

Yearly monitoring - plantroom

Site	Szentendre
Development	A, C, E
Year	2015

Color code	meter readings- insert value
	static figures - do not change
	calculated figures - do not change

Parameters	
Calorific value natural gas	10,4 kWh/Nm3
CO2 emission factors	
Natural gas	0,204 kgCo2/kWh
Electricity	0,326 kgCO2/kWh

month	external ambient temperature	irradiation (per month)
1	2 °C	36 178 Wh/m2
2	3 °C	47 860 Wh/m2
3	7 °C	93 513 Wh/m2
4	12 °C	145 525 Wh/m2
5	17 °C	169 679 Wh/m2
6	21 °C	161 387 Wh/m2
7	24 °C	182 765 Wh/m2
8	24 °C	180 708 Wh/m2
9	18 °C	134 104 Wh/m2
10	11 °C	124 091 Wh/m2
11	8 °C	47 584 Wh/m2
12	3 °C	44 982 Wh/m2

Generation

	Installed capacity				Annual meter Readings							Background Calculations					
	Thermal	Electrical	Area	Volume	Consumption				Generation			Plantroom			Household	Total	
					Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year	
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2
PV panels AK1		7,68										0			0,0		0,0
PV panels AK2		7										0			0,0		0,0
PV panels ARB1		14,52										0			0,0		0,0
PV panels Heat centre		50										48 170			15 703,4		15 703,4
PV/T panels ARB1		30,97	223,31					0	0			0	0	0	0,0		0,0
DHW tank ARB1				5											0,0		0,0
Total A	0	110,17	223,31	5	0	0	0	0	0	0	0	48 170	0	0	15 703,4	0	15 703,4
PV panels		5,76										6 150			2 004,9		2 004,9
PV/T panels		2,28	15,9					0	0			1 723	0	0	561,7		561,7
Biomass CHP	60	28			0			0	0			0	0	0	0,0		0,0
Total C	60	36,04	15,9	0	0	0	0	0	0	0	0	7 873	0	0	2 566,6	0	2 566,6
PV panels Car shader		15,7										23 330			7 605,6		7 605,6
PV/T panels		5,149	37,1					N/A	N/A			7 430	N/A	N/A	2 422,2		2 422,2
Biogas CHP	132	80				0		0	0			0	0	0	0,0		0,0
Heat pump 1	369,6							172 669	361 950	122 742			361 950	0	56 290,0		56 290,0
Heat pump 2	101,2							47 278	99 105	33 608			99 105	0	15 412,7		15 412,7
Control panel								2 628							856,7		856,7
Solar Thermal panels			13,841					N/A	N/A				0	0	N/A		0,0
Total E	602,8	100,849	50,941	0	0	0	0	222 575	461 055	156 350	30 760	461 055	0	0	82 587,2	0	82 587,2
Total Szentendre	662,8	247,059	290,151	5	0	0	0	222 575	461 055	156 350	86 803	461 055	0	0	100 857,3	0	100 857,3

Summary tables

	Annual Consumption										
	Plantroom Consumption				Households Consumption						
	Biomass	Natural gas / biogas	Electricity	Heat	Space heating	Space cooling	Domestic Hot Water	Electricity	Total Energy	CWS	kgCO2/year
t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kWh	m3	kgCO2	
Total Plantroom A	0	0	0	0	373 353	0	168 134	215 694	757 181	240	15 703
Total AK1					45 314	0	20 717	9 983	76 014	240	
Total AK2					47 206	0	0	9 511	56 717	N/A	
Total ARB1					280 833	0	147 418	196 200	624 451	N/A	
Total CO	0	0	0	0	0	0	0	0	8 926		2 567
Total Plantroom E	0	0	222 575	0	159 889	124 222	0	328 672	612 783	1 998	
TOTAL	0	0	222 575	0	533 242	124 222	168 134	544 366	1 369 964	11 164	18 270

Monthly monitoring - plantroom

Site	Szentendre
Development	A
Year	2015

Color code	meter readings- insert value
	static figures - do not change
	calculated figures - do not change
	static data - do not change

Parameters	
Calorific value natural gas	10.4 kWh/Nm3
CO2 emission factors	
Natural gas	0.204 kgCO2/kWh
Electricity	0.326 kgCO2/kWh

Monthly external ambient temperature & irradiation

month	external ambient temperature	irradiation (per month)
1	2,0 °C	36 178 Wh/m2
2	2,8 °C	47 860 Wh/m2
3	7,4 °C	93 513 Wh/m2
4	11,6 °C	145 525 Wh/m2
5	16,6 °C	169 679 Wh/m2
6	20,5 °C	161 387 Wh/m2
7	24,3 °C	182 765 Wh/m2
8	24,3 °C	180 708 Wh/m2
9	18,0 °C	134 104 Wh/m2
10	10,7 °C	124 091 Wh/m2
11	7,6 °C	47 584 Wh/m2
12	3,2 °C	44 982 Wh/m2

	TOTAL ANNUAL														
	Installed capacity				Consumption				Generation		Background Calculations				
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Household Other electricity	Total
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels AK1		7,68								0			0,0		0,0
PV panels AK2		7								0			0,0		0,0
PV panels ARB1		14,52								0			0,0		0,0
PV panels Heat centre		50								48 170			15 703,4		15 703,4
PV/T panels ARB1		30,97	223,31				0		0	0	0,0	0,0	0,0		0,0
DHW tank ARB1				5					0	0	0,0	0,0	0,0		0,0
Total A	0	110,17	223,31	5	0	0	0	0	0	48 170	0,0	0,0	15 703,4		15 703,4

