Summary: A design of Low Carbon Development Action of Cambodia towards 2050: Focused on energy policy

Cambodia is highly vulnerable to climate change impacts due to a combination of various factors including limited financial and human resources, weak infrastructure, an agriculture-based economy, and limited access to and diffusion of climate-friendly technologies. It has witnessed floods and droughts resulting in considerable economic losses, infrastructure damage and fatalities. At the same time, the country has experienced a rapid economic growth in recent years. The Government set an economic development plan to reach the status of an upper-middle income country by 2030 and a high-income level by 2050[1]. Simultaneously, energy demand is expected to increase substantially. The Government set two main energy development targets-first is to achieve the 100% level of village electrification (47.00% level as an intermediate target of household electrification) by 2020; and second is to achieve 70.00% level of household electrification with grid quality electricity by 2030[2]. In terms of emissions, Cambodia is regionally and globally insignificant with per capita CO_2 emissions of 0.21tCO_2 in 2000[3]; however, it is expected to increase significantly in the future. As a member of UNFCCC[4] and its Kyoto protocol, Cambodia has an obligation to join with the world to stabilize the greenhouse gas (GHG) concentration into the atmosphere with her own capacity and affordability. Cambodia realized that Low Carbon Society Development is a win-win approach to help the country avoid pervasive economic growth models by increasing energy efficiency, promoting renewable energy, reducing environmental pollution and GHG emissions while sustaining social and economic development.

To estimate CO_2 emissions and reduction potential, ExSS[5] tool is used. CO_2 emissions in Cambodia are projected to increase to 91.33MtCO_2 from 4.22MtCO_2 in 2010. To reduce the emissions, five low carbon strategies are proposed including “green energy”, “green technology and investment”, “green building”, “green transportation”, and “low carbon infrastructure”. The effective implementation of these strategies, CO_2 emissions are expected to reduce by 52.15MtCO_2 or about 57.11%. The result of this estimation is expected to be used to formulate low carbon development policy in Cambodia.

1 Royal Government of Cambodia (RGC), 2013. Rectangular Strategy Phase III (2013-2018) of the Council Ministers. Phnom Penh, Cambodia

2 Japan International Cooperation Agency (JICA), 2006. Master Plan Study on Rural Electrification by Renewable Energy in the Kingdom of Cambodia. Nippon Koei Co., Ltd. and Kri International Corp., Tokyo, Japan

3 Ministry of Environment (MoE), 2013. Draft Second National Communication. Phnom Penh, Cambodia

4 United Nations Framework Convention on Climate Change

5 Extended snapshot tool