Procuring Innovative and Sustainable Construction

The SCI-Network

Simon Clement
ICLEI – Local Governments for Sustainability
Why construction?

- 10% of EU GDP – turnover of €1,590 billion (2008)
- Employs 7% of the EU workforce (only “on-site”)
- Public sector: approx. 40% of construction spending

- Over 40% of final EU energy consumption
- 35% of EU GHG emissions
- Over 50% of all extracted materials used in construction
- Construction & demolition waste over 450 mill. tonnes p.a.

Twin pressures – major budgetary restrictions & challenging sustainability targets

➢ Major need for innovative construction solutions
Construction, sustainability & innovation

• Sustainability considerations:
  – Energy performance
  – Choice of materials
  – Water use
  – Indoor air quality
  – Life-cycle costs of ownership
  – Interaction with the urban environment

• Some areas of innovation:
  – Innovative construction materials
  – Integration of new technologies - e.g. renewable energy systems
  – Increased efficiency of heating, ventilation, and air conditioning (HVAC) technologies
  – Integrated design concepts
  – Resource efficient construction processes

Procuring innovative and sustainable construction – The SCI-Network
Breakfast at Sustainabilitys, Brussels, 23 Oct 2012
How?

- Challenge = exploiting these innovations in public construction projects, and encouraging further innovation
- i.e.: How do we make construction procurement innovation friendly
What is the SCI-Network?

• A network of European public authorities sharing experiences in driving innovative and sustainable solutions for their public construction projects.

• Funded by the EU Lead Market Initiative
Key challenges

- Lack of knowledge of innovative solutions on the market & in-house expertise on sustainable construction
- Understanding how to procure in an “innovation friendly” way
- Need to minimise risk attached to innovative solutions
- Little effective dialogue between public authorities and suppliers
- Highly complex supply chains & procurement procedures
- Split of budgetary responsibilities – little incentive to consider life-cycle costs
Good practice

Harold Hill fire station, London
• BREEAM Excellent, 42% less energy than normal fire station
• PV panels, solar heating, grey water recycling, motion and daylight sensor controls

Austrian Trade Union Federation, Vienna
• Over 50% reduction in energy consumption
• Achieves Green Building and klima:aktiv standard
Good practice

**SeeCampus Niederlausitz, Germany**
- First passive house standard school in Germany through a PPP
- Heating max. 15 kWh/(m²a)

**Emilia Romagna social housing, Italy**
- Energy Services Company (ESCo) guaranteeing annual energy savings of 35%
- Upfront investments covered by ESCo
New SCI-Network outputs

Procuring innovative and sustainable construction – A guide for European Public authorities

European public authority snapshots
Topics covered

1. Introduction
2. Being an “Intelligent client”
3. Setting targets and requirements
4. Working with the market
5. Choosing your procurement model
6. Contracting, monitoring and supplier management
7. Life cycle/whole life costing
Sample recommendations:
Being an “Intelligent client”

2.a: Establish at the beginning a project team with the required management, technical, legal and commercial skills. Ensure end user and facility manager involvement in the team.

2.c: Where in-house experience with innovative construction procurement is limited, consider contracting external consultants to advise or manage the process.

Snapshots: Regional support in the UK & Austria
Sample recommendations:
Setting targets and requirements

3.a: Identify an ambitious minimum quantified energy performance requirement for the construction project, based on nationally available assessment and certification schemes.

3.f: Frame procurement requirements in terms of desired performance, rather than defining a specific technology or technical solution.

Snapshot: Harold Hill - energy efficient fire station
Sample recommendations:
Working with the market

4.a: Inform the market of your intention to reward sustainability and innovation sufficiently in advance of tendering

4.b: When tendering, clearly state your desire for a sustainable outcome and your openness to innovative solutions

4.c: Undertake early market engagement (EME) activities for all construction-related procurements above a minimum threshold.

*Snapshot:* Bristol City Council Schools
Sample recommendations:
Choosing your procurement model and Contracting, monitoring and supplier management

5.a: Identify a procurement model which ensures sufficient integration and co-operation between design and construction teams

6.a: Consider the use of incentivisation in construction contracts to encourage innovation. Examples include introducing performance payments, gain share clauses and negotiating contract extensions

Snapshot: Design, build, operate in Jyväskylä, Finland
Sample recommendations:
Life cycle/whole life costing

7.a: Identify a suitable model for WLC/LCC at project planning stage to inform decisions throughout the procurement process.

7.e: Joint project teams should be established and ‘total budgets’ piloted with both procuring and operating departments.

Snapshot: Innovative curb edgings in Wakefield
Project partners

- ICLEI - Local Governments for Sustainability (Co-ordinator)
- Motiva (Finland)
- Culminatum (Finland)
- University of Innsbruck/IFZ (Austria)
- PIANOo (Netherlands)
- Greater London Authority (UK)
- City of Torino (Italy)
Contact

Project co-ordinator:
Simon Clement
ICLEI - Local Governments for Sustainability

simon.clement@iclei.org
+49 761 368 9244

www.sci-network.eu