



Building Stock	ES	Regional	Comunidad Valenciana housing stock	Year	2015
Details	Comunidad Valenciana housing stock, IVE model				
Annotations to this sheet					

	1	2	3	4	5	6	7	8	9	10
Building type										
Dataset	ES.Region Valencia.2 015.001.0 1	ES.Region Valencia.2 015.001.0 2	ES.Region Valencia.2 015.001.0 3	ES.Region Valencia.2 015.001.0 4						

Thermal Envelope Average Building

Basic data	TABULA average buildings										
Floor area TABULA	1165,7	1499,6	1034,6	1491,4							m ²
Floor area national	1059,7	1363,3	940,5	1355,8							m ²
Number of dwellings	14,42	14,43	13,44	16,14							

Thermal envelope areas (external dimensions)	TABULA average buildings										
Roof	151,1	151,1	633,6	633,6							m ²
Wall	208,2	517,7	1119,4	3358,4							m ²
Window	36,0	90,0	162,0	486,0							m ²
Floor	90,8	90,8	385,8	385,8							m ²

Original state / not refurbished fraction of the envelope area

U-values of the original state	Building stock model - state indicators										
Roof	1,92	1,92	1,92	1,92							W/(m ² K)
Wall	2,26	2,26	1,66	1,66							W/(m ² K)
Window	5,70	5,70	5,70	5,70							W/(m ² K)
Floor	2,06	2,06	1,43	1,43							W/(m ² K)

Refurbishments (averages)

Refurbished fraction of envelope areas	Building stock model - state indicators										
Roof											
Wall											
Window											
Floor											
<i>Total (indicative)</i>											
U-values of the refurbished fraction (averages)	Building stock model - state indicators										
Roof											W/(m ² K)
Wall											W/(m ² K)
Window											W/(m ² K)
Floor											W/(m ² K)

Energy Need for Heating TABULA

Utilisation	TABULA standard calculation procedure										
Utilisation dataset	EU.MUH	EU.MUH	EU.MUH	EU.MUH							
Internal temperature	20,0	20,0	20,0	20,0							°C
Reduction factor temp.	0,99	0,97	0,86	0,85							
Air exchange rate (use)	0,40	0,40	0,40	0,40							1/h
Internal heat sources	3,00	3,00	3,00	3,00							W/m ²
Red. factor ext. shading	0,60	0,60	0,60	0,60							
Energy need for DHW	15,0	15,0	15,0	15,0							kWh/(m ² a)

Climate	TABULA standard calculation procedure										
Climate dataset	Mediterranean	Mediterranean	Mediterranean	Mediterranean							
Base temperature	12,0	12,0	12,0	12,0							°C
Length of heating season	22	22	22	22							d/a
External temp. during HS	11,5	11,5	11,5	11,5							
Accum. temp. diff. ext. to int. temp.	190	190	190	190							Kd/a

Envelope	TABULA standard calculation procedure										
Heat transfer by transmission related to surface area	712	1203	3706	7992							W/K
related to surface area	1,46	1,42	1,61	1,64							W/(m ² K)
related to ref. floor area	0,61	0,80	3,58	5,36							W/(m ² K)

Annual energy balance building	TABULA standard calculation procedure										
Transmission heat losses	2,8	3,5	14,1	20,8							kWh/(m ² a)
Ventilation heat losses	3,1	3,0	2,7	2,6							kWh/(m ² a)
Usable solar gains											kWh/(m ² a)
Usable internal gains	-1,5	-1,5	-1,5	-1,5							kWh/(m ² a)
Energy need for heating recovered by vent. system	4,3	5,0	15,3	21,9							kWh/(m ² a)
Net energy need for heating	4,3	5,0	15,3	21,9							kWh/(m ² a)



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Building type										

Total Building Stock

		Building stock model - state indicators										Total	
Number of buildings	10 ⁰	17 225	25 432	2 879	2 399								47 935
Number of dwellings	10 ⁰	248 345	366 890	38 685	38 721								692 641
Floor area national	10 ⁶ m ²	18	35	3	3								59
Floor area TABULA	10 ⁶ m ²	20	38	3	4								65

Ventilation Systems with Heat Recovery

	Building stock model - state indicators									
Occurrences	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%

Heating Systems

Occurrences or Fractions of Produced Heat

	Building stock model - state indicators												
1	Oil	B_NC	D	3%	3%	3%	3%						
2	Gas	Stove_L	D	23%	23%	23%	23%						
3	Gas	B_NC	D	17%	17%	17%	17%						
4	El	E_SH	D	23%	23%	23%	23%						
5	El	HP_Air	D	33%	33%	33%	33%						
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
Sum				100%	100%	100%	100%						
thereof central													
decentral				100%	100%	100%	100%						
Other Systems													

