



**Urban Design Studio for Energy
Efficient Design and
Management: A case study on
The University of the West Indies**

12th -14th September 2016

The University of the West Indies, St.
Augustine, Trinidad



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 University of the West Indies (UWI), 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, CNULM/UWI, UA and the Trinidad and Tobago Green Building Council (TTGBC) will be conducting a workshop entitled: *Urban Design Studio for Energy Efficient Design and Management- A case study of the University of the West Indies*. The three day workshop will run from the 12th -14th September 2016 at Department of Geomatics Engineering and Land Management, Faculty of Engineering, The University of the West Indies.

Target audience:

- students in built environment
- professionals built environment (architects, urban planners, construction engineering) teachers in the built environment
- campus managers

General Objectives:

- Develop an understanding of Urban Design and Urban Design theories as a field of study
- Apply urban design thought and theories in analyzing urban places
- Have both theoretical and practical knowledge and insights in sustainability and in particular energy efficiency
- Understand the relation between built form and energy consumption
- To be aware of 'Sustainable Design Support Tools' as a means to facilitate design and management
- Analyse existing spatial structures and identify problems regarding energy efficiency
- Formulate urban design strategies and management interventions to reduce energy consumption levels

Structure of Programme:

Objectives will be achieved by online learning and a two-day classroom training (12th -13th September 2016). This will be followed by discussions forums on the creating of a green campus and greening of the local construction industry on the third day (14th September 2016). There will be a required structured online learning before the actual workshop. Delegates will be required to study theoretical aspects and prepare an assignment. They will be led on a journey into theoretical principles which will gradually build their knowledge, preparing them for the classroom training.

DAY 1: 13th September 2016

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.

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

Facilitator: Mr. Mark Raymond – University of the West Indies

Module B: THEORY OF AND PROCESS TO 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.

In addition to the introduction of a design strategy for efficiency, 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 Sustainable building
- 1.3 Energy efficiency
- 1.4 Design strategy for efficiency
- 1.5 Specific topic: Urban form and travel behaviour

Unit 2: Design support tools for sustainability / energy efficiency

- 2.1 Classification of kinds of tools
- 2.1 A system thinking design process integration
- 2.2 Illustrative implementation

Facilitator: Bart Janssens and Tom Coppens – University of Antwerp, Belgium

Module C: GENERATIVE INSIGHTS BY CASE-BASED FINDINGS

This module demonstrates strategies in design and management by discussing real-life best practices and theoretical-designedly retrofits for energy efficiency. Both address cases within the Caribbean context.

Unit 3: Generative insights – case study research

- 3.1 Generic references to knowledge bases regarding sustainability / energy efficiency
- 3.2 Discussion of, and references to, real-life best practices

Unit 4: Generative insights – test case research

- 4.1 Case I: SALCC (Sir Arthur Lewis Community College), St-Lucia
- 4.2 Case II: AdeKUS (Anton de Kom Universiteit Suriname), Suriname

Facilitator: Bart Janssens– University of Antwerp, Belgium

DAY 2: 14th September 2016

Module D: WORKSHOP - CASE STUDY

Gained insights of module A, B and C will be illustrated and implemented on the campus of The University of the West Indies. 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.

This will entail a site visit, brainstorming session and discussion.

Facilitator: Bart Janssens– University of Antwerp, Belgium

DAY 3: 15th September 2016

Module E: UWI Discussion Forum

The University of the West Indies (UWI) has been participating in the University of Indonesia (UI) GreenMetric University Sustainability Ranking since 2013. This ranking quantitatively examines various parameters relating to Environment, Economics, Equity and Education to determine sustainability of campuses. This discussion forum will examine the indicators in the various categories and determine what strategies can be employed to improving suitability at the UWI and hence the overall ratings.

Facilitator: Asad Mohammed/ Mark Raymond – The University of the West Indies

Module F: Public Discussion Forum

The Trinidad and Tobago Green Building Council had been at the forefront of green construction in Trinidad and Tobago. Based on an appreciation of the information in the course, discussions will be held on the requirements to create a green construction industry in Trinidad and Tobago.

Facilitator: Trinidad and Tobago Green Building Council

Agenda

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| DAY 1 | |
| 9:00am – 9:15am | Introduction |
| 9:15am -10:15am | Presentation of the delegates' assignment and discussion |
| 10:15am -10:30am | Break |
| 10:30am-11:30am | Introduction to urban design (Module A) |
| 11:30am -12:30pm | Theory of and process to sustainability / energy efficiency (Module B) |
| 12:30pm- 1:30pm | Lunch |
| 1:30pm- 2:30pm | Insights by case-based findings (Module C) |
| 2:30pm -4:00pm | Group work: Site visit + SW analysis |
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| DAY 2 | |
| 9:00am – 10:00am | Presentation delegates on findings & discussion (SW analysis) |
| 10:00am -10:30am | Introduction to Design Support Tools (Module B) |
| 10:30am -10:45am | Break |
| 10:45am -12:30am | Group work: Generation of solutions |
| 12:30pm- 1:30pm | Lunch |
| 1:30pm-3:00pm | Group work: Design and development solutions, plan of action |
| 3:00pm-4:00pm | Final presentation delegates on outcomes |
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| DAY 3 | |
| 1:00pm – 4:30pm | UWI Discussion Forum |
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| 5:00pm-7:00pm | Public Discussion Forum |
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For persons interesting in registering, please contact:

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There will be a fee of TT\$750 to cover expenses associate with the course payable on the day. Lunch and tea/coffee will be provided.