	MONTH 1														
	Installed capacity				Consumption				Generation		Background Calculations				
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Household Other electricity	Total
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels AK1		7,68								0			0,0		0,0
PV panels AK2		7								0			0,0		0,0
PV panels ARB1		14,52								0			0,0		0,0
PV panels Heat centre		50								900			293,4		293,4
PV/T panels ARB1		30,97	223,31				0		0	0	0,0	0,0	0,0		0,0
DHW tank ARB1				5					0	0	0,0	0,0	0,0		0,0
Total A	0	110,17	223,31	5	0	0	0	0	0	900	0,0	0,0	293,4		293,4

	MONTH 2														
	Installed capacity				Consumption				Generation		Background Calculations				
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Household Other electricity	Total
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels AK1		7,68								0			0,0		0,0
PV panels AK2		7								0			0,0		0,0
PV panels ARB1		14,52								0			0,0		0,0
PV panels Heat centre		50								2 300			749,8		749,8
PV/T panels ARB1		30,97	223,31				0		0	0	0,0	0,0	0,0		0,0
DHW tank ARB1				5					0	0	0,0	0,0	0,0		0,0
Total A	0	110,17	223,31	5	0	0	0	0	0	2 300	0,0	0,0	749,8		749,8

	MONTH 3														
	Installed capacity				Consumption				Generation		Background Calculations				
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Household Other electricity	Total
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels AK1		7,68								0			0,0		0,0
PV panels AK2		7								0			0,0		0,0
PV panels ARB1		14,52								0			0,0		0,0
PV panels Heat centre		50								4 100			1 336,6		1 336,6
PV/T panels ARB1		30,97	223,31				0		0	0	0,0	0,0	0,0		0,0
DHW tank ARB1				5					0	0	0,0	0,0	0,0		0,0
Total A	0	110,17	223,31	5	0	0	0	0	0	4 100	0,0	0,0	1 336,6		1 336,6

	MONTH 4														
	Installed capacity				Consumption				Generation		Background Calculations				
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Household Other electricity	Total
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels AK1		7,68								0			0,0		0,0
PV panels AK2		7								0			0,0		0,0
PV panels ARB1		14,52								0			0,0		0,0
PV panels Heat centre		50								5 900			1 923,4		1 923,4
PV/T panels ARB1		30,97	223,31				0		0	0	0,0	0,0	0,0		0,0
DHW tank ARB1				5					0	0	0,0	0,0	0,0		0,0
Total A	0	110,17	223,31	5	0	0	0	0	0	5 900	0,0	0,0	1 923,4		1 923,4

	MONTH 5														
	Installed capacity				Consumption				Generation		Background Calculations				
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Household Other electricity	Total
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels AK1		7,68								0			0,0		0,0
PV panels AK2		7								0			0,0		0,0
PV panels ARB1		14,52								0			0,0		0,0
PV panels Heat centre		50								6 000			1 956,0		1 956,0
PV/T panels ARB1		30,97	223,31				0		0	0	0,0	0,0	0,0		0,0
DHW tank ARB1				5					0	0	0,0	0,0	0,0		0,0
Total A	0	110,17	223,31	5	0	0	0	0	0	6 000	0,0	0,0	1 956,0		1 956,0

	MONTH 6														
	Installed capacity				Consumption				Generation		Background Calculations				
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Household Other electricity	Total
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels AK1		7,68								0			0,0		0,0
PV panels AK2		7								0			0,0		0,0
PV panels ARB1		14,52								0			0,0		0,0
PV panels Heat centre		50								4 730			1 542,0		1 542,0
PV/T panels ARB1		30,97	223,31				0		0	0	0,0	0,0	0,0		0,0
DHW tank ARB1				5					0	0	0,0	0,0	0,0		0,0
Total A	0	110,17	223,31	5	0	0	0	0	0	4 730	0,0	0,0	1 542,0		1 542,0

Generation		MONTH 7				Monthly meter Readings						Background Calculations				
Installed capacity						Consumption			Generation			Plantroom			Household	Total
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year	
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year	
PV panels AK1		7.68								0			0.0		0.0	
PV panels AK2		7								0			0.0		0.0	
PV panels ARB1		14.52								0			0.0		0.0	
PV panels Heat centre		50								8 870			2 891.6		2 891.6	
PV/T panels ARB1		30.97	223.31				0		0	0			0.0		0.0	
DHW tank ARB1				5				0	0	0			0.0		0.0	
Total A	0	110,17	223,31	5	0	0	0	0	0	8 870	0	0	2 891,6	0	2 891,6	

Generation		MONTH 8				Monthly meter Readings						Background Calculations				
Installed capacity						Consumption			Generation			Plantroom			Household	Total
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year	
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year	
PV panels AK1		7.68								0			0.0		0.0	
PV panels AK2		7								0			0.0		0.0	
PV panels ARB1		14.52								0			0.0		0.0	
PV panels Heat centre		50								6 000			1 956.0		1 956.0	
PV/T panels ARB1		30.97	223.31				0		0	0			0.0		0.0	
DHW tank ARB1				5				0	0	0			0.0		0.0	
Total A	0	110,17	223,31	5	0	0	0	0	0	6 000	0	0	1 956,0	0	1 956,0	

Generation		MONTH 9				Monthly meter Readings						Background Calculations				
Installed capacity						Consumption			Generation			Plantroom			Household	Total
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year	
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year	
PV panels AK1		7.68								0			0.0		0.0	
PV panels AK2		7								0			0.0		0.0	
PV panels ARB1		14.52								0			0.0		0.0	
PV panels Heat centre		50								4 600			1 499.6		1 499.6	
PV/T panels ARB1		30.97	223.31				0		0	0			0.0		0.0	
DHW tank ARB1				5				0	0	0			0.0		0.0	
Total A	0	110,17	223,31	5	0	0	0	0	0	4 600	0	0	1 499,6	0	1 499,6	

