



**Gulf Research Centre Cambridge**  
Knowledge for All

## Workshop 4

# Towards a Sustainable Lifestyle in the Gulf

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### Abstract

Energy security, global warming, and sustainability are subjects of great interest today, in particular for the Gulf Cooperation Council (GCC) countries, which greatly rely on carbon-intensive energy sources such as oil. Despite recent advancements in energy technologies, the energy intensity of GCC countries remains among the highest in the world. This is largely due to inefficient energy consumer choices, such as opting for car-oriented travel preferences instead of using public transportation, and overcooling apartments or buildings when they are not occupied. Challenges in this area are becoming less 'technical' and more 'human' in nature, motivating the need to further investigate and determine methods to change current energy use patterns and lifestyles. Unfortunately, efforts to change behavior are often faced with complex, multi-layered, and multi-disciplinary challenges. Overcoming these barriers requires extensive research on the sources of the problem, as well as developing potential solutions, which has been made difficult in the Gulf region due to a lack of literature in this area. This workshop aims to address the research gap identified above by providing a venue for scholars and decision-makers to study the challenges ahead and propose solutions related to the socio-

economic, political, and physical dimensions of the problem. The workshop will also address the post-2015 development agenda and the 17 Sustainable Development Goals (SDGs) adopted at the 2015 United Nations Sustainable Development Summit. Various questions will be tackled such as: How far is the GCC from realizing SDGs? What is truly needed to achieve those goals and transition towards more sustainable lifestyles in the Gulf?

## **Description and Rationale**

### **Background**

The Gulf countries are facing important energy challenges today, with energy consumption per capita levels among the highest in the world<sup>1</sup>. Over the past decade, the typical approach to reduce these levels has been to adopt new energy-efficient technologies in various sectors. One such example is the building sector, where new building regulations, such as ‘Estidama’ in the United Arab Emirates (UAE), impose design standards to minimise the energy demand of newly constructed buildings<sup>2</sup>. While technology plays an important role in moving towards more efficient sectors, energy consumption levels continue to remain very high. Projections state that these consumption levels are expected to grow further in the future<sup>3</sup>.

In recent years, the limitations of technology have guided researchers towards a growing field – the study of consumer energy behaviors and practices. Studies have shown that the actions and decisions of people on a micro-level can have a significant impact – positive or negative – on the macro energy profile of a country or a region<sup>4</sup>. Taking public transport, turning lights off when leaving the home or workplace, recycling domestic waste, or installing solar panels to generate clean electricity are some of the examples of behavioral changes people can make to reduce their energy consumption and, thus, carbon emissions. In other words, behavioral decisions involve the curtailment or avoidance of unnecessary energy use and ensure the adoption of clean energy generation technologies and less energy-intensive lifestyles.

While a change in consumer behavior can be very beneficial, achieving this change is

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<sup>1</sup> International Energy Agency (IEA). (2015). Energy Statistics of Non-OECD Countries. IEA, Paris, France

<sup>2</sup> Abu Dhabi Urban Planning Council (2010). The Pearl Rating System of Estidama. Abu Dhabi, UAE

<sup>3</sup> US Energy Information Administration (EIA). (2014). 2013 Annual Energy Outlook. EIA, Washington, DC

<sup>4</sup> Azar, E., C. Menassa. (2014). A Comprehensive Framework to Quantify Energy Savings Potential from Improved Operations of Commercial Building Stocks. Energy Policy 67, 459-472

very challenging for a number of reasons, three of which are explained here<sup>5</sup>. Firstly, consumer preferences are complex and dynamic, and they vary among different societies, races, and age groups – as well as differing within each group – due to the evolvement of perceptions and attitudes over time. Secondly, changes in attitudes or perceptions do not necessarily result in changes in actual behaviour. Various factors can create resistance to behavioural changes such as existing and well-developed energy consumption habits. Thirdly, behaviour change can only occur if supported by the appropriate physical, economic, and political infrastructure. For instance, people will most likely take public transportation if the network is well developed, convenient and affordable, and if there have been policies from the beginning to promote this mode of transportation and make it as – or more attractive – than car-oriented travel.

Overcoming the barriers mentioned above requires a deep understanding of the roots of the problem. An understanding of the socio-economic and political characteristics of the region under examination is also essential. Finally, researching and evaluating various intervention techniques and methods is also key to devising effective strategies and policies<sup>6</sup>. Unfortunately, literature on the topic, especially in the Gulf region, remains very scarce.

