Social and Sustainable Innovation in the Metropolitan Public Housing Model

Submitted By: The Metropolitan Institute of Land Development and Property Management (IMPSOL)



Organization Profile

Organization Name: The Metropolitan Institute of Land Development and Property Management (IMPSOL)

Organization Type: Subnational government

Website:
https://www.amb.cat/web/habitatge/impsol

Practice Details

Country(ies): Spain

City(ies): The metropolitan area of Barcelona (35 municipalities)

Start Year: 2015 **Ongoing:** Yes **End Year:** N/A

Main Adequate Housing Components:



Housing Thematic Areas:

- Social Housing
- Housing Rights & Social Inclusion
- Housing & Climate Mitigation
- Technology & Digital Solutions in Housing

Relevant SDGs:



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Problem & Context

Between 2007 and 2017, during a period of economic crisis and a housing emergency in the Barcelona metropolitan area—marked by a lack of affordable housing, rising prices, and energy insecurity—IMPSOL redefined its public housing model. Housing is now seen as long-term social infrastructure. A gap was identified in typological innovation, sustainable construction, and social inclusion. To address this, new developments began incorporating flexible spaces, passive systems, low-carbon materials, and educational initiatives for residents. This paradigm shift aims to transform public housing into a more resilient, equitable model that meets today's challenges.

Solution Developed

IMPSOL's approach addresses the challenge of providing dignified, affordable, and sustainable housing amid economic crisis, climate emergency, and social transformation. It targets those excluded from the housing market—especially young people, diverse families, older adults, and vulnerable groups.

Objectives:

1. Deliver high-quality, affordable public housing.
2. Redefine residential typologies for new living models.
3. Lower ecological footprint and energy use.
4. Promote inclusion, gender equality, and community cohesion.
5. Advance rehabilitation and social innovation.

Innovative approaches:

- Social: flexible layouts, integrated kitchens, generic rooms, intergenerational living, citizen engagement, and post-sale mediation.
- Environmental: bioclimatic design, passive systems, low-carbon materials, energy monitoring, and reduced emissions.
- Institutional: open design competitions, municipal partnerships, public leadership, and civic education.
- Technological: sensors, monitoring tools, and user-friendly guides.

IMPSOL turns public housing into a platform for integrated innovation, improving quality of life and urban sustainability.

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Implementation

1) Actions carried out:

IMPSOL has implemented transformative initiatives in public housing:

- Redefining typologies with flexible, inclusive layouts, non-hierarchical spaces, and integrated kitchens.
- Creating intermediate social and climate-responsive spaces.
- Designing buildings with low energy demand using passive and active systems.
- Monitoring energy and social performance to improve design and use.
- Using low-carbon materials like timber and compacted earth.
- Promoting intergenerational living and community cohesion.
- Rehabilitating existing buildings for new uses.

2) Stakeholders and participation:

- IMPSOL: leadership, planning, execution, and follow-up.
- Municipalities: identifying local needs.
- Architects and technical teams: design and innovation.
- Builders: sustainable construction.
- Citizens: post-delivery engagement and responsible living.

3) Timeline:

- 2017: Typological innovation
- 2019: Energy reduction
- 2021: Monitoring
- 2022: Bioclimatic design
- 2023: Emission reduction
- 2024: Social innovation
- 2025: Rehabilitation

4) Resources and partnerships:

- Funding: Ministry of Housing, NextGen EU, EIB, Catalan Finance Institute.
- Alliances: IMPSOL–municipalities.
- Tools: AMB Sustainability Protocol, architecture competitions, monitoring systems.
- Materials: timber, compacted earth, low-impact systems.
- IMPSOL is now a platform for integrated innovation, with real impact on communities and urban sustainability.

Enablers & Obstacles

1) Enabling factors:

IMPSOL's strong institutional leadership, backed by AMB, has driven a shift in the housing model. Open architecture competitions have attracted innovative talent and democratized access. Collaboration with municipalities enabled local adaptation. The AMB Sustainability Protocol provided clear environmental guidelines. Citizen participation through post-delivery processes and educational actions fostered engagement and shared responsibility.

2) Challenges and solutions:

Typological and construction innovation risks were addressed through trust-based collaboration and ongoing follow-up. Residents' unfamiliarity with new spaces was tackled via training, manuals, and direct mediation. Technological dependency in climate control was reduced through bioclimatic design and passive systems. Administrative hurdles were minimized by streamlining procedures and proactive leadership.

This approach has helped consolidate a resilient, inclusive, and sustainable housing model.

Results & Impact

1) Quantitative and qualitative results:

Between 2015 and 2025, IMPSOL completed over 1,000 homes across 17 developments in 11 municipalities. The ecological footprint of these buildings is significantly lower than conventional standards, with emissions under 611 $kgCO_2/m^2$ compared to the usual 1,100 $kgCO_2/m^2$. The architectural quality has been officially recognized, with awards for innovation and sustainability. Real energy and climate performance data have helped refine designs and improve user habits.

2) Impact on low-income and marginalized groups:

The housing is aimed at those excluded from the market—especially young people, diverse families, older adults, and vulnerable groups. Homes are designed to promote inclusivity and gender equality, eliminating domestic hierarchies and encouraging shared responsibility. Flexible layouts support various living arrangements, ensuring dignity and autonomy.

3) Long-term impact:

Social spaces foster community, participation, and belonging. Post-delivery mediation and outreach strengthen neighborhood ties. Affordable housing frees up household resources, while industrialized construction reduces costs and timelines. Passive systems, healthy materials, and bioclimatic design support decarbonization and climate resilience.

IMPSOL offers a replicable model that combines quality, sustainability, and social justice.

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Replication & Scale Up

IMPSOL's practice has influenced other projects at both national and international levels. Key success factors include strong public leadership, collaboration with municipalities, typological innovation, integrated sustainability, and citizen participation. The ability to adapt to local contexts has made the model transferable.

To expand its reach, it's essential to strengthen the rehabilitation of existing housing stock, scale the model to other municipalities through inter-administrative partnerships, and promote national policies that recognize housing as social infrastructure. Key actions also include digitizing monitoring processes, expanding citizen education, and facilitating funding for replicable projects with social and environmental impact.

Policy Uptake

This housing practice has informed or been partially integrated into policy discussions, strategies, or pilot-level policy instruments.

IMPSOL's practice has influenced metropolitan housing policies, becoming part of the AMB Sustainability Protocol and public architecture competitions. Although not yet fully regulated, its methodology has been integrated into public planning and management tools.

Lessons & Takeaways

Looking ahead, it's important to strengthen the systematization of impact data, expand citizen education on sustainability and community living, and improve inter-administrative coordination to support replication. Incorporating more precise social indicators during the design and monitoring phases would also help tailor housing to evolving needs.