

Supplementary Table S1—EPCs’ deviation																										
												The energy needed to provide the tangible of comfort account the gains, losses, thermal inertia and ventilation, without the active system efficiency.					CO2 Emissions	Process Control — Dentherm								
												NTC [Fpui (-) Eren]		NT (C)	NTC	NT (C)	Ratio	t.CO2/year	F to A+		250% to 0			F to A+	250% to 0	Deviation
EPC's Sample	Check	Construction year	EPC's approval date	Location			Season attribution		Area (sq.m)		Height (m)	“Simplification Rules”	kWh _{ep} /sq.m.year		NTC/ NT	t.CO2/year	F to A+	250% to 0	F to A+	250% to 0	Deviation					
1	Yes	2008	2009/06/26	Greater Lisbon	111506	74	II	V2		92,50			2,60	0	5,67	7,62			0,74	0,60	B	74,41%	B-	81,00%	-6,59%	
2	Yes	2009	2009/20/04	Greater Lisbon	111510	68	II	V2		110,53	2,40	0	3,11	6,49			0,48	0,40	A	47,92%	B	55,44%	-7,52%			
3	Yes	1956	2014/12/15	Greater Lisbon	110659	55	II	V2		31,49	2,78	1			460,80	264,60	1,74	2,10	D	174,15%	D	197,42%	-23,27%			
4	Yes	2001	2011/07/11	Greater Lisbon	110663	48	II	V2		148,53	2,70	0	4,4	7,27			0,61	0,80	B	60,52%	B	69,66%	-9,14%			
5	Incorrect	1980	2014/12/1	Greater Lisbon	111104	76	II	V2		136,66	2,80	1			277,70	140,90	1,97	2,40	D	197,09%	E	241,60%				
6	Yes	1976	2015/04/23	Greater Lisbon	110657	63	II	V3		142,3	2,65	1			311,00	156,00	1,99	6,59	D	199,36%	E	221,84%	-22,48%			
7	Yes	1999	2010/05/31	Greater Lisbon	150308	72	II	V2		95,81	2,56	0	4,82	7,42			0,65	0,60	B	64,96%	B	71,50%	-6,54%			
8	Yes	2008	2016/10/3	Greater Lisbon	110811	89	II	V2		71,80	2,66	0			121,10	104,90	1,15	1,25	C	115,44%	C	127,80%	-12,36%			
9	Yes	1968	2015/10/6	Greater Lisbon	111004	75	II	V3		108,11	2,54	1			221,10	107,00	2,07	3,62	E	206,64%	E	244,80%	-38,16%			
10	Yes	1977	2015/10/26	Greater Lisbon	150407	95	II	V3		94,85	2,75	1			288,40	160,20	1,80	4,00	D	180,02%	E	227,30%	-47,28%			
11	Yes	2005	2011/11/9	Greater Lisbon	111107	78	II	V1		108,00	2,70	0	4,51	6,61			0,68	0,60	B	68,23%	B-	78,56%	-10,33%			
12	Yes	2001	2016/12/13	R.A.M.	220305	30	II	V2	143,45		2,86	0			32,80	40,30	0,81	0,70	B-	81,39%	B-	91,60%	-10,21%			
13	Yes	1968	2018/2/7	Greater Lisbon	110508	98	II	V3		98,05	2,52	1			212,30	69,70	3,05	2,25	F	304,59%	F	334,62%	-30,03%			
14	Yes	1990	2010/3/19	Viscu	180610	489	I2	V2		101,75	2,63	1	9,30	7,20			1,29	1,10	C	129,17%	C	133,50%	-4,33%			
15	Yes	1978	2019/15/5	Greater Lisbon	110911	57	II	V2		124	2,55	1			157,10	84,50	1,86	5,22	D	185,92%	E	224,93%	-39,01%			
16	Yes	1982	2017/7/3	Setubal's peninsula	150309	63	II	V3	69,25		2,48	1			394,80	177,80	2,22	4,07	E	222,05%	F	265,30%	-43,25%			
17	Incorrect	1996	2019/10/16	Greater Lisbon	110633	33	II	V2		132,25	2,67	-			60,60	52,60	1,15	1,31	C	115,21%	C	124,78%				
18	Yes	2014	2014/7/28	Greater Lisbon	110664	116	II	V2		102,12	2,54	0			52,70	122,80	0,43	0,80	A	42,92%	A	43,50%	-0,58%			
19	Yes	1997	18/10/2010	Greater Lisbon	110654	122	II	V2		99	2,67	1	9,45	7,65			1,24	2,33	C	123,53%	C	140,30%	-16,77%			
20	Yes	1971	2014/7/28	Greater Lisbon	110702	93	II	V2		108,7	2,46	1			165,30	79,40	2,08	5,45	E	208,19%	E	237,50%	-29,31%			
21	Yes	1968	2014/7/28	Greater Lisbon	111503	118	II	V2		92,3	263,00	1			375,40	158,40	2,37	4,45	E	236,99%	F	267,40%	-30,41%			
22	Yes	2010	2014/7/28	West	100601	34	II	V2	155		2,70	0			54,30	119,60	0,45	0,95	A	45,40%	A	42,90%	2,50%			
23	Yes	1994	2014/7/28	Greater Lisbon	111012	112	II	V2		95,7	2,66	0			165,40	87,40	1,89	5,35	D	189,24%	E	233,10%	-43,86%			
24	Yes	1980	2014/7/28	R.A.A.	210703	29	II	V2	160		2,80	1			367,80	169,40	2,17	3,95	E	217,12%	F	258,60%	-41,48%			
25	Yes	2006	2014/7/28	Baixo Alentejo	20505	190	II	V3	140,6		2,77	0			49,50	168,40	0,29	1,25	A	29,39%	A	27,50%	1,89%			
26	Yes	1966	2014/7/28	Setubal's peninsula	150302	156	II	V3	113,7		2,84	1			155,80	56,80	2,74	5,89	F	274,30%	F	310,60%	-36,30%			
27	Yes	1992	2014/7/28	Greater Lisbon	111115	114	II	V2		58,8	2,57	0			268,50	186,30	1,44	3,96	C	144,12%	D	168,45%	-24,33%			
28	Yes	1966	2014/7/28	Greater Lisbon	111101	106	II	V2		76,5	2,54	0			187,50	92,40	2,03	5,36	E	202,92%	E	234,70%	-31,78%			
29	Yes	1981	2014/7/28	Loule	80801	123	II	V3	136		2,75	1			145,60	73,80	1,97	4,94	D	197,29%	E	233,50%	-36,21%			
30	Yes	1969	2014/7/28	Baixo Vouga	10517	33	I2	V2	153		2,83	1			176,90	88,40	2,00	5,46	E	200,11%	E	245,00%	-44,89%			
31	Yes	1979	2014/7/28	Greater Lisbon	110502	132	II	V2	101,5		2,88	0			299,50	189,40	1,58	3,97	D	158,13%	D	170,36%	-12,23%			
32	Yes	2014	2014/7/28	Greater Lisbon	111408	97	II	V2	71,3		2,46	0			68,40	118,10	0,58	0,97	B	57,92%	B	61,48%	-3,56%			
Average												16									148,58%		173,73%	-21,93%		
Average ≥ C (Official)																								-7,70%		
Average ≤ C (Official)																								-34,37%		