

ENERFUND – Identifying and rating deep renovation opportunities

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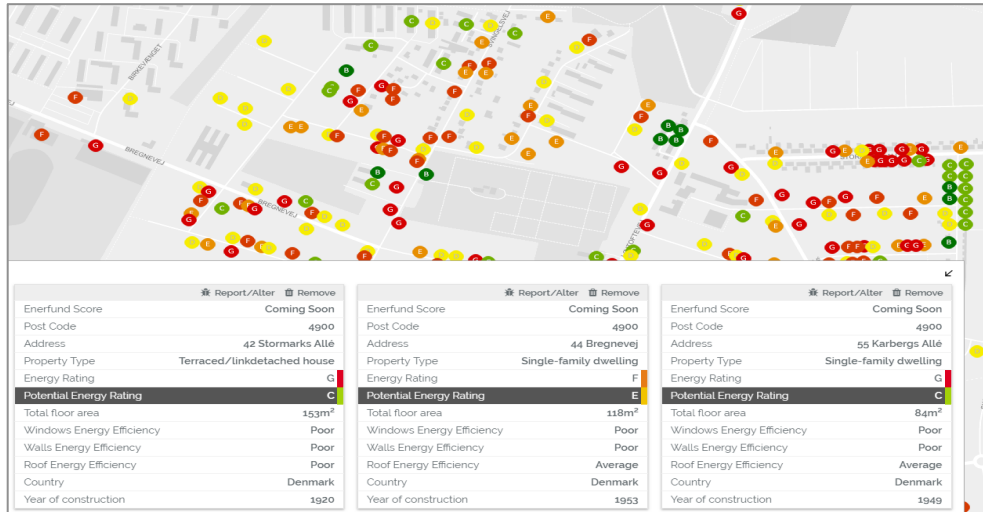


Article 2a EPBD Long-term Renovation Strategy

- Data are needed for making investment decisions to improve energy efficiency and achieve CO2-reduction.
- The legal framework imposes tightened obligations (amended EPBD, Governance Regulation).
- Digitalization and GIS as well as INSPIRE Directive and PSI Directive create new opportunities.
- ENERFUND was funded by Horizon 2020 and developed an approach for making use of EPC data.

ENERFUND <http://app.enerfund.eu/>

ENERFUND assists in **identifying building renovation opportunities** and thus in **developing large-scale renovation projects** contributing to decarbonizing the European building stock.



- Based on open data, mainly taken from EPC
- Includes now data from > 12 countries
- Allows the users to single out countries, regions or cities
- Filtering options allow for selecting buildings according to specific parameters

UK (domestic)



Compare Buildings

You can add buildings to the comparison list by clicking on markers.

Print

Report/Alter Remove

Local Authority	Nottingham
Post Code	NG7 6NA
Address	4, Foxhall Road
Property Type	House
Energy Rating	G
Potential Energy Rating	B
Total floor area	108m ²
# for Rooms	5
Windows Energy Efficiency	Average
Walls Energy Efficiency	Very Poor
Roof Energy Efficiency	Very Poor
Main Heat Energy Efficiency	Very Poor
Country	United Kingdom (Domestic)
Enerfund Score	42.6605

Report/Alter Remove

Local Authority	Nottingham
Post Code	NG5 1BB
Address	37 Ebury Road
Property Type	House
Energy Rating	G
Potential Energy Rating	C
Total floor area	136m ²
# for Rooms	6
Windows Energy Efficiency	Very Poor
Walls Energy Efficiency	Very Poor
Roof Energy Efficiency	Average
Main Heat Energy Efficiency	Very Poor
Country	United Kingdom (Domestic)
Enerfund Score	41.6605

Report/Alter Remove

Local Authority	Nottingham
Post Code	NG7 7AJ
Address	61, Nottingham Road
Property Type	House
Energy Rating	G
Potential Energy Rating	C
Total floor area	99m ²
# for Rooms	6
Windows Energy Efficiency	Average
Walls Energy Efficiency	Very Poor
Roof Energy Efficiency	Very Poor
Main Heat Energy Efficiency	Poor
Country	United Kingdom (Domestic)
Enerfund Score	33.1605

Energy

Rating



Potential Rating

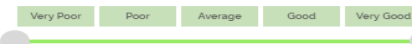


Enerfund Score

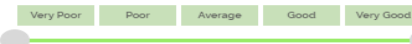


Efficiency

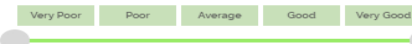
Walls Energy Efficiency



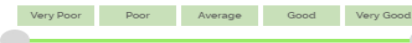
Roof Energy Efficiency



Windows Energy Efficiency



Main Heat Energy Efficiency



Construction

Area (m²)



Filter

Ireland (all, except domestic)



Compare Buildings

You can add buildings to the comparison list by clicking on markers.