Generation		MONTH 10				Monthly meter Readings						Background Calculations				
Installed capacity						Consumption			Generation			Plantroom			Household	Total
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year	
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year	
PV panels AK1		7.68								0			0.0		0.0	
PV panels AK2		7								0			0.0		0.0	
PV panels ARB1		14.52								0			0.0		0.0	
PV panels Heat centre		50								2 500			815.0		815.0	
PV/T panels ARB1		30.97	223.31				0		0	0			0.0		0.0	
DHW tank ARB1				5				0	0	0			0.0		0.0	
Total A	0	110,17	223,31	5	0	0	0	0	0	2 500	0	0	815,0	0	815,0	

Generation		MONTH 11				Monthly meter Readings						Background Calculations				
Installed capacity						Consumption			Generation			Plantroom			Household	Total
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year	
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year	
PV panels AK1		7.68								0			0.0		0.0	
PV panels AK2		7								0			0.0		0.0	
PV panels ARB1		14.52								0			0.0		0.0	
PV panels Heat centre		50								1 400			456.4		456.4	
PV/T panels ARB1		30.97	223.31				0		0	0			0.0		0.0	
DHW tank ARB1				5				0	0	0			0.0		0.0	
Total A	0	110,17	223,31	5	0	0	0	0	0	1 400	0	0	456,4	0	456,4	

Generation		MONTH 12				Monthly meter Readings						Background Calculations				
Installed capacity						Consumption			Generation			Plantroom			Household	Total
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year	
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year	
PV panels AK1		7.68								0			0.0		0.0	
PV panels AK2		7								0			0.0		0.0	
PV panels ARB1		14.52								0			0.0		0.0	
PV panels Heat centre		50								870			283.6		283.6	
PV/T panels ARB1		30.97	223.31				0		0	0			0.0		0.0	
DHW tank ARB1				5				0	0	0			0.0		0.0	
Total A	0	110,17	223,31	5	0	0	0	0	0	870	0	0	283,6	0	283,6	

Monthly monitoring - VSZRT HQ

Site	Szentendre
Development	C
Year	2015

Color code	meter readings- insert value
	static figures - do not change
	calculated figures - do not change

Parameters	
Calorific value natural gas	10.4 kWh/Nm3
CO2 emission factors	
Natural gas	0.204 kgCO2/kWh
Electricity	0.326 kgCO2/kWh

Monthly external ambient temperature & irradiation		
month	external ambient temperature	irradiation (per month)
1	2,0 °C	36 178 Wh/m2
2	2,8 °C	47 860 Wh/m2
3	7,4 °C	93 513 Wh/m2
4	11,6 °C	145 525 Wh/m2
5	16,6 °C	169 679 Wh/m2
6	20,5 °C	161 387 Wh/m2
7	24,3 °C	182 785 Wh/m2
8	24,3 °C	180 708 Wh/m2
9	18,0 °C	134 104 Wh/m2
10	10,7 °C	124 091 Wh/m2
11	7,6 °C	47 584 Wh/m2
12	3,2 °C	44 982 Wh/m2

Generation		TOTAL ANNUAL												
Installed capacity		Monthly meter Readings											Background Calculations	
		Consumption				Generation		Plantroom				Household	Total	
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels	5,76								6 150			2 005		2 005
PV/T panels	2,28	15,9				0			1 723			562		562
Biomass CHP	60	28			0	0			0		0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	7 873	0	0	2 567	0	2 567

Generation		MONTH 1												
Installed capacity		Monthly meter Readings											Background Calculations	
		Consumption				Generation		Plantroom				Household	Total	
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels	5,76								100			33		33
PV/T panels	2,28	15,9				0			40			13		13
Biomass CHP	60	28			0	0			0		0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	140	0	0	46	0	46

Generation		MONTH 2												
Installed capacity		Monthly meter Readings											Background Calculations	
		Consumption				Generation		Plantroom				Household	Total	
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels	5,76								270			88		88
PV/T panels	2,28	15,9				0			100			33		33
Biomass CHP	60	28			0	0			0		0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	370	0	0	121	0	121

Generation		MONTH 3												
Installed capacity		Monthly meter Readings											Background Calculations	
		Consumption				Generation		Plantroom				Household	Total	
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels	5,76								470			153		153
PV/T panels	2,28	15,9				0			160			52		52
Biomass CHP	60	28			0	0			0		0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	630	0	0	205	0	205

Generation		MONTH 4												
Installed capacity		Monthly meter Readings											Background Calculations	
		Consumption				Generation		Plantroom				Household	Total	
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels	5,76								660			218		218
PV/T panels	2,28	15,9				0			200			65		65
Biomass CHP	60	28			0	0			0		0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	860	0	0	280	0	280

Generation		MONTH 5												
Installed capacity		Monthly meter Readings											Background Calculations	
		Consumption				Generation		Plantroom				Household	Total	
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels	5,76								710			231		231
PV/T panels	2,28	15,9				0			170			55		55
Biomass CHP	60	28			0	0			0		0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	880	0	0	287	0	287

Generation		MONTH 6												
Installed capacity		Monthly meter Readings											Background Calculations	
		Consumption				Generation		Plantroom				Household	Total	
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels	5,76								760			248		248
PV/T panels	2,28	15,9				0			170			55		55
Biomass CHP	60	28			0	0			0		0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	930	0	0	303	0	303

Generation		MONTH 7												
Installed capacity		Monthly meter Readings											Background Calculations	
		Consumption				Generation		Plantroom				Household	Total	
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels	5,76								770			251		251
PV/T panels	2,28	15,9				0			0		0	0		0
Biomass CHP	60	28			0	0			0		0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	770	0	0	251	0	251

Generation		MONTH 8												
Installed capacity		Monthly meter Readings											Background Calculations	
		Consumption				Generation		Plantroom				Household	Total	
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels	5,76								580			189		189
PV/T panels	2,28	15,9				0			350			114		114
Biomass CHP	60	28			0	0			0		0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	930	0	0	303	0	303

