

# Urban Design Studio for Energy Efficient Campus Design and Management

8<sup>th</sup> -9<sup>th</sup> June 2015

Sir Arthur Lewis Community College  
St. Lucia



## Background

The ACP EDULINK II project entitled *Mainstreaming Energy Efficiency and Climate Change in Built Environment Training and Research in the Caribbean (CarEnTrain)* began in October 2013 runs for a period of 42 months. Implementing Partners and Associates include the Caribbean Network for Urban and Land Management (CNULM) of the The University of the West Indies, University of Guyana (UG), Anton de Kom University of Suriname (AdeKUS), University of Antwerp (UA), University of Technology (UTech), Canadian Institute of Planners (CIP), University of Amsterdam (UvA) and the United Nation Human Settlement Program.

The overall objective of the project is to improve energy security in Caribbean countries and mitigate climate change by reducing the consumption of energy resulting from urban sprawl, inefficient transportation systems and improving energy efficiency of buildings. It will focus on mainstreaming energy efficiency in relationship to sustainable economic development and climate change into existing curricula and development of Continuous Professional Development (CPD) courses in urban and transportation planning, Engineering and Architecture.

As part of efforts to educate campus administrators and urban professionals on the importance of urban design to the greening of campuses, UTECH, UA and the CNULM will be conducting a workshop entitled: *Urban Design Studio for Energy Efficient Campus Design and Management* on the 8<sup>th</sup> -9<sup>th</sup> June 2015 at the Sir Arthur Lewis Community College, St. Lucia.

### General Objectives:

- enable the participant to appreciate an understanding of Urban Design and Urban Design Theories as a field of study,
- encourage the application of Urban Design Thought and Theories in analyzing urban places,
- provide both theoretical and practical knowledge and insights in sustainability and in particular energy efficiency,
- introduce 'Sustainable Design Support Tools' as a means to facilitate design and management,
- facilitate the creation of a framework for the formulation of an Urban Design and Management intervention for professional use and implementation relating to energy efficiency and climate change.

## **MODULE A: URBAN DESIGN**

This aspect of the workshop will explore the forces and ideas which have shaped the urban landscape using the theories, principles and practices of urban design. It will demonstrate how, through the analysis of select university campuses, towns and cities, urban design impacts the social and economic development of urban spaces and places, particularly around issues relating to energy efficiency and climate change in small island developing states.

A number of delivery strategies will be utilized to create an environment where information can be shared among participants. Concepts will be illustrated by a combination of visual, mapping and diagrammatic means. Various University campuses will be introduced and analyzed for their spatial design and social and economic relationship with the towns and cities in which they reside.

### **Unit 1: Introduction to Urban Design**

- 1.1 Definition of Urban Design
- 1.2 Purposes of Urban Design
- 1.3 The roles of Urban Designers
- 1.4 The Urban Design Process
- 1.5 Urban Design within the Built Environment profession

### **Unit 2: Theories of Urban Design and Spatial Design**

- 2.1 Figure-Ground Theory
- 2.2 Linkage Theory
- 2.3 Place Theory

### **Unit 3: Urban Design Strategies**

- 3.1 Infill, Modification and Recycling
- 3.2 Generating Alternatives
- 3.3 Collaboration
- 3.4 Interconnectivity
- 3.5 Economic and Political Factors
- 3.6 Preservation
- 3.7 Sustainable Protection

**Facilitator: Jacqueline Douglas Brown - University of Technology, Jamaica**

**Date: 8<sup>th</sup> June 2015**

**Time: 9am -1pm**

## **MODULE B: SUSTAINABILITY / ENERGY EFFICIENCY**

This part of the workshop introduces the aspect of energy efficiency within the overall quest for sustainable urban design and management. Based on the principles of a sustainable development, knowledge and insights are provided regarding sustainable building, environmental sustainability and ultimately energy efficiency. The latter will closely be related to comfort. Best practice real-life cases will demonstrate strategies in design and management. A specific focus is on the design praxiology for achieving sustainable, energy efficient, successes in the built environment. Here, 'Sustainable Design Support Tools' (SDSTs) are placed central as researchers and practitioners have acknowledged their importance and necessity in order to create efficient and effective design and management processes. An overview of kinds of tools and illustrative implementations will demonstrate that SDSTs are a powerful leverage towards energy efficiency in the built environment.

### **Unit 1: Introduction to sustainability / energy efficiency**

- 1.1 Sustainable development
- 1.2 From sustainable development to sustainable building
- 1.3 From environmental sustainability to energy efficiency
- 1.4 From energy efficiency to comfort
- 1.5 Relevance within the Caribbean context

### **Unit 2: Design support tools for sustainability / energy efficiency**

- 2.1 Classification of kinds of tools
  - 2.1.2 Generative tools
  - 2.1.3 Simulation & Analysis tools
  - 2.1.4 Assessment & Rating Tools
- 2.2 A system thinking integration

### **Unit 3: Generative insights**

- 3.1 Generic references to knowledge bases regarding sustainability / energy efficiency
- (3.2 References to knowledge bases within the Caribbean context)
- 3.3 Discussion of, and references to, best practices on sustainable campuses

**Facilitator: Bart Janssens and Tom Coppens – University of Antwerp**

**Date: 8<sup>th</sup> June 2015**

**Time: 2pm -6 pm**

## **MODULE C: WORKSHOP - CASE STUDY**

Gained insights of module A and B will be illustrated and implemented on the Sir Arthur Lewis Community College. This case will be analyzed and optimized during a 'hands-on' workshop. A site visit and discussion will unveil deficits after which participants make proposals for optimization during a 'trial & error' process. Group discussion will lead to refinement and adjustments, resulting in a list of possible actions and priorities for implementation (plan of action). This workshop focuses on three scale levels: the urban context, the campus site and the building. The latter scale level will deal with both heritage buildings and contemporary buildings.

Outcomes of the workshop will be represented on CUF 2015.

**Facilitators: Bart Janssens and Tom Coppens – University of Antwerp**

**Date: 9<sup>th</sup> June 2015**

**Time: 9am -4 pm**

**For persons interesting in registering, please contact:**

**Ms. Nika Manigot**

**[info@bluespacecaribbean.com](mailto:info@bluespacecaribbean.com)**

**(868) 662-2002 ext 83682**

**There will be a fee of US\$100 to cover expenses associate with the course payable on the day.  
Lunch and tea/coffee will be provided.**