Print

Report/Alter Remove	
Local Authority	Ireland
Post Code	D01KV56
Address	Abbey House 15-17 Abbey Street Upper Dublin 1
Property Type	Office
Energy Rating	G
Total floor area	1381m ²
Windows Energy Efficiency	Very Poor
Walls Energy Efficiency	Good
Roof Energy Efficiency	Average
Country	Ireland
Year of construction	1965
Main Heat Fuel Type	Grid Supplied Electricity
Enerfund Score	Coming Soon

Energy

Rating



Efficiency

Walls Energy Efficiency



Roof Energy Efficiency



Windows Energy Efficiency



Construction

Area (m²)



Filter

Main Heat Fuel Type

- Dual Fuel Appliances (Mineral + Wood)
- LPG
- Coal
- Waste Heat
- Anthracite
- Biomass
- Biogas
- Grid Supplied Electricity
- Oil
- Natural Gas
- District Heating
- Smokeless Fuel (inc Coke)

Building Type

- Office
- Launderette
- Primary school
- Bus station/train station/seaport terminal
- Community/day centre
- Primary health care buildings
- Emergency services
- Miscellaneous 24hr activities
- Theatres/cinemas/music halls and auditoria
- Secondary school
- Restaurant/public house
- Retail
- Hospital
- Social clubs
- Dwelling
- Airport terminals
- Retail warehouses
- Industrial process building
- Libraries/museums/galleries
- Telephone exchanges
- Prisons
- Warehouse and storage
- Crown and county courts
- Hotel
- Sports ground arena
- Sports centre/leisure centre
- Further education universities
- Workshops/maintenance depot
- Nursing residential homes and hostels

Filter

Data parameters per building and per country

Country	Current rating	Potential rating	ENERFUND score	Walls energy eff.	Windows energy eff.	Roof energy eff.	Main fuel type (heating)	Area (m ²)	Building type	Construction year	Aggregated data
BG	✓	✓	✓	☒	☒	☒	☒	✓	✓	☒	☒
CY	✓	☒	✓	☒	☒	☒	☒	✓	☒	✓	☒
DK	✓	✓	✓	✓	✓	✓	☒	✓	✓	✓	☒
ES	✓	☒	✓	☒	☒	☒	☒	✓	✓	☒	☒
FR	✓	☒	☒	☒	☒	☒	☒	☒	✓	☒	✓
GR	✓	☒	✓	☒	☒	☒	☒	✓	✓	✓	☒
IE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	☒
IT	✓	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
NL	✓	☒	☒	☒	☒	☒	☒	☒	✓	☒	☒
RO	✓	✓	☒	☒	☒	☒	☒	✓	✓	✓	✓
SI	✓	☒	✓	☒	☒	☒	✓	✓	✓	✓	☒
SK	✓	☒	☒	☒	☒	☒	☒	☒	✓	☒	☒
UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	☒

Androutsopoulos A., Geissler S., Charalambides A.G., Jareño Escudero C., Kyriacou O., Petran H.: Mapping the deep renovation possibilities of European buildings, SBE Thessaloniki, 23-25 October 2019

Uncertainty: Is the data under the GDPR?

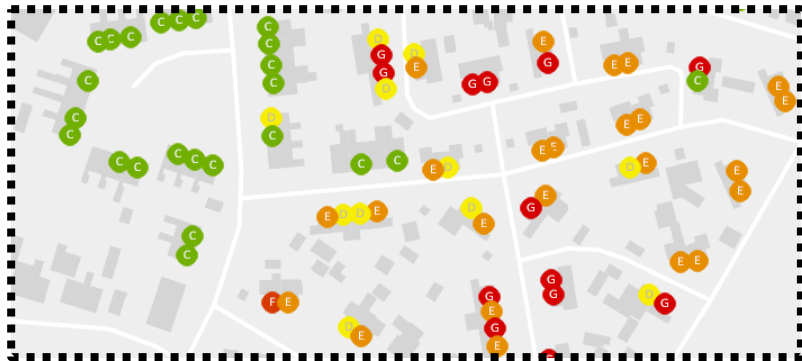
- The principles of data protection should apply to any information concerning an **identified or identifiable natural person**.
- The principles of data protection should therefore **not apply to anonymous information**, namely information which does not relate to an identified or identifiable natural person or to personal data rendered anonymous in such a manner that the data subject is not or no longer identifiable.
- An **identifiable natural person** is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.
- There is a **range of interpretation regarding “identifiable”**: relative or absolute interpretation.

Address of the building is linked with the building → geodata

Registered address of a person in the civil register → personal data

→ building related EPC data are open data

Non-personal data: Geodata, Open Government Data



Environmental Information Directive 2003/4/EG
INSPIRE Directive 2007/2/EG
PSI Directive 2003/98/EG and the new Open Data
Directive (EU) 2019/1024

Building related technical information
is under open data legislation

Personal data: Lawfulness of processing applies



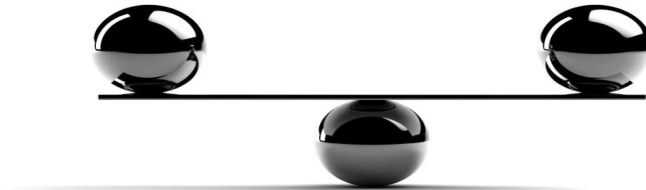
Icons: Shutterstock

For example: GDPR Article 6 paragraph 1
letter e: processing is necessary in the
public interest

Combination with civil register and
income data for targeted policy
development is under the GDPR

A balance is needed: which right needs to be protected?

Personal rights worth protecting are opposed to the protection of public information in a free society.



Picture: Shutterstock

Protecting privacy in accordance with Article 7 of the Charter of Fundamental Rights of the European Union: Respect for private and family life: Everyone has the right to respect for his or her private and family life, home and communications.

Making use of EPCs in Vienna



Public administration is allowed to use all data for evaluation, research, policy instruments

- **Success of ENERFUND approach depends on three criteria:**
 - Quality of EPCs
 - Coverage of the building stock with EPCs
 - Type of accessible data (e.g. final energy alone is not useful, differentiation into space heating, domestic hot water, and electricity is required)

EPC issued as part of the building permit procedure: quality control works well, coverage 100%

After 3 years of operation, energy consumption data have to be added

EPC issued for existing buildings in the course of selling or renting:
Quality control? Coverage?

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