



Country fact sheet: Key tool parameters – Czech Republic

When considering an energy efficiency retrofit within your national housing market, a wide plethora of consideration needs to be made. Below, we list the key parameters that will later be used and combined within the RentalCal tool to facilitate your analysis of this retrofit investment. More details and backgrounds on these parameters can be found in the corresponding deliverables as indicated in the first and last column of this table.

Deliver.	Parameter	Default Value	From Fact sheet / Source
D2.1	Building types	SFH/TH/MFH/AB	D2.1 Country section: Fact sheet on the national (rental) housing stock (Czech Republic)
			TABULA 2012, EPISCOPE update 2016
D2.1	Predominant heating systems	SFH/TH: central heating 83.5% stoves 9,1% MFH/AB: district heating 61% central heating 14.8% apartment heating 10.5%	D2.1 Country section : Fact sheets on national technical framework conditions (Czech Republic)
			https://vdb.czso.cz/vdbvo2/faces/cs/shortUrl?su=ff28a083
D2.1	Predominant energy carrier (acc. to the final energy consumption for heating)	Natural gas 26,9% Solid fuels 19,2% District heating 13,4% Electricity 3,8% Liquid fuels 0,7% RES 36% (including wood)	D2.1 Country section : Fact sheets on national technical framework conditions (Czech Republic)
			ENERGO 2015 (Czech statistical office)
D2.2	Energy consumption before refurbishment	SFH/TH: 182-317 kWh/m ² a MFH/AB: 131-237 kWh/m ² a	D2.2 Table 5: Cross country comparison on results of the energy balance calculations according to TABULA, page 27
			TABULA 2012, EPISCOPE update 2016
D2.2	Energy consumption after refurbishment	Standard package: SFH/TH: 104-178 kWh/m ² a MFH/AB: 87-139 kWh/m ² a Advanced package: SFH/TH: 36-96 kWh/m ² a MFH/AB: 57-94 kWh/m ² a	D2.2 Table 5: Cross country comparison on results of the energy balance calculations according to TABULA, page 27
			TABULA 2012, EPISCOPE update 2016
D2.2	Investment costs (ranges; without VAT)	Standard package: SFH/TH: 167-332 €/m ² MFH/AB: 149-310 €/m ² Advanced package: SFH/TH: 197-447 €/m ² MFH/AB: 170-364 €/m ²	D 2.2 Table 3: Cross country comparison on calculation results for costs of system and building packages, page 25
			J. Antonín Průzkum fondu rezidenčních budov v České republice a možnosti úspor v nich. Šance pro budovy. Praha 2016
D2.3	Energy balance calculation method	ČSN 730540 – part 1,2,3,4 CSN EN ISO 13 790 CSN EN 15 316-X CSN EN 15 241, 15 242, 15 243,15 665 CSN EN 15 193	D2.3 Country section : Fact sheet on nationally used energy performance calculation methods (Czech Republic)
			EPISCOPE Synthesis Report No. 1 (Stein et al. 2016)



D2.3	Non-renewable primary energy factors	Electricity: 3 kWh/kWh Oil: 1,2 kWh/kWh Gas: 1,1 kWh/kWh Coal: 1,1 kWh/kWh Biomass: 0,1-0,2 kWh/kWh District Heating: 0.1-1,0 kWh/kWh depending on the share of RES	D2.3 Country section : Fact sheet on national primary energy and emission factors (Czech Republic)
			EPISCOPE Synthesis Report No. 1 (Stein et al. 2016)
D2.3	CO2 emission factors	Electricity: 1170 g/kWh Oil: 260 g/kWh Gas: 200 g/kWh Coal: 330-360 g/kWh Biomass: 0 g/kWh District Heating: N/A	D2.3 Country section : Fact sheet on national primary energy and emission factors (Czech Republic)
			EPISCOPE Synthesis Report No. 1 (Stein et al. 2016)
D3.1	Rent Increase Method 1	According to legal requirements: 3,5-10% of the energy efficiency investment per year For 10% consent of 2/3 of tenants in the house is needed.	D3.1 Country section : Fact Sheets regarding rent regulations (Czech Republic)
			§ 2250 of NOZ
D3.1	Rent Increase Method 2	No green premiums rule	D3.1 Country section : Table 3.1-5
			Not available
D3.1	Rent Increase Method 3	Free negotiations. Mutual agreement in the contract or the owner can propose an increase up to normal market rent in the area. The rent cannot be increased more than 20% within a 3 years period.	D3.1 Country section : Fact Sheets regarding rent regulations (Czech Republic)
			§ 2248 and § 2249 of NOZ
D4.1	Depreciation system	linear	D4.1 Country section : Fact sheet – relevant decision making parameters (part 1) (Czech Republic)
			https://www.zakonyprolidi.cz/cs/1992-586/zneni-20180101
D4.1	Depreciation rate	{First year 1,4% , following years 3,4% } for investments exceeding 40 000 CZK/year	D4.1 Country section : Fact sheet – relevant decision making parameters (part 1) (Czech Republic)
			https://www.zakonyprolidi.cz/cs/1992-586/zneni-20180101 http://www.financnisprava.cz/assets/cs/prilohy/d-zakony/Pokyn_GFR_c_D_6.pdf
D4.1	Marginal tax rate	15% { +7% from net annual income exceeding 1 355 136 CZK} 19% corporate income tax	D4.1 Country section : Fact sheet – relevant decision making parameters (part 1) (Czech Republic)
			https://www.zakonyprolidi.cz/cs/1992-586/zneni-20180101
D4.1	VAT deduction	Not possible (for average investor) because the rents are charged VAT excl.	D4.1 Country section : Fact sheet – relevant decision making parameters (part 1) (Czech Republic) https://www.zakonyprolidi.cz/cs/1992-586/zneni-20180101