Generation		MONTH 9		Monthly meter Readings							Background Calculations				
Installed capacity															
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Plantroom			Household	Total
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
											kWh	kg CO2	kg CO2	kg CO2	kgCO2
PV panels		5,76					0			800			261		261
PV/T panels		2,28	15,9				0			200	0	0	65		65
Biomass CHP	60	28			0		0			0	0	0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	0	1 000	0	0	326		326

Generation		MONTH 10		Monthly meter Readings							Background Calculations				
Installed capacity															
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Plantroom			Household	Total
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
											kWh	kg CO2	kg CO2	kg CO2	kgCO2
PV panels		5,76					0			1 000			326		326
PV/T panels		2,28	15,9				0			250	0	0	82		82
Biomass CHP	60	28			0		0			0	0	0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	0	1 250	0	0	408		408

Generation		MONTH 11		Monthly meter Readings							Background Calculations				
Installed capacity															
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Plantroom			Household	Total
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
											kWh	kg CO2	kg CO2	kg CO2	kgCO2
PV panels		5,76					0			0			0		0
PV/T panels		2,28	15,9				0			0	0	0	0		0
Biomass CHP	60	28			0		0			0	0	0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	0	0	0	0	0		0

Generation		MONTH 12		Monthly meter Readings							Background Calculations				
Installed capacity															
	Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Electricity meter	Plantroom			Household	Total
	kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year
											kWh	kg CO2	kg CO2	kg CO2	kgCO2
PV panels		5,76					0			30			10		10
PV/T panels		2,28	15,9				0			83	0	0	27		27
Biomass CHP	60	28			0		0			0	0	0	0		0
Total C	60	36,04	15,9	0	0	0	0	0	0	113	0	0	37		37

Monthly monitoring - Knowledge Centre

Site	Szentendre
Development	E
Year	2015

Color code
 meter readings - insert value
 static figures - do not change
 calculated figures - do not change

Parameters	
Calorific value natural gas	10.4 kWh/Nm3
CO2 emission factors	
Natural gas	0.204 kgCO2/kWh
Electricity	0.328 kgCO2/kWh

Monthly external ambient temperature & irradiation		
month	external ambient temperature	irradiation (per month)
1	2.0 °C	36 178 Wh/m2
2	2.8 °C	47 860 Wh/m2
3	7.4 °C	93 513 Wh/m2
4	11.6 °C	145 525 Wh/m2
5	16.6 °C	169 679 Wh/m2
6	20.5 °C	161 387 Wh/m2
7	24.3 °C	182 765 Wh/m2
8	24.3 °C	180 708 Wh/m2
9	18.0 °C	134 104 Wh/m2
10	10.7 °C	124 091 Wh/m2
11	7.6 °C	47 584 Wh/m2
12	3.2 °C	44 982 Wh/m2

Generation		TOTAL ANNUAL													
Installed capacity															
		Consumption							Generation			Background Calculations			
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Household	Total
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels Car shader	15.7									23 330				7 608	7 608
PVT panels	5,149	37.1				N/A				7 430	N/A	N/A	2 422		2 422
Biogas CHP	132	80			0	0			0	0	0	0	0		0
Heat pump 1	369.6					172 669			361 950	122 742	361 950	73 838	56 290		130 128
Heat pump 2	101.2					47 278			99 105	33 608	99 105	20 217	15 413		35 630
Control panel						2 628									857
Solar Thermal panels		13,841				N/A			N/A		N/A	N/A	N/A		0
Total E	602.8	100,849	50,941	3500	0	222 575	0	461 055	156 350	30 760	461 055	94 055	82 587		176 642

Generation		MONTH 1													
Installed capacity															
		Consumption							Generation			Background Calculations			
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Household	Total
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels Car shader	15.7									560				179	179
PVT panels	5,149	37.1				N/A				175	N/A	N/A	57		57
Biogas CHP	132	80			0	0			0	0	0	0	0		0
Heat pump 1	369.6					24 417			71 420	0	71 420	14 570	7 960		22 529
Heat pump 2	101.2					6 685			19 555	0	19 555	3 989	6 375		10 364
Control panel						223									73
Solar Thermal panels		13,841				N/A			N/A		N/A	N/A	N/A		0
Total E	602.8	100,849	50,941	3500	0	31 325	0	90 975	0	725	90 975	18 559	14 644		33 203

Generation		MONTH 2													
Installed capacity															
		Consumption							Generation			Background Calculations			
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Household	Total
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels Car shader	15.7									1 099				338	338
PVT panels	5,149	37.1				N/A				350	N/A	N/A	114		114
Biogas CHP	132	80			0	0			0	0	0	0	0		0
Heat pump 1	369.6					22 726			64 138	0	64 138	13 084	7 409		20 493
Heat pump 2	101.2					6 222			17 562	0	17 562	3 583	2 029		5 611
Control panel						202									66
Solar Thermal panels		13,841				N/A			N/A		N/A	N/A	N/A		0
Total E	602.8	100,849	50,941	3500	0	29 150	0	81 700	0	1 449	81 700	16 667	9 975		26 642

Generation		MONTH 3													
Installed capacity															
		Consumption							Generation			Background Calculations			
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Household	Total
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels Car shader	15.7									1 444				471	471
PVT panels	5,149	37.1				N/A				460	N/A	N/A	150		150
Biogas CHP	132	80			0	0			0	0	0	0	0		0
Heat pump 1	369.6					19 285			56 837	0	56 837	11 595	6 287		17 882
Heat pump 2	101.2					5 281			15 563	0	15 563	3 175	1 721		4 896
Control panel						223									73
Solar Thermal panels		13,841				N/A			N/A		N/A	N/A	N/A		0
Total E	602.8	100,849	50,941	3500	0	24 789	0	72 400	0	1 904	72 400	14 770	8 702		23 472

