Kuwait’s Efforts to Reduce Global Warming

Prof. Abdulatif Ben-Nakhi

On April, 21st, 2015, the Center for Gulf Studies at the American University of Kuwait hosted a public lecture by Prof. Abdulatif Ben-Nakhi, professor in the Department of Mechanical Power and Refrigeration Technology at the College of Technological Studies in Kuwait, entitled “Kuwait’s Efforts to Reduce Global Warming.”

In his talk, Prof. Ben-Nakhi examined climate change as one of the most significant threats facing the world today. He referred to the Fifth Assessment Report (AR5) of the UN Intergovernmental Panel on Climate Change (IPCC) in which it was mentioned that human influence has been detected in the warming of the atmosphere and oceans, changes in the global water cycle, reductions in snow and ice, a rise in the global mean sea level, and changes in some climate extremes.

Prof. Ben-Nakhi explained the process of the greenhouse effect and focused on the emission of carbon dioxide as a primary greenhouse gas. He noted that the concentration of CO2 in the atmosphere has increased noticeably due to the burning of fossil fuels and deforestation.

Focusing on Kuwait as an example, Prof. Ben-Nakhi stated that the average annual temperature has been rising in Kuwait and will continue to do so according to predictions. The rising temperature will lead to a more severe and harsh climate. This increase will cause many health problems, affect electricity consumption, and influence water levels. In this scenario, he elaborated, Boubyan Island could be submerged.

The speaker added that the energy sector worldwide is responsible for producing 35% of greenhouse gas emissions. In Kuwait, however, it is worse due to the oil industry. To reduce greenhouse emissions in Kuwait, the government should approve the suggested projects. There are some existing projects like Al-Shiqaya Project by Kuwait Institute for Scientific Research (KISR). He recommended the use of cleaner fuel to produce electricity as well as district cooling giving the example of Ahmadi which provides higher efficiency and uses the wasted heat.

Towards the end of his talk, Prof. Ben-Nakhi elaborated on renewable technologies for electricity generation such as building integrated PV systems, solar ponds, and harnessing wind energy. He also discussed various technologies to reduce electricity consumption, including the installation of advanced control systems, building rating systems, the development of a system that can provide a meaningful metric for measuring the energy performance of buildings, using incentives to shift behavioral trends among consumers, and organizing awareness raising campaigns like Tarsheed.

Prof. Ben-Nakhi stressed the importance of protecting coastal zones through the construction of hard coastal protection structures, the establishment of a center to develop systems, protocols and
models to address the impact of climate change on coastal zones in Kuwait, and finally the development of programs to increase awareness regarding the emerging threats from the rising sea levels.

In Conclusion, the speaker talked about the barriers to technology transfer. In Kuwait, policy making and regulatory practices can often slow down necessary action for GHG mitigation. In addition to that, Kuwait’s desert climate presents a major barrier to many technologies that could be used for climate change adaptation. Overcoming these barriers requires collaboration between stakeholders in the government with the private sector, reformation of policies and measures, the development of market-based technology support systems, and public awareness.