D4.1	Direct subsidies (grants)	Family houses 330-3800 CZK/m2 of building element and 15000-100000 CZK for energy systems –bonuses up to 40000 CZK for certain combinations of measures (packages) Apartment blocks in Prague 200-1250 CZK/m2 of building element and 6000-25000 CZK per dwelling for energy systems Apt. blocks outside Prague up to 30% -40% of relevant costs	D4.1 Country section : Fact sheet – relevant decision making parameters (part 1) (Czech Republic) http://www.novazelenausporam.cz/zadatele-o-dotaci/bytovedomy/ http://www.novazelenausporam.cz/zadatele-o-dotaci/rodinne-domy/ http://www.strukturalni-fondy.cz/cs/Microsites/IROP/Dokumenty
			D4.1 Country section : Fact sheet – relevant decision making parameters (part 2) (Czech Republic) http://www.sfrb.cz/programy-a-podpory/program-panel-2013/ http://www.sfrb.cz/programy-a-podpory/program-pro-obce/ https://www.cnb.cz/docs/ARADY/HTML/index.htm
D4.1	Interest rates on loans	{ 0,75– 2,75 % } for subsidised loans {2,0-3,50 % } for mortgages {6 - 9 % } for common loans	D4.1 Country section : Fact sheet – relevant decision making parameters (part 2) (Czech Republic) https://www.penize.cz/terminovane-vklady https://www.mesec.cz/produkty/sporici-ucty/
			D4.1 Country section : Fact sheet – relevant decision making parameters (part 2) (Czech Republic) https://www.mesec.cz/produkty/sporici-ucty/
D4.1	Interest rates on deposits	{ 0,1 – 1 }	D4.1 Country section : Fact sheet – relevant decision making parameters (part 2) (Czech Republic) https://www.mesec.cz/produkty/sporici-ucty/
			Expert estimation
D4.1	LTV ratio	{ 30 – 70 }	D4.1 Country section : Fact sheet – relevant decision making parameters (part 2) (Czech Republic) https://www.mesec.cz/produkty/sporici-ucty/
			Expert estimation
D4.1	Debt repayment structure	annuity loan (most frequent type), instalment loan, bullet loan (rarely)	D4.1 Country section : Fact sheet – relevant decision making parameters (part 3) (Czech Republic) http://www.ceed.cz/bankovnictvi/745zpusoby_splaceni_uveru.htm https://www.kurzy.cz/hypoteky/typy-splaceni-hypotek/
			D4.1 Country section : Fact sheet – relevant decision making parameters (part 3) (Czech Republic)
D4.1	Planning (calculation) period	{10 – 20}	D4.1 Country section : Fact sheet – relevant decision making parameters (part 3) (Czech Republic)



			Expert estimation
D5.2	Energy price level	Electricity: 0,142 €/kWh Oil: 0,095 €/kWh Gas: 0,06 €/kWh Biomass: 0,048 €/kWh District Heating: 0,09 €/kWh	RentalCal web tool (default values)
			EUROSTAT 2014, ENERGOSTAT 2014; TZB-info 2015
D5.2	Vacancy rate (national average)	15 %	D5.2 Country section : Table regional rental market disparities (Czech Republic)
			CPI property group semestrial report, 2016 and expert estimation
D5.2	Size of Value premium (national average)	One level decrease in energy class: approx.. -3 % market value.	D5.2 Country section : Table market impact evaluation of green premium issues by region (Czech Republic)
			Expert estimation based on comparison of building samples from the real estate market
D5.2	Size of Rent premium (national average)	Low 1) Baseline: Unrefurbished (F,G) 2) Approx. energy class (E) +11*% premium 3) Approx. energy class (D) +17*% premium 4) Approx. energy class (C) +22*%	D5.2 Country section : Table market impact evaluation of green premium issues by region (Czech Republic)
			MRA Havířov - Data from a municipal housing agency from the North Moravia region.