Generation		MONTH 4													
Installed capacity															
		Consumption							Generation			Background Calculations			
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Household	Total
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels Car shader	15.7									2 261				737	737
PVT panels	5,149	37.1				N/A				720	N/A	N/A	235		235
Biogas CHP	132	80			0	0			0	0	0	0	0		0
Heat pump 1	369.6					12 973			37 368	0	37 368	7 623	4 231		11 854
Heat pump 2	101.2					3 554			10 232	0	10 232	2 087	1 158		3 246
Control panel						216									70
Solar Thermal panels		13,841				N/A			N/A		N/A	N/A	N/A		0
Total E	602.8	100,849	50,941	3500	0	16 748	0	47 600	0	2 981	47 600	9 710	6 432		16 142

Generation		MONTH 5													
Installed capacity															
		Consumption							Generation			Background Calculations			
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Household	Total
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels Car shader	15.7									2 324				757	757
PVT panels	5,149	37.1				N/A				740	N/A	N/A	241		241
Biogas CHP	132	80			0	0			0	0	0	0	0		0
Heat pump 1	369.6					3 241			9 421	0	9 421	1 922	1 056		2 978
Heat pump 2	101.2					887			2 579	0	2 579	526	289		815
Control panel						223									73
Solar Thermal panels		13,841				N/A			N/A		N/A	N/A	N/A		0
Total E	602.8	100,849	50,941	3500	0	4 351	0	12 000	0	3 064	12 000	2 448	2 417		4 865

Generation		MONTH 6													
Installed capacity															
		Consumption							Generation			Background Calculations			
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Household	Total
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kgCO2/year
PV panels Car shader	15.7									2 151				701	701
PVT panels	5,149	37.1				N/A				685	N/A	N/A	223		223
Biogas CHP	132	80			0	0			0	0	0	0	0		0
Heat pump 1	369.6					11 506			29 832	0	29 832	6 086	3 751		9 837
Heat pump 2	101.2					3 150			8 168	0	8 168	1 666	1 027		2 693
Control panel						216									70
Solar Thermal panels		13,841				N/A			N/A		N/A	N/A	N/A		0
Total E	602.8	100,849	50,941	3500	0	14 872	0	38 000	0	2 836	38 000	7 752	5 773		13 525

Generation		MONTH 7										Background Calculations					
Installed capacity		Monthly meter Readings										Background Calculations					
		Consumption					Generation					Plantroom			Household		Total
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year		
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kg CO2		
PV panels Car shader	15.7									3 423				1 116	1 116		
PVT panels	5,149	37.1				N/A		N/A		1 090			355	355			
Biogas CHP					0	0		0		0	0	0	0	0			
Heat pump 1	369.6					14 464		0	37 462		37 462	7 642	4 715	12 358			
Heat pump 2	101.2					3 961		0	10 258		10 258	2 093	1 291	3 384			
Control panel						223							73	73			
Solar Thermal panels		13,841				N/A		N/A			N/A	N/A	N/A	0			
Total E	602.8	100,849	50,941	3500	0	0	18 648	0	47 720	4 513	47 720	9 735	7 550	17 285			

Generation		MONTH 8										Background Calculations					
Installed capacity		Monthly meter Readings										Background Calculations					
		Consumption					Generation					Plantroom			Household		Total
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year		
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kg CO2		
PV panels Car shader	15.7									2 920				952	952		
PVT panels	5,149	37.1				N/A		N/A		930			303	303			
Biogas CHP					0	0		0		0	0	0	0	0			
Heat pump 1	369.6					13 544		0	35 735		35 735	7 290	4 415	11 705			
Heat pump 2	101.2					3 708		0	9 785		9 785	1 996	1 209	3 205			
Control panel						223							73	73			
Solar Thermal panels		13,841				N/A		N/A			N/A	N/A	N/A	0			
Total E	602.8	100,849	50,941	3500	0	0	17 475	0	45 520	3 850	45 520	9 286	6 952	16 238			

Generation		MONTH 9										Background Calculations					
Installed capacity		Monthly meter Readings										Background Calculations					
		Consumption					Generation					Plantroom			Household		Total
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year		
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kg CO2		
PV panels Car shader	15.7									3 360				-1 095	-1 095		
PVT panels	5,149	37.1				N/A		N/A		1 070			-349	-349			
Biogas CHP					0	0		0		0	0	0	0	0			
Heat pump 1	369.6					7 641		0	19 713		19 713	4 021	2 491	-1 530			
Heat pump 2	101.2					2 692		0	5 397		5 397	1 101	682	-419			
Control panel						216							70	70			
Solar Thermal panels		13,841				N/A		N/A			N/A	N/A	N/A	0			
Total E	602.8	100,849	50,941	3500	0	0	9 949	0	25 110	4 430	25 110	-5 122	1 799	-3 323			

Generation		MONTH 10										Background Calculations					
Installed capacity		Monthly meter Readings										Background Calculations					
		Consumption					Generation					Plantroom			Household		Total
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year		
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kg CO2		
PV panels Car shader	15.7									1 900				619	619		
PVT panels	5,149	37.1				N/A		N/A		605			197	197			
Biogas CHP					0	0		0		0	0	0	0	0			
Heat pump 1	369.6					12 028		33 074	0		33 074	6 747	3 921	10 688			
Heat pump 2	101.2					3 293		9 656	0		9 656	1 847	1 074	2 921			
Control panel						223							73	73			
Solar Thermal panels		13,841				N/A		N/A			N/A	N/A	N/A	0			
Total E	602.8	100,849	50,941	3500	0	0	15 544	0	42 130	2 505	42 130	8 595	5 884	14 478			

