/t	Saving ratio energy, %	Production t/a		Savings, MWh/t		Sum
		Thermal	Electricity	Thermal	Electricity			Net	Gross	Thermal	Electricity	
Site 2	Steel, Finland	33 706	29 394	10 268	2 296	1,18	20	10 595	19 019	0,97	0,22	1,19
Site 8	Steel, Sweden	887	1 394	223	155	1,48	17	254	419	0,88	0,61	1,49
Site 14	Steel, Germany	3 510	4 710	1 210	6	1,38	15	879	2 524	1,38	0,01	1,38
Average		12 701	11 833	3 900	819	1,35	17	3 909	7 321	1,07	0,28	1,35

Metal Foundry	Metal/country	Energy Use MWh/a		Est. Savings MWh/a		Specific savi MWh/t	Saving ratio energy, %	Production t/a		Savings, MWh/t		Sum
		Thermal	Electricity	Thermal	Electricity			Net	Gross	Thermal	Electricity	
Site 1	Metal, Finland	8 331	2 412	2 645	136	1,43	26	1 945	2 153	1,36	0,07	1,43
Site 2	Alu, Germany	106 440	138 930	5 373	5 145	0,18	4	56 486	110 000	0,10	0,09	0,19
Average		57 386	70 671	4 009	2 641	0,81	15	29 216	56 077	0,73	0,08	0,81

The total savings when applying proposed saving level in energy use in European Foundries

Savings Foundry type	Saving potential		European production Annual 1000 tonne/a	Savings			Energy costs saving		
	Thermal MWh/t	Electricity MWh/t		Thermal TWh/a	Electricity TWh/a	Sum TWh/a	Thermal mil €/a	Electricity mil €/a	Sum mil €/a
Iron	0,45	0,10	12 607	5,66	1,24	6,90	283	118	401
Steel	1,07	0,28	1 023	1,10	0,28	1,38	55	27	82
Non-ferrous	0,73	0,08	3 485	2,54	0,28	2,82	127	27	153
Total			16 092	9,29	1,81	11,10	465	172	636

Energy prices	Electricity	95 €/MWh	Number of foundries	Iron	1932
	Thermal energy	50 €/MWh		Steel	308
				Nonferrous	2594
				Tot	4834