

COST C23

**Strategies for a low carbon urban
built environment**

(L-CUBE)



c23

DRIVERS for a low carbon built environment

- **KYOTO**

- **EU directives: Built Environment, eg EPBD**

- **National implementations: eg Building Regulations**

Means of achieving carbon reductions:

- **Higher standards of energy efficiency to reduce overall demand for energy,**
- **The use of renewable and alternative sources of energy to ensure that the supply of energy is from sustainable sources.**

Built Environment

Design and construction of new build

Operation of the existing built environment

Urban infra structure

Barriers

Outmoded conceptual tools

Limited scope of investigation

Social and political resistance to innovation and change

Carbon emissions are associated with the construction, refurbishment and operation of buildings.

Sources of emissions relating to buildings include:

- **Direct emissions result from heating, lighting and ventilation of buildings.**
- **Indirect including construction of buildings, transportation of people and materials, and in the treatment of water, waste and sewage.**

The main objective of this Action:

to investigate, across the European Union, how carbon reductions can be achieved through appropriate design and management of the urban built environment.

This will involve:

minimise energy use and associated emissions from buildings,

examine the indirect energy impacts of infrastructure developments.

Stages of development:

1. Urban and local planning and development

2. Brief development

3. Design and Construction

4. Commissioning and operation

Working groups:

New and existing buildings

Infra-structure / low carbon energy systems

Dissemination and reporting

Themes

Theme 1 – Case study selection and analysis

Theme 2 – Performance Criteria

Theme 3 – Decision making processes

Theme 4 – Cost analysis

Theme 5 - Guidelines

Working group Theme	1 New/existing buildings	2 Urban Infrastructure/ low carbon systems	3 Dissemination and Reporting
1 Case study selection and analysis	✓	✓	
2 Performance criteria	✓	✓	
3 Decision making process	✓	✓	
4 Cost analysis	✓	✓	
5 Guidelines			✓

Working Group 1: New and Existing Buildings

- This WG will consider carbon reductions in relation to the design and construction of new buildings and the improvement of the existing building stock.
- It will focus on the EPBD and how EU states are implementing its requirements through national building regulations and planning.
- It will especially consider the existing building stock and how carbon reductions can be achieved in both domestic buildings and other building types and the possibility of including building integrated renewables and alternative energy systems.

Working Group 2: Urban Infrastructure

- This WG will consider carbon reductions associated with urban infrastructure which includes transport, water/sewage, waste and green/blue structures.
- Many urban infrastructure projects and cross-sectoral in nature and may be more holistic in nature and link to planning.
- The WG will in particular look at how low carbon technologies can be established around urban infrastructure projects and independent renewable and alternative energy systems, for example, energy from waste, energy from biomass. Links to green/blue.

Working Group 3 – Dissemination and Reporting

- Regular formal and informal contact with national and regional governments
- Links with other actions and framework projects
- Conferences
- Reports
- Website

Year →	1	2	3	4
Working group ↓				
1.New and Existing Buildings				
1.Urban Infrastructure/ Low Carbon Energy Systems				
3 Reporting/ dissemination				
	<div data-bbox="1070 1252 1272 1292" data-label="Text">Conference</div> <div data-bbox="1541 1252 1742 1292" data-label="Text">Conference</div>			

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