Chapter 12
EU-GCC Clean Energy Cooperation:
From Concepts to Action

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ABSTRACT

The level of development of renewable energy and energy efficiency is low until now in the Arab States of the Gulf. However, the situation is changing rapidly, as their governments now put climate change on the top of their priorities' list towards sustainable development. The European Union (EU) is engaged in a process of strengthening energy cooperation with the Gulf Cooperation Council (GCC) countries and supports them in addressing and successfully tackling clean energy issues. To respond to this common interest and provide a supportive instrument for the development of cooperation activities, this Chapter presents a methodological framework for the identification and comparative evaluation of appropriate renewable and energy efficiency solutions towards EU-GCC "clean" energy cooperation. The adopted procedure uses an existing Multi Criteria Decision Making method, giving emphasis on the formulation of a collective interactive process, comprising different rationales for intervention, to elaborate more realistic and transparent outcomes.

1. INTRODUCTION

The Gulf Cooperation Council (GCC) is a regional organization created in May 1981, to promote stability and economic cooperation among the Arab States of the Gulf, namely Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates. The GCC countries are among the world leading oil and gas producing and exporting countries, and constitute prominent members of the Organization of the Petroleum Exporting Countries. These countries are also among the highest energy consumers worldwide and domestic energy consumption continues to increase fast.

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In particular, Qatar leads the GCC in electricity consumption of 17,573 kWh per capita, followed by Kuwait and United Arab Emirates with 16,198 kWh and 16,161 kWh per capita, respectively, that are higher than the global average, estimated at 2,752 kWh per capita, as clearly depicted in Figure 1 (IEA, 2009).

Despite the high exploitable potential, till now, only pilot, research and some small scale activities related to the renewable energy and energy efficiency were conducted in the Arab States of the Gulf and as a result, some small and medium capacity projects were installed and tested, as they were described by Doukas et al study (Doukas et al, 2006). Indeed, the Arab States of the Gulf have not been really interested in these energy solutions in the previous decades, based on their huge conventional fuel resources, the lack of appropriate funds, the high risk as well as the lack of environmental awareness regarding the performance of these technologies (Patlitzianas et al, 2006).

However, the current situation has been changing as the government, the financial organizations, the academics, the general public and the private sector start realizing the inevitability of putting climate change issues on the top of the priorities' list in the process of sustainable development. In this context, the Arab States of the Gulf accessed to the Kyoto Protocol in 2005, except of Bahrain that accessed in 2006 (UNFCCC, 2009). Furthermore, the price fluctuations, the rapid population growth and the increasing energy demand contribute to the increased necessity of sustainable energy solutions, as the region cannot depend on conventional fuels forever. As also depicted in recent studies, the GCC countries have recently adopted a more pro-active approach toward ecological modernization. This reorientation has not yet resulted in the development of consistent strategies and policies. However, pioneering projects such as Masdar City, the King Abdullah bin Abdulaziz City for Atomic and Renewable Energy (KACARE) and innovative regulation like the green building code in Dubai will spread within the GCC (Reiche, 2010a; Reiche, 2010b; Taleb & Pitts, 2009). The renewable energy and energy efficiency solutions can save energy, improve air quality, provide social benefits and achieve the energy policy's goals towards the sustainable development in the region.

The European Union (EU) has a well founded interest to cooperate with the GCC countries and support them in addressing and successfully tackling clean energy issues. This is particularly true taking into consideration that on the on hand EU is the leading world proponent of climate change prevention and on the other hand is one of the world's major importer of hydrocarbons and. As

Figure 1. Electricity Consumption (per capita) by country for 2007 (IEA, 2009)