DHW Systems

Occurrences or Fractions of Produced Heat

	Building stock model - state indicators												
1	Gas	B_NC	D	100%	100%	100%	100%						
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
Sum				100%	100%	100%	100%						
thereof central													
decentral				100%	100%	100%	100%						
Other Systems													



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Building type										

Heating Systems

Heat demand / heat generation				TABULA standard calculation procedure							
Energy need for heating	4,3	5,0	15,3	21,9							kWh/(m ² a)
Net en. need for heating	4,3	5,0	15,3	21,9							kWh/(m ² a)
Distribution + storage losses				TABULA system indicators							
Central systems	C										kWh/(m ² a)
Decentral systems	D	19,6	19,6	19,6	19,6						kWh/(m ² a)
Auxiliary energy				TABULA system indicators							
Ventil. systems (average)											kWh/(m ² a)
Central systems	C										kWh/(m ² a)
Decentral systems	D	1,8	1,8	1,8	1,8						kWh/(m ² a)

Energy expenditure factors (fuels: related to gross calorific value)				TABULA system indicators							
1	Oil	B NC	D	1,15	1,15	1,15	1,15				
2	Gas	Stove L	D	1,15	1,15	1,15	1,15				
3	Gas	B NC	D	1,15	1,15	1,15	1,15				
4	El	E SH	D	1,00	1,00	1,00	1,00				
5	El	HP Air	D	0,50	0,50	0,50	0,50				
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Delivered Energy				TABULA standard calculation procedure								
1	Oil	B NC	D	27,5	28,3	40,1	47,7					kWh/(m ² a)
2	Gas	Stove L	D	27,5	28,3	40,1	47,7					kWh/(m ² a)
3	Gas	B NC	D	27,5	28,3	40,1	47,7					kWh/(m ² a)
4	El	E SH	D	23,9	24,6	34,9	41,5					kWh/(m ² a)
5	El	HP Air	D	11,9	12,3	17,4	20,7					kWh/(m ² a)
6												kWh/(m ² a)
7												kWh/(m ² a)
8												kWh/(m ² a)
9												kWh/(m ² a)
10												kWh/(m ² a)
11												kWh/(m ² a)
12												kWh/(m ² a)
13												kWh/(m ² a)
14												kWh/(m ² a)
15												kWh/(m ² a)
16												kWh/(m ² a)
17												kWh/(m ² a)
18												kWh/(m ² a)
19												kWh/(m ² a)
20												kWh/(m ² a)

Delivered Energy - weighted by frequencies				TABULA standard calculation procedure								
1	Oil	B NC	D	0,8	0,8	1,1	1,3					kWh/(m ² a)
2	Gas	Stove L	D	6,4	6,6	9,3	11,1					kWh/(m ² a)
3	Gas	B NC	D	4,8	4,9	6,9	8,3					kWh/(m ² a)
4	El	E SH	D	5,5	5,7	8,1	9,6					kWh/(m ² a)
5	El	HP Air	D	4,0	4,1	5,8	6,9					kWh/(m ² a)
6												kWh/(m ² a)
7												kWh/(m ² a)
8												kWh/(m ² a)
9												kWh/(m ² a)
10												kWh/(m ² a)
11												kWh/(m ² a)
12												kWh/(m ² a)
13												kWh/(m ² a)
14												kWh/(m ² a)
15												kWh/(m ² a)
16												kWh/(m ² a)
17												kWh/(m ² a)
18												kWh/(m ² a)
19												kWh/(m ² a)
20												kWh/(m ² a)

Electricity production by CHP				TABULA standard calculation procedure								
												kWh/(m ² a)
												kWh/(m ² a)
												kWh/(m ² a)
												kWh/(m ² a)



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Building type										

DHW Systems

Heat demand / heat generation										TABULA standard calculation procedure	
Energy need for DHW	15,0	15,0	15,0	15,0							kWh/(m ² a)
Distribution + storage losses											TABULA system indicators
Central systems	C										kWh/(m ² a)
Decentral systems	D	14,8	14,8	14,8	14,8						kWh/(m ² a)
Auxiliary energy										TABULA system indicators	
Central systems	C										kWh/(m ² a)
Decentral systems	D										kWh/(m ² a)

Energy expenditure factors (fuels: related to gross calorific value) TABULA system indicators

1	Gas	B NC	D	1,43	1,43	1,43	1,43					
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

Delivered Energy TABULA standard calculation procedure

1	Gas	B NC	D	42,6	42,6	42,6	42,6					kWh/(m ² a)
2												kWh/(m ² a)
3												kWh/(m ² a)
4												kWh/(m ² a)
5												kWh/(m ² a)
6												kWh/(m ² a)
7												kWh/(m ² a)
8												kWh/(m ² a)
9												kWh/(m ² a)
10												kWh/(m ² a)
11												kWh/(m ² a)
12												kWh/(m ² a)
13												kWh/(m ² a)
14												kWh/(m ² a)
15												kWh/(m ² a)
16												kWh/(m ² a)
17												kWh/(m ² a)
18												kWh/(m ² a)
19												kWh/(m ² a)
20												kWh/(m ² a)

