Information Days on the Research PPPs
Energy-efficient Buildings

EeB-ICT-2013.6.4 Optimising Energy Systems in Smart Cities

Rogelio SEGOVIA
DG CONNECT
H4 Smart Cities and Sustainable Growth
rogelio.segovia@ec.europa.eu
• Cities are increasingly recognized for their ability to play a catalytic role in addressing climate and energy challenges using technologically innovative approaches. This can be achieved by creating new partnerships connecting city leaders and stakeholders to secure practical commitments for implementing green digital agendas.

• Projects supported under this objective shall contribute to the Energy-Efficient Buildings Public-Private-Partnership launched in 2008 as part of the European Economic Recovery Plan. This objective is part of the Smart Cities initiative with Theme 5 (Energy).
  - In particular it is complementary to the topic "Demonstration of Optimised electricity and heating/cooling systems".
  - Here the focus is on software systems for new business models and user engagement.
• **Decision-support systems and/or management and control systems** for energy-efficient neighbourhoods. These systems shall consider de-centralised renewable energy production, connection with the smart electricity grid and integration with smart district heating and cooling grids through CHP (Combined Heat and Power) and other renewable energy sources. They shall optimise the use of energy in city areas with different types of demand to enable local balancing, demand response services, variable tariffs and easy change of supplier.

• In addition to technical work, proposals shall consider appropriate **service business models, privacy** and **trustworthiness** and shall involve users throughout all phases of the project. They are to be considered not only as observed subjects but also as a source of innovation. Systems should be built considering openness and **interoperability** up front. Both behavioural sciences and economics are to be core activities.
• Proposals should cover
  • (i) **technical developments**, mainly adaptation and integration of existing ICT,
  • (ii) a **substantial validation phase in real-life** environments in at least two cites and
  • (iii) a **precise evaluation phase** where proposals shall record evidence of energy savings, total cost of operation, scalability of the solutions, user's acceptance, benefits that accrue, and extract lessons for those planning to deploy and finance such systems.

• Considerable resources are expected to be committed, however consortia must be compact with partners each making substantial contributions.
b) **Coordination and Support Actions**: Bringing together relevant stakeholders including process engineering specialists, ICT software and equipment providers, RES providers, energy companies (including ESCOs - Energy Service Companies), building and construction sector companies, as well as local and regional authorities, to:

- Take over the work done by ICT4E2B Forum and IREEN and extend their roadmaps from buildings and neighbourhoods to smart cities and extended urban/rural communities in a holistic dimension;
- Analyse the relationship between producers, distribution companies and consumers of energy in particular **new business models** and opportunities for SMEs. Identify best practices and opportunities for knowledge transfer.
- Support the establishment of **European-scale actions** spanning research, innovation, standards-setting and deployment in Smart Cities.
• Identify ICT/Energy vocabularies and ontologies to foster **interoperability** of Energy Management Systems related to the building and construction domain, and beyond the building into public spaces, neighbourhoods and districts, and analyse their relevance and possible evolution towards formal standards; analyse their potential extension to energy management in industry and commerce. Work has to build on the results of the previous Workshops on Energy Efficiency Vocabularies.

• Assess possibilities for making **publicly available data obtained from validation activities**; work proactively together with project consortia towards this end and assess relevant legal requirements around data protection.

• The tasks shall include drafting and up-dating public documents, organising expert hearings and workshops, dissemination and networking events.
Expected Impact

- **Quantifiable** and **significant** reduction of energy consumption and CO2 emissions achieved through ICT.
- **Adoption** of ICT by city authorities;
- Number of **publications** jointly authored by researchers from ICT, energy, construction and civil engineering and city experts.
• a) STREP; b) CSA

Indicative budget distribution

• STREP: EUR 39 million
• CSA: EUR 1 million

Call

• FP7-SMARTCITIES-2013
The Commission has launched a set of online collaboration spaces, Wkis and Forums, to facilitate the collaboration and collective knowledge creation amongst Energy Efficient Buildings EC funded projects.

**eeRegio (Local and Regional Authorities)**
Wiki: [https://webgate.ec.europa.eu/ffpis/wikis/display/eeRegio/Home](https://webgate.ec.europa.eu/ffpis/wikis/display/eeRegio/Home)
Contact: christian.mastrodonato@dappolonia.it

**eeCities (Smart Cities)**
Contact: m.tommis@manchesterdda.com

**ValMet (Validation and ee Measurement Methodologies)**
Contact: christian.mastrodonato@dappolonia.it

**RTDRmap (RTD Roadmapping)**
Wiki: [https://webgate.ec.europa.eu/ffpis/wikis/display/RTDRmap/Home](https://webgate.ec.europa.eu/ffpis/wikis/display/RTDRmap/Home)
Contact: christian.mastrodonato@dappolonia.it

**eeSemantics**
Contact: djoannid@iti.gr

**Access**
All spaces require ECAS (European Commission Authentication Service) login.
ECAS registration guide: [https://ec.europa.eu/research/participants/portal/ShowDoc/Participant+Portal/portal_content/help/how_to_create_an_ecas_account.pdf](https://ec.europa.eu/research/participants/portal/ShowDoc/Participant+Portal/portal_content/help/how_to_create_an_ecas_account.pdf)

Once you have an ECAS account ask the space contact to register you as a user.