Creation of energy-efficient Buildings Renovation Action Plans for cities: guideline and application cases

Energy Efficiency & Urban Regeneration Experiences in Vitoria-Gasteiz

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VISESA- Basque Country Public Housing Body
Who we are

VISESA is a public company of the Housing Department of the Basque Government, whose **main objective is to promote high quality subsidized housing in the Basque Region**, thus contributing to the effort by the Regional Government to make real the right of housing in all social sectors.

VISESA also promotes and participates in urban regeneration, renovation and refurbishment, as a way to improve quality of life of the citizens and contribute to the region’s sustainability goals.

- **Leading property developer in the Basque Region**: 12,516 social housing flats completed and 4,469 ongoing

Partners:

- **Partners: 79.36%**
- **Partners: 17.95%**
- **Partners: 2.69%**

Since 2011 VISESA, as ESCO, supports social housing tenants, managing thermal facilities and providing heating and DHW (10 years long contracts)
Vitoria-Gasteiz

- Capital of the Basque country
- 240,580 inhabitants
- 276.81 km²
- 46 dwellings/ha
- 101.51 hab/ha (residential areas)
- Proximity city, accessible by foot and bike
Vitoria-Gasteiz – Building Sector Energy challenges

Share of energy-end uses, by sector (excluding industrial sector)

Plan against Climate Change 2010-2020
Commitment to become a Carbon neutral city by 2050

Buildings’ construction date in Vitoria–Gasteiz. Inner city
SmartEnCity Project: Demo Actions

*New models of energy supply, urban mobility, and citizen engagement*

- **Reduced energy demand**: low energy retrofitting actions at district scale
- **Increased Renewable Energy Sources**: extensive leveraging of local potentials
- **Clean energy in urban mobility**: extensive deployment of green vehicles and infrastructure
- **Information and Communication Technologies**: Integration and consistency in demo planning and implementation, Secured citizen involvement

**Integrated urban plans**
Coronación - Lighthouse Demo Area

Challenges:
- Population: 12,797 inhabitants (6,066 dwellings)
- High population density
- High percentage of immigrant population
- Aged population
- Parking, traffic and mobility issues
Coronación: Demo area

- Intervention area: 1,313 dwellings
- SmartEnCity funding: up to 750 dwellings

**Citizen focus:** Citizens integrated in the project from the very beginning

- close contact with neighborhood associations
- coverage in the local media
- distribution of brochure to each dwelling
- opening of a citizen information office

Pilot demonstrative project, as a replication model in other districts and cities
**Diagnosis and baseline**

**Progress so far:**

**SOCIOECONOMIC ANALYSIS**

- RESIDENT CHARACTERISTICS
- Nº OF ROOMS PER HOUSE AND BUILDING
- AGE POPULATION PER BUILDING
- % IMMIGRATION
- % SECONDARY HOUSING
- LEVELS OF RENT

**SOCIO-ECONOMIC DEGRADATION**

- Increase in immigrant population and decrease in Spanish population.
- Decrease of population decline in the last 10 years, with the existence of empty or secondary housing and undeclared rentals
- Considerable aging of the population compared to the average in the city. A 25% of the population over 64 years
- Priority accessibility measures to respond to this population.
Diagnosis and baseline

BUILDING ANALYSIS

- ACCESSIBILITY
- ENVELOPE
- INSTALLATIONS
- STRUCTURAL SECURITY
- BUILDING AGE
- Nº DWELLINGS PER BUILDING
- REHABILITATED YES / NO
- ENERGY TYPOLOGIES

- Typologies identified, from the energy point of view
- Not insulated => Strong potential for improvement in terms of energy efficiency and thermal comfort
- There are no structural problems due to the typical concrete structures
- Problems of accessibility => No elevator in many cases.

![Graph showing number of buildings per type](image)

![Map showing building typologies](image)
Detailed Study by building:

- **Visits** to each building to gather information regarding:
  - Update of available data
  - Type of building and state of conservation
  - Level of accessibility
  - Contact details of the building administrator or president to schedule meetings

- **Rehabilitation budget per building**:
  - Fees, Execution, Licenses, VAT ...
  - Global measurements and prices according to preliminary projects, own experiences and external contrast
  - Available funding (EU, Basque Government, Vitoria City Council)

- **Specific financial products** for the project, agreed with the main local financial entities.
Diagnosis of the residential buildings in the demo area (1,313 dwellings), six main typologies (from the energy point of view) have been identified.

Preliminary design projects for building retrofitting have been developed for a sample building of each typology, complying with the energy demand reduction commitments of the SmartEnCity project.
Building Retrofitting

Next steps:

✧ Technical designs will be contracted by Visesa as they reach the agreements with home owners. **108 communities of owners** (buildings) => design projects and construction work will be undertaken in phases

✧ If possible => “building groups” projects and works

✧ It is planned to begin the public tenders for retrofitting works by July, starting the first works by October.
Deployment of a new District Heating network is an important challenge of the measures to be carried out in Coronación district.
Importance of Stakeholders’ coordination

Promote coordination and collaboration, and capacity building for the different administrations and stakeholders working on energy efficiency & urban regeneration.
Importance of Stakeholders’ coordination

Several workshops to discuss barriers and solutions for integration of energy efficiency in urban regeneration

- Legal and regulatory
- Management
- Financial
- ...
Eskerrik asko!

¡Gracias!

Thank you!

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