Generation		MONTH 11										Background Calculations					
Installed capacity		Monthly meter Readings										Background Calculations					
		Consumption					Generation					Plantroom			Household		Total
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year		
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kg CO2		
PV panels Car shader	15.7									1 225				399	399		
PVT panels	5,149	37.1				N/A		N/A		390			127	127			
Biogas CHP					0	0		0		0	0	0	0	0			
Heat pump 1	369.6					13 519		38 938	0		38 938	7 943	4 407	12 350			
Heat pump 2	101.2					3 701		10 662	0		10 662	2 175	1 207	3 382			
Control panel						216							70	70			
Solar Thermal panels		13,841				N/A		N/A			N/A	N/A	N/A	0			
Total E	602.8	100,849	50,941	3500	0	0	17 436	0	49 600	1 615	49 600	10 118	6 210	16 329			

Generation		MONTH 12										Background Calculations					
Installed capacity		Monthly meter Readings										Background Calculations					
		Consumption					Generation					Plantroom			Household		Total
Thermal	Electrical	Area	Volume	Biomass	Gas/biogas meter	Electricity meter	Heat meter	Heat meter	Cooling meter	Electricity meter	Gas eq	Gas eq	Electricity	Other electricity	kgCO2/year		
kWt	kWe	m2	m3	t	Nm3	kWh	kWh	kWh	kWh	kWh	kWh	kg CO2	kg CO2	kg CO2	kg CO2		
PV panels Car shader	15.7									876				220	220		
PVT panels	5,149	37.1				N/A		N/A		215			70	70			
Biogas CHP					0	0		0		0	0	0	0	0			
Heat pump 1	369.6					17 321		50 753	0		50 753	10 354	5 647	16 000			
Heat pump 2	101.2					4 743		13 897	0		13 897	2 835	1 546	4 381			
Control panel						223							73	73			
Solar Thermal panels		13,841				N/A		N/A			N/A	N/A	N/A	0			
Total E	602.8	100,849	50,941	3500	0	0	22 287	0	64 650	890	64 650	13 189	7 556	20 744			

Monthly monitoring - Kindergarten of Püspökmajor

Site	Szentendre
Development	AK1
Year	2015

CWS = Cold Water Service

Color code

- meter readings- insert value
- static figures - do not change
- calculated figures - do not change

Parameters

Calorific value natural gas 10.4 kWh/Nm3

Month	Readings						Area m2	Consumption/m2							number of people	Consumption/person						Total Energy kWh/person
	Heat meter	DHW meter		CWS meter	Gas meter	Electricity meter		Heat	DHW		CWS	Gas	Electricity	Total Energy		Heat	DHW		CWS	Gas	Electricity	
	kWh	m3	kWh	m3	Nm3	kWh		kWh/m2	L/m2	kWh/m2	m3/m2	Nm3/m2	kWh/m2	kWh/m2		kWh/person	L/person	kWh/person	m3/person	Nm3/person	kWh/person	
January	6 950	23	1 726	20	N/A	1 056	514	13.52	44.75	3.36	N/A	N/A	2.05	15.58	120	57.92	191.67	14.39	N/A	N/A	8.80	66.72
February	3 614	23	1 726	20	N/A	1 024	514	7.03	44.75	3.36	N/A	N/A	1.99	9.02	120	30.12	191.67	14.39	N/A	N/A	8.53	38.65
March	1 668	23	1 726	20	N/A	1 066	514	3.25	44.75	3.36	N/A	N/A	2.11	5.36	120	13.90	191.67	14.39	N/A	N/A	9.05	22.95
April	1 668	23	1 726	20	N/A	777	514	3.25	44.75	3.36	N/A	N/A	1.51	4.76	120	13.90	191.67	14.39	N/A	N/A	6.48	20.38
May	0	23	1 726	20	N/A	593	514	0.00	44.75	3.36	N/A	N/A	1.15	1.15	120	0.00	191.67	14.39	N/A	N/A	4.94	4.94
June	0	23	1 726	20	N/A	433	514	0.00	44.75	3.36	N/A	N/A	0.84	0.84	120	0.00	191.67	14.39	N/A	N/A	3.61	3.61
July	0	23	1 726	20	N/A	453	514	0.00	44.75	3.36	N/A	N/A	0.88	0.88	120	0.00	191.67	14.39	N/A	N/A	3.78	3.78
August	0	23	1 726	20	N/A	532	514	0.00	44.75	3.36	N/A	N/A	1.04	1.04	120	0.00	191.67	14.39	N/A	N/A	4.43	4.43
September	0	23	1 726	20	N/A	843	514	0.00	44.75	3.36	N/A	N/A	1.64	1.64	120	0.00	191.67	14.39	N/A	N/A	7.03	7.03
October	8 340	23	1 726	20	N/A	1 036	514	16.23	44.75	3.36	N/A	N/A	2.02	18.24	120	69.50	191.67	14.39	N/A	N/A	8.63	78.13
November	10 286	23	1 726	20	N/A	1 064	514	20.01	44.75	3.36	N/A	N/A	2.07	22.08	120	85.72	191.67	14.39	N/A	N/A	8.87	94.58
December	12 788	23	1 726	20	N/A	1 086	514	24.88	44.75	3.36	N/A	N/A	2.11	26.99	120	106.57	191.67	14.39	N/A	N/A	9.05	115.62
Totals	45 314	276	20 717	240	N/A	9 983	514	88.16	536.96	40.30	N/A	N/A	19.42	107.58	120	377.62	2 300.00	172.64	N/A	N/A	83.19	460.81
Before renewal	105 300	276	20 717	250	N/A	N/A	514	204.86	536.96	40.30	N/A	N/A	N/A	245.17	120	755.23	2 300.00	172.64	N/A	N/A	N/A	N/A

Monthly monitoring - Kindergarten in Bimbó st.

