

Energy Efficiency in High-Rise Refurbishment

Regional Summary Series

Warm climate EU15 (A)



Map of Base Region A

www.euroace.org/highrise



BASE REGION A: WARM CLIMATE EU15 COUNTRIES

This is a data summary for base region A – France, Greece, Italy, Portugal and Spain. This regional summary is intended purely for informational purposes – it provides the quantitative results for the integration of [energy efficiency measures](#) into the refurbishment of a high-rise building typical for each country. For more information about the region, including the assumptions underlying the data, please refer to the main report *Energy Efficiency in the Refurbishment of High-Rise Residential Buildings* or contact research@ukace.org with “High-rise query” in the subject line.

Headline facts and figures about the high-rise stock

	No. of dwellings	as proportion of total stock	Buildings (theoretical)	Energy saving potential in high-rise stock	as %age of national energy demand	MtCO ₂
France	4,558,230	15.9%	151,941	33%	1.2%	2.90
Greece	1,455,406	26.6%	48,514	26%	1.6%	0.92
Italy	6,197,318	23.7%	206,577	18%	1.1%	3.71
Portugal	1,089,698	21.6%	36,323	26%	0.7%	0.32
Spain	6,412,139	30.6%	213,738	26%	1.1%	2.13

Energy savings, investment costs and cost of conserved energy in a typical high-rise building

	Energy saved in building [kWh/m ² a]		Annual investment cost [€/m ² a]	Cost of conserved energy [€cent/kWh]	Simple payback [a]
France	124.7	71.9%	3.62	2.9	6.6
Greece	109.6	71.7%	2.35	2.1	4.0
Italy	153.6	73.8%	2.67	1.7	2.7
Portugal	122.2	71.7%	2.35	1.9	1.7
Spain	140.8	71.7%	2.35	1.7	1.9

Energy savings, costs of energy and of CO₂ mitigation in a typical high-rise building

	Energy saved in building [kWh/m ² a]		Cost of supplied energy [€cent/kWh]	Cost of conserved energy [€cent/kWh]	Net cost of conserved energy [€cent/kWh]	Cost of CO ₂ mitigation [€/tCO ₂]	Net cost of CO ₂ mitigation [€/tCO ₂]
France	124.7	71.9%	7.5	2.9	-4.6	127	-201
Greece	109.6	71.7%	9.2	2.1	-7.0	106	-349
Italy	153.6	73.8%	11.3	1.7	-9.5	86	-471
Portugal	122.2	71.7%	19.0	1.9	-17.1	95	-848
Spain	140.8	71.7%	15.0	1.7	-13.3	83	-660

Other resources

	Ministry responsible for housing	Known case study of high-rise refurbishment or otherwise relevant	Best practice resource
France	Ministry for Employment, Labour and Social Cohesion	Résidence HELIOS, Caen	
Greece	Ministry for the Environment, Physical Planning and Public Works		
Italy	Ministry of Infrastructure and Transport	Vigonza, Padova	
Portugal	Ministry of Public Works, Transport and Communications	Ceuta Norte, Lisbon	
Spain	Ministry of Housing	Els Molins, Sitges	

This, along with the website at www.euroace.org/highrise is intended as a living set of resources. If any of the links are incorrect or if you know of any other high-rise refurbishment related case studies and resources, please contact research@ukace.org with “High-rise resource” in the subject line.