URBAN3R

Open Data Platform to Drive Urban Regeneration in Spain

This tool is focused on driving urban regeneration in Spain and helping decision-making for the design of renovation plans and strategies at urban scale, from the neighbourhood to the municipal level, in line with the Spanish Long Term Renovation Strategy (ERESEE 2020).

The tool allows the visualisation of various indicators on the current state of the building, data on the energy demand of the residential buildings in the current state and after undergoing an energy renovation, as well as the estimated costs of these interventions.

To facilitate decision-making at urban scale, the tool allows thematic filtering and delimitation of specific study areas and joint queries, although it is also possible to consult data individually at building scale. At this level, it should be noted that this is a first indicative approach.

For registered users, the tool provides, for those municipalities where information is already available, a system for downloading data in CSV and GeoPackage format. Municipalities where information is not available can be automatically processed by uploading the urban file in CAT format available on the Spain Cadastral Electronic Site.

The information related to the energy renovation of residential buildings comes from the application at a reference cadastral scale of the data developed within the framework of ERESEE 2020. In this LTRS, the clustering and segmentation system used allows the characterization of the entire residential building stock with a level of precision suitable at a national-level view. The segmentation methodology can be consulted in the document "Segmentación en clústeres tipológicos y caracterización geométrica del parque residencial de viviendas en España".

In the tool, it is possible to identify each building according to the most basic level of classification, consisting of the definition of 18 typological clusters based on typology, number of floors, and year of construction:

	Single-family building	**Multi-family building with 3 or less floors**	**Multi-family building with more of 3 floors**
Before 1900	Uu <1900	Cc <1900	Bb <1900
1901-1940	Uu 01-40	Cc 01-40	Bb 01-40
1941-1960	Uu 41-60	Cc 41-60	Bb 41-60
1961-1980	Uu 61-80	Cc 61-80	Bb 61-80
1981-2007	Uu 81-07	Cc 81-07	Bb 81-07
2008-2020	Uu 08-20	Cc 08-20	Bb 08-20

On the other hand, the hypotheses and methodology used to perform the energy demand calculations associated with each cluster, according to the specific location and climate zone, can be consulted in the document "Aproximación a la demanda energética residencial para calefacción en España". The renovation menus for each of the clusters, the energy savings calculations obtained, and the economic costs are those used in ERESEE 2020 itself.

The tool offers the possibility to consult and download all this information at cadastral reference level. The available fields are as follows:

Field	Description	Type
referencia_catastral	Cadastral reference code	TEXT
codigo_ine	INE Code of the municipality	TEXT
nombre_municipio	Name of the municipality	TEXT
codigo_provincia	INE code of province	TEXT
zona_climatica	Climate zone to which the municipality belongs	TEXT
uso_principal	Main use of the property	TEXT
altura_maxima	Number of Floors of the Building. 0 = Ground Floor	INT
altura_maxima_categoria	Categorisation of maximum height	TEXT
tipologia_edificio	Building typology	TEXT
ano_construccion	Year of construction of the building	INT
ano_construccion_categoria	Construction year categorisation	TEXT
numero_viviendas	Number of dwellings present in the building*	INT
numero_viviendas_categoria	Categorisation of the number of dwellings	TEXT
cluster	Typological cluster defined according to ERESEE	TEXT
demanda_calefaccion	Current heating demand, per area kWh/m^2·year	FLOAT
demanda_calefaccion_post_interverncion	Post-intervention heating demand, per area kWh/m^2·year	FLOAT
calificacion_demanda_calefaccion	Current energy rating of the building	TEXT
calificacion_demanda_calefaccion_post_intervencion	Post-intervention energy rating of the building	TEXT
coste_intervencion_m2	Cost of renovation, per area €/m²	FLOAT
coste_intervencion_viv	Cost of renovation, per dwelling €/dwel.	FLOAT

*The number of dwellings equals, in multi-family buildings with property division, the number of registered premises used as dwellings that have their own cadastral reference (20 digits). However, in multi-family buildings with no property division, only one dwelling is considered as there is not sufficient data available to account for the actual number of dwellings.

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Developed by Cíclica [space · community · ecology] using urbanZEB.