Site	Szentendre
Development	AK2
Year	2015

CWS = Cold Water Service

Color code
 meter readings- insert value
 static figures - do not change
 calculated figures - do not change

Parameters
 Calorific value natural gas 10.4 kWh/Nm3

Month	Readings					Area m2	Consumption/m2						number of people	Consumption/person									
	Heat meter kWh	DHW meter m3		CWS meter m3	Gas meter Nm3		Electricity meter kWh	Heat kWh/m2	DHW L/m2	CWS kWh/m2	Gas Nm3/m2	Electricity kWh/m2		Total Energy kWh/m2	Heat kWh/person	DHW L/person		CWS m3/person	Gas Nm3/person	Electricity kWh/person	Total Energy kWh/person		
January	9 016	N/A	N/A	N/A	528	836	371	13.51	N/A	N/A	N/A	1.42	2.25	15.77	70	71.66	N/A	N/A	N/A	N/A	7.54	11.94	83.60
February	4 988	N/A	N/A	N/A	525	820	371	13.44	N/A	N/A	N/A	1.41	2.21	15.65	70	71.25	N/A	N/A	N/A	N/A	7.50	11.71	82.96
March	4 988	N/A	N/A	N/A	525	788	371	13.44	N/A	N/A	N/A	1.41	2.12	15.56	70	71.25	N/A	N/A	N/A	N/A	7.50	11.26	82.51
April	5 121	N/A	N/A	N/A	539	783	371	13.79	N/A	N/A	N/A	1.45	2.11	15.90	70	73.15	N/A	N/A	N/A	N/A	7.70	11.19	84.34
May	5 121	N/A	N/A	N/A	539	772	371	13.79	N/A	N/A	N/A	1.45	2.08	15.87	70	73.15	N/A	N/A	N/A	N/A	7.70	11.03	84.18
June	4 988	N/A	N/A	N/A	525	785	371	13.44	N/A	N/A	N/A	1.41	2.11	15.55	70	71.25	N/A	N/A	N/A	N/A	7.50	11.21	82.46
July	0	N/A	N/A	N/A	0	789	371	0.00	N/A	N/A	N/A	0.00	2.13	2.13	70	0.00	N/A	N/A	N/A	N/A	0.00	11.27	11.27
August	1 245	N/A	N/A	N/A	131	774	371	3.35	N/A	N/A	N/A	0.35	2.09	5.44	70	17.78	N/A	N/A	N/A	N/A	1.87	11.06	28.84
September	2 052	N/A	N/A	N/A	216	787	371	5.53	N/A	N/A	N/A	0.58	2.12	7.65	70	29.31	N/A	N/A	N/A	N/A	3.09	11.24	40.56
October	3 677	N/A	N/A	N/A	387	756	371	9.90	N/A	N/A	N/A	1.04	2.04	11.94	70	52.52	N/A	N/A	N/A	N/A	5.53	10.80	63.32
November	5 007	N/A	N/A	N/A	527	756	371	13.49	N/A	N/A	N/A	1.42	2.04	15.52	70	71.52	N/A	N/A	N/A	N/A	7.53	10.80	82.32
December	5 007	N/A	N/A	N/A	527	865	371	13.49	N/A	N/A	N/A	1.42	2.33	15.82	70	71.52	N/A	N/A	N/A	N/A	7.53	12.36	83.88
Totals	47 206	N/A	N/A	N/A	4969	9 511	371	127.17	N/A	N/A	N/A	13.39	25.62	152.79	70	674.36	N/A	N/A	N/A	N/A	70.99	135.87	810.24
Before renewal	58 821	N/A	N/A	N/A	4969	9 511	371	158.46	N/A	N/A	N/A	13.39	25.62	184.08	70	840.30	N/A	N/A	N/A	N/A	70.99	135.87	976.17

Monthly monitoring - Residential building in Hamvas st. 2-10.

Site	Szentendre
Development	ARB1
Year	2015

CWS = Cold Water Service

Color code
 meter readings- insert value
 static figures - do not change
 calculated figures - do not change

Parameters	
Calorific value natural gas	10.4 kWh/Nm ³

Month	Readings						Consumption/flat			Consumption/m ²							number of people	Consumption/person						Total Energy kWh/person
	Heat meter kWh	DHW meter m ³	CWS meter kWh	Gas meter m ³	Electricity meter Nm ³	Electricity meter kWh	Heat kWh/flat	DHW L/flat	Area m ²	Heat kWh/m ²	DHW L/m ²	CWS kWh/m ²	Gas Nm ³ /m ²	Electricity kWh/m ²	Total Energy kWh/m ²	Heat kWh/person		DHW L/person	CWS kWh/person	Gas Nm ³ /person	Electricity kWh/person			
January	57 500	167	12 535	N/A	no gas	16 350	718.75	2 058	4 880	11.78	34.22	2.57	N/A	no gas	3.35	17.70	200	287.50	835	62.68	N/A	no gas	81.75	431.93
February	41 667	150	11 259	N/A	no gas	16 350	520.83	1 875	4 880	8.54	30.74	2.31	N/A	no gas	3.35	14.20	200	208.33	750	56.30	N/A	no gas	81.75	346.38
March	40 278	157	11 784	N/A	no gas	16 350	503.47	1 963	4 880	8.25	32.17	2.41	N/A	no gas	3.35	14.02	200	201.39	785	58.92	N/A	no gas	81.75	342.06
April	15 278	189	14 186	N/A	no gas	16 350	190.97	2 363	4 880	3.13	38.73	2.91	N/A	no gas	3.35	9.39	200	76.39	945	70.93	N/A	no gas	81.75	229.07
May	0	165	12 385	N/A	no gas	16 350	0.00	2 063	4 880	0.00	33.81	2.54	N/A	no gas	3.35	5.89	200	0.00	825	61.92	N/A	no gas	81.75	143.67
June	0	142	10 659	N/A	no gas	16 350	0.00	1 775	4 880	0.00	29.10	2.18	N/A	no gas	3.35	5.53	200	0.00	710	53.29	N/A	no gas	81.75	135.04
July	0	163	12 235	N/A	no gas	16 350	0.00	2 038	4 880	0.00	33.40	2.51	N/A	no gas	3.35	5.86	200	0.00	815	61.17	N/A	no gas	81.75	142.92
August	0	139	10 433	N/A	no gas	16 350	0.00	1 738	4 880	0.00	28.48	2.14	N/A	no gas	3.35	5.49	200	0.00	695	52.17	N/A	no gas	81.75	133.92
September	0	164	12 310	N/A	no gas	16 350	0.00	2 050	4 880	0.00	33.61	2.52	N/A	no gas	3.35	5.87	200	0.00	820	61.55	N/A	no gas	81.75	143.30
October	31 667	188	14 111	N/A	no gas	16 350	395.83	2 350	4 880	6.49	38.52	2.89	N/A	no gas	3.35	12.73	200	158.33	940	70.56	N/A	no gas	81.75	310.64
November	40 278	168	12 610	N/A	no gas	16 350	503.47	2 100	4 880	8.25	34.43	2.58	N/A	no gas	3.35	14.19	200	201.39	840	63.05	N/A	no gas	81.75	345.18
December	54 167	172	12 910	N/A	no gas	16 350	677.08	2 150	4 880	11.10	35.25	2.65	N/A	no gas	3.35	17.10	200	270.83	860	64.55	N/A	no gas	81.75	417.13
Totals	280 833	1954	147 418	N/A	no gas	196 200	3 510.42	24 550	4 880	57.55	402.46	30.21	N/A	no gas	40.20	127.96	200	1 404.17	9820	737.09	N/A	no gas	981.00	3 122.28
Before renewal	670 278	1970	147 868	N/A	no gas	200 000	8 378.47	24 625	4 880	137.35	403.69	30.30	N/A	no gas	40.98	208.64	200	3 351.39	9850	739.34	N/A	no gas	1 000.00	5 090.73

