the goal is providing a model to make cities smarter and more sustainable
[...] displaying or flashing a very bright light for the guidance of ships in avoiding dangerous areas, in following certain routes, etc.
EU roadmap of SCC Projects and Initiatives

EUROPEAN INNOVATION PARTNERSHIP ON SMART CITIES AND COMMUNITIES

SCC1-2014

SCC1-2015

SCC1-2016

SMART CITIES INFORMATION SYSTEM (SCIS)
Total REMOURBAN budget: **32.5M€** (21.5M€ EU funded)
Total investment in REMOURBAN actions: **22.9M€** (80% public)
Energy savings: **6,858 MWh/yr**
CO₂ emissions avoided: **2,841 TnCO₂/yr**
Citizens directly involved in demos: **19,800**
Direct job creation: **187**
Consortium: **22** partners (5 municipalities, 3 RTD, 5 industries, 9 SMEs)
Nationalities: **7** (Spain, UK, Turkey, Belgium, Hungary, Germany, Italy)
• Develop and validate an **Urban Regeneration Model** – highly replicable and based on the joint transformation of:
  
  – Buildings/districts towards **Low Energy Districts**
  – City transportation towards a **Sustainable Urban Mobility**
  – Integrate existing city infrastructures through **ICTs**
Integrated Urban Regeneration Model

SUPPLY
- Methodologies
- Technologies

ENABLERS
- Business Models
- Financing Mechanisms
- Citizens
- Stakeholders
- Local Authorities

BARRIERS

DEMAND
-Cities
- Characterization of European Cities

INTEGRATED URBAN PLAN

IMPLEMENTATION PLAN
Following current tendencies, by 2050 the building sector alone will be responsible for all the global emissions that the 2°C increase scenario allows.

It is impossible to reach desirable climate change scenarios with the current building sector.

“Building a common home.
A Global Vision Report”
Global Vision Area within the WSB14

Challenges:
Improve energy efficiency
Changing energy resources
Low energy districts

MONITORING TOOLS FOR ENERGY
Develop and deploy monitoring tools to achieve performances related to energy efficiency and financial viability

DISTRICT SCALE RETROFITTING
Systemic implementation of passive and active technologies to improve comfort and reduce the energy consumption

RENEWABLE HEATING AND COOLING
Use of heating and cooling from RES and implementation of innovative DH technologies (Low Temperature District Heating)

ELECTRICITY DISTRIBUTED GENERATION
Electricity generation from small scale energy sources located close to where the electric energy is being used

ADVANCED BUILDING ENERGY MANAGEMENT SYSTEMS
Integration of advanced monitoring and control strategies for thermal and electric energy uses
Low energy districts: Nottingham (UK)
Low energy districts: Tepebasi (Turkey)

Pellet boiler 280kW

27kW Solar Thermal system
Low energy districts: Valladolid (Spain)
Retrofitting of FASA residential district

Biomass boiler (850 kW)

Variable flow pumps
Retrofitting of FASA residential district

Distribution network retrofitting

Replacement of subestations
Retrofitting of FASA residential district

Heat storage installation

DHW centralisation
Retrofitting of FASA residential district

Heat allocators installation

Thermostatic valves installation
# Retrofiting of FASA residential district

<table>
<thead>
<tr>
<th>Tower</th>
<th>Grouping blocks 9-10-11-12</th>
<th>Block 7</th>
<th>Whole district</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditioned surface (m²)</td>
<td>Conditioned surface (m²)</td>
<td>Conditioned surface (m²)</td>
<td>Area acondicionada (m²)</td>
</tr>
<tr>
<td>3.836 m²</td>
<td>4.392 m²</td>
<td>1.098 m²</td>
<td>24.698 m²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>kWh/m²/year (consumption)</td>
<td>kWh/m²/year (consumption)</td>
</tr>
</tbody>
</table>

| January | 35.90 | 19.60 |
| February | 23.85 | 12.91 |
| March | 16.12 | 8.80 |
| April | 10.52 | 5.74 |
| May | 3.89 | 2.12 |
| June | 0.00 | 0.00 |
| July | 0.00 | 0.00 |
| August | 0.00 | 0.00 |
| September | 0.00 | 0.00 |
| October | 4.47 | 2.44 |
| November | 21.96 | 11.99 |
| December | 34.98 | 19.10 |

**Total consumption**
- 151.49 kWh/m²a
- 162.26 kWh/m²a
- 178.42 kWh/m²a
- 165.62 kWh/m²a

**DH performance**
- Before: 56.16%
- After: 61.71%

**Total demand**
- 85.07 kWh/m²a
- 91.13 kWh/m²a
- 100.20 kWh/m²a
- 93.01 kWh/m²a
Retrofitting of FASA residential district

- Political Support
- Dissemination & Communication Activities
- Technical Support
- Financial Support
Retrofitting of FASA residential district

- **Political Support**
- **Dissemination & Communication Activities**
- **Technical Support**
- **Financial Support**

**Leaflet**

**Spanish Web /FAQ**

**Local TV**

**Miguel Á. GARCÍA-FUENTES | REMOURBAN Coordinator**
Retrofitting of FASA residential district

Consulting Office in the district

Multiple doubts resolved

Follow-up Commission

More than 50 meetings

Periodic communications
Retrofitting of FASA residential district

Political Support
Dissemination & Communication Activities
Technical Support
Financial Support

- EU grants
- Municipality grants
- Owners contributions
Retrofitting of FASA residential district

- Grants allocated in 2 years in order to avoid gains on personal incomes taxation
Stay tuned: remourban.eu

Follow and engage with REMOURBAN on Twitter @Remourban_EU follow us!

Regenerate your city with REMOURBAN!

Thank you for your attention!

Fundación CARTIF
Miguel Á. García-Fuentes
REMOUBAN Project Coordinator

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 646511
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