### **Workshop Goals**

The goal of this workshop is to explore the socio-economic, political, and physical challenges to shifting current energy behavioural patterns and transition towards more sustainable lifestyles. This workshop aims to provide a venue for scholars and decision makers to discuss these challenges in the context of the Gulf countries, as well as proposing and debating possible solutions and interventions that should be adopted in the region. The discussion is also expected to bridge the gap in research and explore common grounds between different stakeholders, such as academic institutions and private or public sector entities, who can lead and promote social change efforts.

In addition, the workshop will specifically address the key elements that the GCC countries need to focus on in the next fifteen years in order to meet SDGs and thus achieve sustainable development. Moreover, what are the obstacles, priorities, and policies required?

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<sup>5</sup> Lopes, M. R., C.H. Antunes, and N. Martins. (2012). Energy Behaviours as Promoters of Energy Efficiency: A 21st century Review. *Renewable and Sustainable Energy Reviews* 16 (6), 4095–4104

<sup>6</sup> European Environment Agency. (2013). *Achieving Energy Efficiency through Behavior Change: What does it Take?* EEA, Copenhagen, Denmark

## **Workshop Scope and Proposed Topics**

Barriers to behaviour change occur at multiple levels, including: (1) policy; (2) physical/environmental; (3) socio-cultural; and (4) interpersonal/individual levels. Consequently, specific interventions can be employed at each level to successfully shift existing behavioural patterns<sup>7</sup>.

Therefore, this workshop will have four general themes (T1 to T4), one for each of the areas identified above. These areas are illustrated in Figure 1, highlighting the need for action on different levels. The following are some examples:

T1 – Policy: Rules and regulations introduced by governments or organizations such as electric and water utility companies.

T2 – Physical/Environmental: Characteristics of the infrastructure such as the walkability of a city, the convenience of public transportation systems, or how intuitive are smart technologies such as programmable thermostats in buildings.

T3 – Socio-cultural: Interventions through social marketing campaigns where an idea such as conserving energy and water can be disseminated via social channels (e.g., traditional communication channels and social media channels).

T4 – Interpersonal/Individual: Face-to-face interventions through local networks such as schools and organisations, or through providing consumers with direct feedback on their energy consumption patterns (e.g., direct feedback from utilities).

These themes will be applied to study the SDGs challenges and opportunities of relevance to the GCC (Figure 1). How can these themes be leveraged to overcome any resistance to SDGs? What type of approach is needed to achieve these goals and transition to sustainable lifestyles in the Gulf?

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<sup>7</sup> Armel, C. (2014). Behavior & Energy. Precourt Institute for Energy Efficiency, Stanford, CA

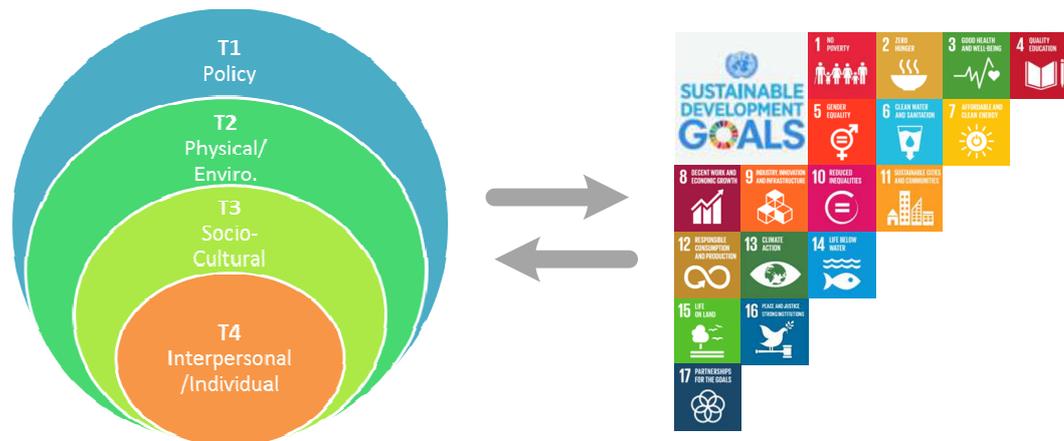


Figure 1. Workshop themes (T1 to T4), representing areas for challenges and solutions (Adapted from Footnote 7 and <sup>8</sup>)

### Edited Book

An additional aim of the workshop is to publish an edited book based on the individual papers presented. It is hoped that this volume will fill a gap in the relatively thin literature available on social behavioral change and the link to sustainability challenges in the Gulf.