Monthly monitoring - New office building of ÉMI

Site	Szentendre
Development	EO1
Year	2015

CWS = Cold Water Service

Color code
 meter readings- insert value
 static figures - do not change
 calculated figures - do not change

Parameters
 Calorific value natural gas 10.4 kWh/Nm3

Month	Readings						Area m2	Consumption/m2							number of people	Consumption/person									
	Heat meter kWh	Cooling meter kWh	DHW meter m3	CWS meter kWh	Gas meter m3	Electricity meter kWh		Heat kWh/m2	Cooling kWh/m2	DHW L/m2	CWS kWh/m2	Gas Nm3/m2	Electricity kWh/m2	Total Energy kWh/m2		Heat kWh/person	Cooling kWh/person	DHW L/person	CWS kWh/person	Gas Nm3/person	Electricity kWh/person	Total Energy kWh/person			
January	40 528	0	N/A	N/A	87	no gas	41 337	5 815	6,97	0,00	N/A	N/A	0,011	no gas	4,73	9,97	150	203,15	0,00	N/A	N/A	0,58	no gas	183,36	386,51
February	30 472	0	N/A	N/A	65	no gas	27 504	5 815	5,24	0,00	N/A	N/A	0,013	no gas	5,06	8,52	150	134,07	0,00	N/A	N/A	0,50	no gas	196,19	330,27
March	20 111	0	N/A	N/A	75	no gas	29 429	5 815	3,46	0,00	N/A	N/A	0,014	no gas	5,84	8,11	150	88,15	0,00	N/A	N/A	0,53	no gas	226,22	314,37
April	13 222	0	N/A	N/A	80	no gas	33 933	5 815	2,27	0,00	N/A	N/A	0,013	no gas	3,51	4,94	150	55,56	0,00	N/A	N/A	0,51	no gas	136,14	191,70
May	8 333	0	N/A	N/A	77	no gas	20 421	5 815	1,43	0,00	N/A	N/A	0,022	no gas	3,03	3,99	150	0,00	37,04	N/A	N/A	0,87	no gas	117,49	154,52
June	0	5 556	N/A	N/A	130	no gas	17 623	5 815	0,00	0,96	N/A	N/A	0,060	no gas	4,42	13,59	150	0,00	355,56	N/A	N/A	1,93	no gas	171,27	526,82
July	0	53 333	N/A	N/A	290	no gas	25 690	5 815	0,00	9,17	N/A	N/A	0,067	no gas	3,95	12,07	150	0,00	314,81	N/A	N/A	2,59	no gas	153,11	467,92
August	0	47 222	N/A	N/A	389	no gas	22 966	5 815	0,00	8,12	N/A	N/A	0,057	no gas	4,04	7,16	150	0,00	120,74	N/A	N/A	2,21	no gas	156,72	277,46
September	0	18 111	N/A	N/A	332	no gas	23 508	5 815	0,00	3,11	N/A	N/A	0,054	no gas	4,44	4,44	150	0,00	0,00	N/A	N/A	2,08	no gas	172,17	172,17
October	0	0	N/A	N/A	312	no gas	25 626	5 815	2,15	0,00	N/A	N/A	0,014	no gas	5,42	7,57	150	83,33	0,00	N/A	N/A	0,53	no gas	210,21	293,54
November	12 500	0	N/A	N/A	80	no gas	31 531	5 815	5,97	0,00	N/A	N/A	0,014	no gas	4,97	10,94	150	231,48	0,00	N/A	N/A	0,55	no gas	192,69	424,17
December	34 722	0	N/A	N/A	82	no gas	28 904	5 815	5,97	0,00	N/A	N/A	0,014	no gas	4,97	10,94	150	231,48	0,00	N/A	N/A	0,55	no gas	192,69	424,17
Totals	159 889	124 222	N/A	N/A	1998	no gas	328 672	5 815	27,50	21,36	N/A	N/A	0,329	no gas	49,41	91,30	150	795,74	828,15	N/A	N/A	13,32	no gas	1 915,57	3 539,46