

# PROJECT INFORMATION

## Abstract

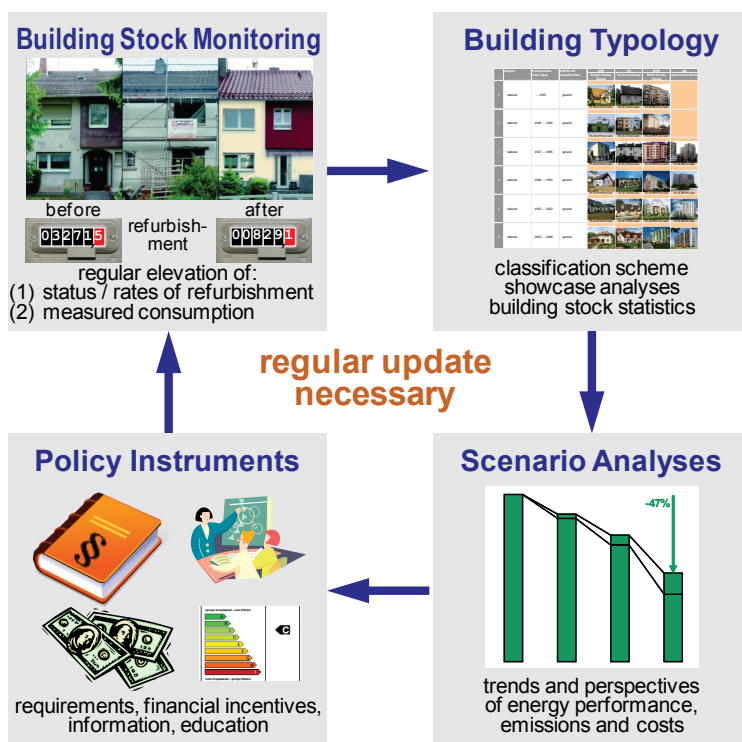
During the past decades, Europe has been struggling to achieve its climate protection targets by implementing a series of measures in all energy consuming sectors. In the building sector, various instruments and policies have been applied by the Member States in their effort to comply with the EPBD and its recast. However, at present, there is poor evidence for the overall success of these measures. Data availability on the energy performance and the state of refurbishment of the national building stocks in many countries is rather limited, which affects the reliability of building stock models and scenario calculations as they are largely based on assumptions.

The strategic objective of the EPISCOPE project therefore is to make the energy refurbishment processes in the European housing sector more transparent and effective.

The conceptual framework will be based on the national residential building typologies developed during the IEE project TABULA ([www.building-typology.eu](http://www.building-typology.eu)). During the EPISCOPE project typology schemes from 6 additional countries as well as national interpretations of new buildings and Nearly Zero Energy Buildings (NZEBS) will be included.

The main project activity will be to track the energy refurbishment progress of housing stock entireties of different scales. The implementation rate of different refurbishment measures will be determined and compared with those activities which are necessary to attain the relevant climate protection targets. In addition, it is intended to track the actual measured consumption after refurbishment as far as possible to verify the targeted savings.

EPISCOPE aims to contribute to the continuous process of target-oriented building stock refurbishment. The focus is on building typologies, building stock monitoring and scenario analyses



### EPISCOPE Pilot Actions on three scale levels

#### National building stock: 7 pilot actions

Austria, England, Germany, Greece, Netherlands, Norway, Slovenia

#### Regional building stock: 2 pilot actions

Italy: Piedmont Region, Spain: Valencia Region

#### Municipalities / housing companies: 5 pilot actions

Hungary: Budapest district or satellite city, Ireland: Dublin or large town, Denmark: single family houses within town, Belgium: small town district in Ghent, Czech Republic: municipal facility management portfolio, Cyprus: land development corporation housing portfolio, France: housing company portfolio

## Expected Project Results

- National residential building typologies for 16 countries, including a classification scheme, showcase example buildings as well as building stock and supply system statistics. Apart from existing buildings and refurbishment measures, national interpretations of new buildings and Nearly Zero Energy Buildings (NZEBS) will be considered.
- Pilot actions in all participating countries on either local, regional or national level identifying and quantifying: refurbishment progress, current rates of refurbishment by measure type, actual compliance with renovation requirements, actual uptake of recommendations, conditions for insulation measures, conditions for installation of renewable energy supply, and consumption benchmarks.
- Scenario calculations for the considered housing stocks and portfolios, identifying refurbishment state, achieved savings, building/system combinations and the necessary renovation rates to attain the defined targets. In case of non-compliance identification of fields where corrective actions are necessary to meet the targets with respect to refurbishment rates and actual consumption – involvement of key actors and stakeholders in the discussion of adequate measures.
- A concerted set of energy performance indicators reflecting the energy refurbishment state of housing stock subgroups on different scales and enabling a comparison of trends and scenarios between different countries.
- Recommendations for a regular monitoring by introducing the necessary energy performance indicators in energy certificate databases, representative surveys, census, heating or energy bills, strategic asset development, and energy management.

## Project Partners

|    |                      |  |   |                       |
|----|----------------------|--|---|-----------------------|
| 1  | <b>IWU</b>           | Institute for Housing and Environment                  |  | <b>Germany</b>        |
| 2  | <b>BPIE</b>          | Buildings Performance Institute Europe                 |  | <b>Belgium</b>        |
| 3  | <b>ZRMK</b>          | Building and Civil Engineering Institute ZRMK          |  | <b>Slovenia</b>       |
| 4  | <b>SBi</b>           | Danish Building Research Institute, Aalborg University |  | <b>Denmark</b>        |
| 5  | <b>AEA</b>           | Austrian Energy Agency                                 |  | <b>Austria</b>        |
| 6  | <b>BRE</b>           | Building Research Establishment Ltd                    |  | <b>United Kingdom</b> |
| 7  | <b>NOA</b>           | National Observatory of Athens                         |  | <b>Greece</b>         |
| 8  | <b>VITO</b>          | Flemish Institute for Technological Research           |  | <b>Belgium</b>        |
| 9  | <b>POLITO</b>        | Politecnico di Torino - Department of Energy           |  | <b>Italy</b>          |
| 10 | <b>STU-K</b>         | STU-K  |  | <b>Czech Republic</b> |
| 11 | <b>Energy Action</b> | Energy Action Limited                                  |  | <b>Ireland</b>        |
| 12 | <b>BME</b>           | Budapest University of Technology and Economics        |  | <b>Hungary</b>        |
| 13 | <b>IVE</b>           | Valencian Institute of Building                        |  | <b>Spain</b>          |
| 14 | <b>CUT</b>           | Cyprus University of Technology                        |  | <b>Cyprus</b>         |
| 15 | <b>DUT</b>           | Delft University of Technology                         |  | <b>Netherlands</b>    |
| 16 | <b>Pouget</b>        | Pouget Consultants                                     |  | <b>France</b>         |
| 17 | <b>NTNU</b>          | Norwegian University of Science and Technology         |  | <b>Norway</b>         |