Delivered Energy - weighted by frequencies TABULA standard calculation procedure

1	Gas	B NC	D	42,6	42,6	42,6	42,6					kWh/(m ² a)
2												kWh/(m ² a)
3												kWh/(m ² a)
4												kWh/(m ² a)
5												kWh/(m ² a)
6												kWh/(m ² a)
7												kWh/(m ² a)
8												kWh/(m ² a)
9												kWh/(m ² a)
10												kWh/(m ² a)
11												kWh/(m ² a)
12												kWh/(m ² a)
13												kWh/(m ² a)
14												kWh/(m ² a)
15												kWh/(m ² a)
16												kWh/(m ² a)
17												kWh/(m ² a)
18												kWh/(m ² a)
19												kWh/(m ² a)
20												kWh/(m ² a)

Electricity production by CHP TABULA standard calculation procedure

												kWh/(m ² a)
												kWh/(m ² a)
												kWh/(m ² a)
												kWh/(m ² a)



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Total Building Stock

	1	2	3	4	5	6	7	8	9	10	Total
Building type											
Floor area TABULA	10 ⁶ m ²	20	38	3	4	0	0	0	0	0	65

All energy quantities in **GWh/a**

Heating Systems

Heat Demand for Heating		TABULA standard calculation procedure / projection to building stock								Total	
Energy need for heating		86	192	45	78						402
Net en. need for heating		86	192	45	78						402
Produced heat		480	939	104	148						1 672

Delivered Energy TABULA		TABULA standard calculation procedure / projection to building stock								Sum		
1	Oil	B_NC	D	15	30	3	5					53
2	Gas	Stove_L	D	128	251	28	40					446
3	Gas	B_NC	D	96	187	21	30					333
4	El	E_SH	D	111	218	24	34					388
5	El	HP_Air	D	80	157	17	25					280
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
	Not specified systems			0	0	0	0					0
	Auxiliary energy			36	69	5	6					117
	CHP electr. production											0

DHW Systems

Heat Demand for DHW		TABULA standard calculation procedure / projection to building stock								Total	
Energy need for DHW		301	572	45	54						972
Produced heat		598	1 137	89	107						1 930

Delivered Energy TABULA		TABULA standard calculation procedure / projection to building stock								Total		
1	Gas	B_NC	D	856	1 625	127	152					2 760
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
	Not specified systems			0	0	0	0					0
	Auxiliary energy			0	0	0	0					0
	CHP electr. production											0



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Total Building Stock	1	2	3	4	5	6	7	8	9	10	Total
Building type											
Floor area TABULA	10 ⁶ m ²	20	38	3	4	0	0	0	0	0	65

Total Heat Need and Final Energy

All energy quantities in **GWh/a**

Heating + DHW

Simplified TABULA projection	fuels related to gross calorific value (TABULA standard)				TABULA standard calculation procedure projection to building stock						Total	per m ²
Net heat need	387	764	90	132							1 374	21
Produced heat	1 078	2 076	193	255							3 602	56
Gas	1 079	2 063	175	222							3 540	55
Oil	15	30	3	5							53	1
Coal	0	0	0	0							0	0
Bio	0	0	0	0							0	0
DH	0	0	0	0							0	0
EI (incl. aux. en.)	228	444	47	66							784	12
Other / not specified	0	0	0	0							0	0
<i>Sum final energy</i>	<i>1 322</i>	<i>2 537</i>	<i>226</i>	<i>292</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>4 377</i>	<i>68</i>
CHP electr. production	0	0	0	0							0	0

Separate individual model

or total metered consumption

	fuels related to gross calorific value factors for conversion to gross calorific value (TABULA standard)				Individual building stock model						Total	per m ²
Net heat need	2 569	3 356	235	203							6 363	98
Produced heat	560	828	87	87							1 562	24
Gas	1,00	444	656	69	69						1 239	19
Oil	1,00	16	24	3	3						45	1
Coal	1,00	0	0	0	0						0	0
Bio	1,00	0	0	0	0						0	0
DH		0	0	0	0						0	0
EI		486	718	76	76						1 356	21
Other / not specified		0	0	0	0						0	0
<i>Sum final energy</i>	<i>947</i>	<i>1 398</i>	<i>147</i>	<i>148</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2 640</i>	<i>41</i>
CHP electr. production	0	0	0	0							0	0

Ratio of individual model or total metered consumption to simplified TABULA projection (TABULA balance calibration factors)

											Total
Net heat need	663%	439%	261%	154%							463%
Produced heat	52%	40%	45%	34%							43%
Gas	41%	32%	39%	31%							35%
Oil	106%	80%	76%	53%							85%
Coal											
Bio											
DH											
EI	213%	162%	162%	115%							173%
Other											
Sum final energy	72%	55%	65%	51%							60%
CHP electr. production											