### Contributions to Gulf Education, Research, Development, and Innovations

This workshop will contribute to the exploration of social behavioural change in the Gulf region, tailored towards energy conservation and more sustainable lifestyle patterns. A collaborative effort is needed from various stakeholders to advance this field and tackle the problem from different disciplines and angles. This workshop will enable and facilitate a multi-disciplinary discussion and exchange of knowledge and ideas. We hope that this will boost interest and research in the area and act as a catalyst for the provision of innovative solutions to the complex and multi-layered behavioural challenges related to sustainability in the GCC countries.

### Anticipated Participants

We encourage papers from various disciplines, including, but not limited to: social science, engineering, psychology, economics, and policy-making. Applications and case studies from the Gulf region are highly encouraged. Researchers with Gulf region experience (both native and non-native) are encouraged to apply. In addition, the

<sup>8</sup> United Nations Development Program. (2015). Sustainable Development Goals: Sustainable Development Goals: Introducing the 2030 Agenda for Sustainable Development. New York, NY

workshop is also open to representatives of NGOs, governments, and think tanks. Papers are accepted from individuals, co-authors, and small group contributions depending on the topic and/or institution.

Potential topics for anticipated papers include, but are not limited to:

- Status of sustainability practices in different sectors in the Gulf
  - o Buildings, transportation, industrial sectors, etc.
  - o General research papers or case studies are welcomed
- Barriers to more sustainable lifestyle patterns in the Gulf
  - o Economic
  - o Physical/infrastructure
  - o Political
  - o Behavioural (social and psychological), etc.
- Opportunities and solutions
  - o Policy-driven sustainability solutions
  - o Market-driven sustainability solutions
- Benefits
  - o Decarbonizing the economy
  - o Green growth and green economies in the Gulf
  - o Importance of human capital and knowledge-based economies
- Agents of change towards a sustainable transition
  - o Role of public and private sectors for a sustainable transition
  - o Role of innovation for sustainable solutions
  - o Role of education in schools and universities
  - o Role of non-governmental institutions
  - o Role of academic research
- SDGs in the Gulf and implications on Gulf economics, societies, and environment
  - o Status, challenges, opportunities, implications, and financing
  - o Individual research papers that address specific SDGs for the GCC are welcomed.

In sum, the aim of the workshop is to facilitate the sharing of ideas and to contribute to building a body of knowledge on this topic based on real-life experiences, to represent the broadest range of perspectives possible.

## Workshop Director Profiles

**Dr. Elie Azar** is an Assistant Professor of Engineering Systems and Management at Masdar Institute in Abu Dhabi, UAE. His research focuses on optimising the performance of buildings and cities through shifts in current energy consumption patterns of people. Dr. Azar has worked as a construction engineer and building energy analyst in North America, the Middle East, and Europe. He has also authored more than 20 publications in peer reviewed journals and refereed conference proceedings including the journals of 'Energy and Buildings', 'Energy Policy', 'Computing in Civil Engineering', and 'Management in Engineering'. His research has been internationally recognised on several occasions, most recently in a Best Paper Award at the ASCE Workshop on Computing in Civil Engineering, as primary author. Dr. Azar received his bachelor's degree in Mechanical Engineering from Ecole Polytechnique de Montreal, and his Master of Science and Doctorate of Philosophy in Civil and Environmental Engineering from the University of Wisconsin-Madison.

**Dr. Mohammed Abdelraouf** is a Research Fellow in the Environmental Research Program of the Gulf Research Center. He has been elected as the global focal point of Science and Tech. (S&T) Major Group of UNEP and Asia Regional focal point S&T for 10YFP. Dr. Raouf has a doctorate in Environmental Sciences (Environmental Economics) from the Ain-Shams University in Egypt (2003) and has undergone advanced training in Environmental Management at the Augsburg University, Germany (2003-2004). He is the lead author for UNEP GEO-5 and 6 Report, West Asia chapter on Environmental Governance section. He has published articles and commentaries in Arabic, English and French in various media outlets in the MENA region and in other regions. He has also published various policy papers on different environmental issues in the MENA region and authored four books: "Green Economy in the Gulf" [Routledge, August 2015, London, (English)], (co-editor with Dr. Mari Loumi); "Environment in the Age of Revolution" in Arabic (Dar El-Maaref, November 2014, Cairo); "Green Policy to Balance Energy And Environment Needs - the Case of UAE" (Emirates Center for Strategic Studies and Research, June 2014, Abu Dhabi), (in Arabic); "Economic Instruments and Environmental Policy in the GCC Countries" [Gulf Research Center, Dubai; September 2007 (Arabic), April 2008 (English)].

## Selected Readings

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